

## **Earnings Adjustment Frictions: Evidence from the Social Security Earnings Test**

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In traditional models of work and earnings behavior, people respond frictionlessly to financial incentives. However, several recent papers have suggested that individuals face adjustment frictions. This paper presents evidence on the existence, nature and size of frictions relating to the Social Security Annual Earnings Test (AET). For example, for claimants between ages 62 and 65, the AET reduces Social Security benefits by 50 cents for every extra dollar earned above \$15,120. This creates a strong incentive for many individuals to “bunch” at the convex kink in the budget constraint located at the exempt amount.

The AET is an appealing context for studying earnings adjustment for at least three reasons. First, bunching at the AET kink is easily visible on a graph, allowing credible documentation of behavioral responses. Second, the AET represents one of the few known kinks at which bunching occurs in the U.S.; indeed, our paper represents the first study to find robust evidence of bunching among the non-self-employed at any kink in the U.S. Third, the AET is important to policy-makers in its own right, as it is a significant factor that affects the earnings of the elderly in the U.S. The study is based on a panel of Social Security Administration microdata on 1 percent of the U.S. population from 1961 to 2006.

We make three main contributions to understanding adjustment frictions. First, we document that earnings adjustment frictions exist in the U.S., by showing that in some contexts individuals do not adjust immediately to changes in AET. We focus particularly on cases in which a kink in the effective tax schedule disappears, either because individuals reach an age at which they are no longer subject to the ET, or because legislative changes remove the AET for some groups. We focus on the disappearance of kinks because in the absence of adjustment frictions, removal of a convex kink in the effective tax schedule should immediately lead to no bunching at the earnings level associated with the former kink; thus, any observed delay in reaching zero bunching should reflect adjustment frictions. We observe clear evidence of delays in some contexts, consistent with adjustment frictions. Nonetheless, across several contexts – including both anticipated and unanticipated changes in policy – the vast majority of individuals’ adjustment occurs within at most three years. Adjustment appears even faster in certain contexts.

Second, we assess the mechanisms that underlie the patterns of adjustment we observe, in order to build a model consistent with these descriptive patterns. We assess the extent to which employers play a role in coordinating individual responses to the AET by offering jobs with earnings at the AET exempt amount. In our main period of study, we find little evidence that individuals not subject to the AET – those too young to claim benefits – bunch at the kink, suggesting that the primary responses to the AET are mediated by employees’ choices. We also find evidence that the individuals who respond to the

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removal of the AET are primarily those locating at the kink prior to its removal, suggesting that these individuals are particularly responsive. Others subject to the AET appear to be unresponsive, suggesting differences in adjustment costs across the population.

Third, we specify a model of earnings adjustment consistent with the descriptive evidence that allows us to estimate a fixed adjustment cost and the elasticity of earnings with respect to the effective net-of-tax rate. Intuitively, inertia due to an adjustment cost leads to residual bunching after a kink in the budget set becomes less pronounced (or disappears altogether). Our primary estimation method uses the degree of such inertia (in combination with the initial amount of bunching at the kink) in estimating the size of the adjustment cost (and elasticity). We apply our method to data spanning the decrease in the AET benefit reduction rate from 50 percent to 33 percent in 1990 for those aged 66 to 69, as well as two settings in which the AET no longer applies for certain groups (at age 70 in the 1990-1999 period, and for ages 66-69 beginning in the year 2000).

In a baseline specification, we estimate that the adjustment cost is \$152 (in 2010 dollars) and that the earnings elasticity with respect to the net-of-tax share is 0.23. By contrast, when we constrain the adjustment cost to be zero in 1990, we estimate a higher earnings elasticity of 0.39. These estimates suggest that while adjustment costs are modest in our setting, they have the potential to change elasticity estimates substantially, thus demonstrating the potential importance of incorporating adjustment costs when estimating elasticities. However, our estimates are specific to our setting, and adjustment costs and elasticities may be substantially different (larger or smaller) in other contexts.

The full working paper is available on our website, [www.nber.org/programs/ag/rrc/books&papers.html](http://www.nber.org/programs/ag/rrc/books&papers.html) as paper NB13-07.

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