Extended Abstract: The Contributions of Between- and Within-Occupation Differences to Disability Wage Inequality

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MOTIVATION AND RESEARCH QUESTIONS

Though an estimated 20% of U.S. adults age 18-64 have disabilities[1], prior work on labor market inequality has almost completely neglected the problem of the disparities in pay faced by working-age people with disabilities. The lion's share of work on labor market outcomes for people with disabilities focuses on whether they are employed at all, and with good reason: despite dramatic increases in college enrollment and the passage of substantial employment protection legislation in the 1990s, people with disabilities were more likely to be employed 20 years ago than they were 10 years ago, and they are even less likely to be employed today[2]. While falling employment rates among people with disabilities have certainly been exacerbated by economic downturns like the current recession, one of the sharpest declines in the employment rate actually occurred the late 1990s – a time of unprecedented economic expansion in the U.S. By 2009, approximately 39% of working-age people with disabilities were working for pay[3]. Despite low employment rates, there are still a large number of people with disabilities who do work and evidence from the 1990s indicates that people with disabilities experience pay disparities when compared to their peers without disabilities.

The sociological literature on wage inequality demonstrates that systematic differences in the types of occupations held by men and women, and by blacks and whites, explain much of the gender and race wage gaps. Furthermore, recent evidence indicates that inequality in wages paid to workers employed in the same occupations has been rising over the past few decades[4]. It is plausible that occupational sorting and inequality in wages paid to workers within the same occupation also have important roles to play in explaining the observed disability wage gap. Thus, the current paper asks:

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[1] Altman, B. and A. Bernstein. 2008. *Disability and Health in the United States, 2001-2005*. Hyattsville, MD: National Center for Health Statistics. An estimated 19.8% of Americans aged 18-64 have a disability defined as any basic activity limitation. Altman and Bernstein also estimate that approximately 12% of Americans 18 and older have a work limitation.

[2] Bjelland, M.J., W.A. Erickson, W. A., and C.G. Lee. 2008. *Disability Statistics from the Current Population Survey (CPS)*. Ithaca, NY: Cornell University Rehabilitation Research and Training Center on Disability Demographics and Statistics (StatsRRTC). Retrieved January 17, 2009 from www.disabilitystatistics.org.

[3] Erickson, W., C.G. Lee and S. von Schrader. 2010. *Disability Statistics from the Current Population Survey (CPS)*. Ithaca, NY: Cornell University Rehabilitation Research and Training Center on Disability Demographics and Statistics (StatsRRTC). Retrieved September 8, 2010 from www.disabilitystatistics.org.

[4] Kim, C.H. and A. Sakamoto. 2008. "The Rise of Intra-Occupational Wage Inequality in the United States, 1983-2002." *American Sociological Review* 73: 129-57.

1. To what extent does occupational sorting explain the gap in wages between full-time workers with and without disabilities?

2. How much does inequality in pay within occupations explain the disability wage gap?

To address these questions, this paper draws on data from a pooled sample of the 1996, 2001, and 2004 Surveys of Income and Program Participation (SIPP). I fit OLS, random intercept and random coefficient regression models using the SIPP data to estimate the disability wage gap and how much of the gap is explained by individual-level factors (human capital, sociodemographic characteristics, and household factors), differences in the types of occupations held by workers with and without disabilities, and inequalities in wages paid to workers within the same occupation.

KEY FINDINGS

Occupational Sorting, Within-Occupational Differences in Pay, and the Disability Wage Gap

Full-time workers with disabilities face disparities in pay relative to full-time workers without disabilities. Without adjusting for other factors, people with disabilities earn about 15% less per week than their peers without disabilities (refer to Table 1) – about $33 less per week or $1,724 less per year. Accounting for individual-level characteristics explains very little of the inequality in pay experienced by workers with disabilities. Controlling for education, sex, race, age, marital status, number of dependent children, living arrangements, income of other household members, region and metropolitan residence accounts for roughly 13% of the disability wage gap.

Table 1. OLS and HLM Estimates of the Disability Wage Gap for Full-Time Workers: 1996, 2001, and 2004 Surveys of Income and Program Participation

	Disability Earnings Inequality	Percent Unexplained
Individual Characteristics		
OLS (Baseline)	-0.146	100%
OLS (Human capital + Demographic characteristics)	-0.139	95.2%
OLS (Household characteristics)	-0.128	87.7%
OLS (Region + metro area)	-0.126	86.3%
Occupation		
OLS (Occupation dummies)	-0.093	63.7%
HLM (Occupation allowed to vary)	-0.089	61.0%
HLM (Occupation and disability allowed to vary)	-0.083	56.8%

Note: All models control for SIPP panel year. OLS coefficients adjusted for weighting. Unweighted OLS coefficients were also considered, but the difference in the weighted and unweighted coefficients was negligible. All coefficients are statistically significant at $p<0.001$.

Accounting for systematic differences in the types of occupations held by workers with and without disabilities, we are able to explain a substantial share of the remaining variation in wages. When we account for occupational sorting in the models of disability wage inequality, we can explain a full quarter of the disability wage gap – nearly twice the amount explained by considering individual-level factors alone. The amount of the observed disability pay gap due to inequalities in pay for workers within the same occupation explains a modest amount of additional variation; roughly 4% of the disability wage gap is due to differences in pay to workers employed in the same occupation.

Accounting for individual-level factors, occupational sorting, and differences in wages paid to workers in the same occupations reduces the disability wage gap to -0.083, or a difference of $19 per week and $980 per year. However, even after adjusting for individual characteristics, between- and within-occupational inequality, 57% of the disability wage gap remains unexplained. To contextualize this finding, after controlling for a similar set of individual-level characteristics, occupational sorting, and intra-occupational inequality, Grodsky and Pager[5] were able to explain a full 74% of the black-white wage gap among private sector employees and 80% of the black-white wage gap among public sector employees (among all workers with and without disabilities).

CONCLUSION

Systematic differences in the types of occupations held by workers with and without disabilities prove to be an important contributor to disparities in pay faced by people with disabilities. While workers with disabilities are also paid less than workers without disabilities employed in the same occupations, within-occupation differences in pay explain relatively little of the disability wage gap. Although accounting for occupational sorting and intra-occupational differences in pay in models of disability wage inequality provides a sizeable improvement on models that account for individual-level factors alone, a substantial amount of the disability wage gap remains unexplained. Thus, in an attempt to better understand the remainder of the disability wage gap, future research will extend multilevel analyses to include more information about disability at the individual level, as well as more information about the occupations in which workers are employed, like required credentials, working conditions, and typical job tasks. Further, because workers with disabilities are far more likely than other workers to be working part-time, subsequent analyses will also investigate the extent of wage inequality among all workers, rather than just among those working full-time.

[5] Grodsky, E. and D. Pager. 2001. "The Structure of Disadvantage: Individual and Occupational Determinants of the Black-White Wage Gap." *American Sociological Review* 66(4): 542-567.