

# WORKING PAPER

## *Executive Summary*

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## VALIDATING LONGITUDINAL EARNINGS IN DYNAMIC MICROSIMULATION MODELS: THE ROLE OF OUTLIERS

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The distribution of Social Security payroll taxes and benefits has changed dramatically over the past three decades, largely because of increasing dispersion in earnings. Earnings have increased particularly rapidly for the very highest earners (e.g., Bakija, Cole, and Heim 2010; Kopczuk, Saez, and Song 2007, 2010; Piketty and Saez 2003, 2010). This dispersion affects financing and distributions for the Old-Age, Survivors, and Disability Insurance program through the contribution and benefit base (the taxable maximum), the progressive benefit formula, and the average wage index, which determines overall benefit levels (for discussion, see for example, Favreault 2009). Some research hypothesizes that dispersion also increases benefit take-up for Social Security's Disability Insurance component by raising benefit replacement rates for the lowest lifetime earners (Autor and Duggan 2006), though the size of the effect is the subject of debate (Muller 2008).

This paper characterizes high earnings and then high-earnings spells, identifying the degree to which they are transitory or tend to persist throughout a career. Our analyses rely on data from the *Survey of Income and Program Participation* matched to Social Security Administration and other government records on earnings, benefit receipt, mortality, and nativity. We examine both earnings over the taxable maximum (\$113,700 in 2013) and earnings of at least 4.5 times the average wage, equal to just over \$200,000 in 2013. We also look more broadly at earnings dynamics over the life course, considering, for example, transitions across quintiles and total work years over various thresholds.

We first document how high earnings prevalence varies by age, gender, nativity and country of origin, race/ethnicity, parity, and geography (metropolitan status and state, classified by earnings quintile). We also look closely at individuals' skill levels, work histories, and characteristics of their current jobs. Not surprisingly, we find wide differentials across these groups, both at a point in time and over extended periods. Almost all these differentials persist after controlling for the other characteristics, and evidence suggests that certain differentials, especially those related to skill, industry, and geography, may be growing over time. We also find that although a significant share of earners exceed these thresholds just once or twice in a career, many individuals earning enough to exceed these levels tend to remain over them for much of their careers. Earnings transitions in the labor market more broadly, as measured by quintile transitions, retain a similar stickiness.

We then consider implications of these patterns for proposals that would raise Social Security's contribution and benefit base. We find that median changes in Social Security replacement rates tend to be quite modest in a simple hypothetical scenario in which the taxable maximum is lifted retrospectively. For a minority, however, reductions could be large, especially if Social Security did not pay additional benefits on the additional contributions.

Projection models that use regression equations and splicing techniques to capture this underlying continuity in high earnings tend to produce reasonable results along these longitudinal dimensions. We suggest areas for future testing and sensitivity analysis.

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