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Decomposing Recent Employment Gains Among Disabled Workers

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¹ The findings and conclusions presented in this paper are those of the authors and do not necessarily represent the views of the Social Security Administration or the Federal Reserve Board of Governors.

Introduction

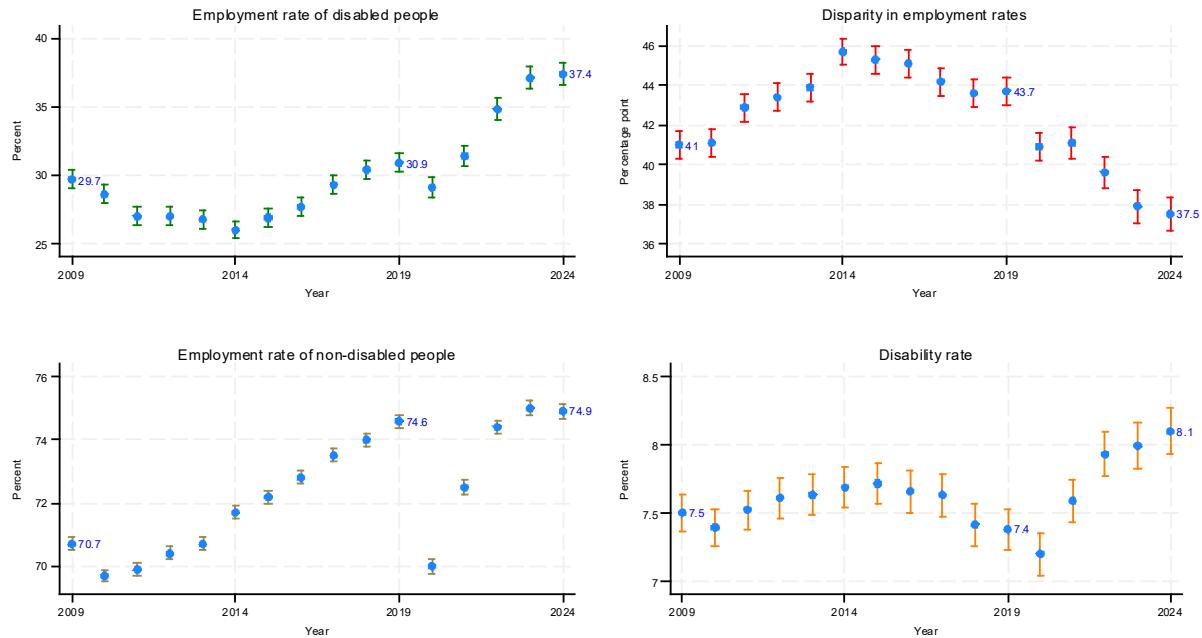
The employment rate of individuals with a disability increased much more than that of the non-disabled population during the economic recovery from the pandemic. However, because this increase coincided with a rising disability rate, it is unknown whether this is due to an employment gain for people who were already disabled or a difference in the relationship between disability and work among those who were newly disabled. For instance, if COVID-related disabilities were on average less severe than the entire class of disabilities which existed pre-COVID, then an increased disabled employment rate could represent only a compositional shift in the nature of disability rather than an actual improvement in circumstances for any given individual.

Individuals with disabilities have traditionally faced many barriers to employment, resulting in substantially lower labor force attachment compared with their non-disabled peers. The proportion of Americans with a disability is large, approximately 8 percent for people aged 16-64 (Bureau of Labor Statistics, 2010-2025), and only about a quarter of this population is employed. Given both the size and low employment rate of disabled people, identifying innovations that could improve employment outcomes could have large macroeconomic effects in both the short- and long-run. Further, it is important to understand the nature of any change in the labor market outcomes of disabled workers, as this can have a meaningful effect on the long-run financial projections of programs like Social Security Disability Insurance (SSDI). While significant effort has been expended in identifying potential barriers and innovations, any improvement in outcomes was modest at best prior to the pandemic. However, recent work has found notable improvements, with a concentration in teleworkable occupations, following the

onset of the pandemic (Ne’eman and Maestas, 2023; Gascon and Moore, 2024; Bloom et al., 2025).

Figure 1 shows that the employment rate of disabled people aged 16-64 increased from 29.7% in 2009 to 37.4% in 2024. During this period, the disability rate increased from 7.5% to 8.1%.² The coincident rise in both the rate of disability and the rate of employment among disabled people means that there are two potential contributing factors to the recent disabled employment gains: 1) a true improvement in employability; 2) a compositional change in the nature of disability and how it relates to employment without an improvement for any given person. Existing cross-sectional data cannot distinguish how much of the employment increase came from each of these two factors, which have dramatically different interpretations.

Figure 1: Employment and disability rates of people aged 16-64



² Source: Bureau of Labor Statistics (2024; 2018, 2019, 2023; 2010-2025) and authors’ calculation.

We use the longitudinal component of the Current Population Survey to compare transition rates into and out of disability and employment over a one-year period prior to and after the onset of the pandemic. This represents a significant improvement in the ability to measure incidence of disability relative to purely cross-sectional data sources. We find that one-third of the increased employment rate among disabled people is due to the excess incidence of disability seen following the pandemic, while the other two-thirds is attributable to higher participation among people whose disabilities were unrelated to the pandemic. Further, we find evidence that these increases are concentrated in occupations with higher rates of telework.

Data and Methodology

The Current Population Survey (CPS) is a nationally representative survey with a sample of approximately 60,000 households providing information on employment, demographics (including disability), and other characteristics of the civilian non-institutionalized population aged 16 and over. The CPS has a longitudinal component which follows households for a total of eight months; respondents are interviewed for four consecutive months (referred to as months 1-4), out of the interview for eight months, and then re-interviewed for four consecutive months (referred to as months 5-8). This rotation pattern indicates that months 1 and 5 are one-year apart.³ We use the transition rates into/out of/between employment and non-employment as well as disabled and non-disabled as the basis of our analysis.

The CPS asks respondents about their employment status every month that they are in the survey, but only about disability status in months 1 and 5. When calculating the transition rates

³ We use the IPUMS CPS data (Flood et al., 2024) and follow Rogers and Flood (2023) in identifying the longitudinal linkage in observations across time.

between employment and disability status, we thus focus on comparing the same individual between months 1 and 5 (i.e., one year apart in the same month of the year).

The CPS uses the standard set of six functional limitation questions to identify people with hearing, vision, cognitive, ambulatory, self-care, or independent living difficulty. Respondents answering “yes” to any of these six questions are considered to have a disability (Bureau of Labor Statistics, 2025).⁴

Our analysis sample includes working-age respondents meeting three criteria: (1) whose first interview occurred between January 2017 and December 2018 or between January 2021 and December 2022, (2) completing interviews in months 1 and 5,⁵ and (3) aged 18-64 at each interview. The first criterion concerns the COVID-19 timeline, the second allows us to observe change in disability status, and the third facilitates comparing our findings with those of Ne’eman and Maestas (2023).

We use the COVID-19 timeline to divide the analysis sample into two groups. The first is the “pre-pandemic” group, which includes respondents completing first interviews from January 2017 to December 2018. Their month 5 interviews were administered by December 2019, before the first COVID-19 case was reported in the U.S. in January 2020 (Centers for Disease and Control Prevention, 2024). The second is the “economic recovery” group, which includes

⁴ The six questions identify people with disabilities based on self-reported difficulty with major life activities. These questions do not focus on the presence of specific conditions, but the realized impact of such conditions. For example, Long COVID can be a disability (Departments of Justice and Health and Human Services, 2021), yet people with Long COVID are identified as having a disability by the six questions when they report difficulty with major life activities. In addition, disability can be identified by alternative criteria. For instance, the SSDI and Supplemental Security Income (SSI) programs define disability as an inability to engage in any substantial gainful activity due to a medically determinable physical or mental impairment that has lasted or is expected to last for a continuous period of at least 12 months or is expected to result in death (Social Security Administration, 2023). Burkhauser et al. (2014) finds that two-thirds of the SSDI and/or SSI recipients are identified as having a disability by the six questions.

⁵ Respondents completing interviews in months 1 and 5 accounted for 40% of all CPS respondents. Of people completing interviews in months 1 and 5, 77% completed all eight interviews. Similar results are found when we restrict the analysis sample to those completing eight interviews.

respondents completing first interviews from January 2021 to December 2022. 2021 is the first full year when the economy recovered from the pandemic (Labonte and Weinstock, 2022).⁶ We follow Dingel and Neiman (2020) in identifying teleworkable occupations.

Results

Table 1 presents some basic summary statistics of our longitudinal analysis sample and shows how it compares to the cross-sectional CPS sample used by prior studies. Columns [1]-[3] report cross-sectional characteristics of individuals aged 18-64 who were interviewed in 2017-2018 and 2021-22, respectively. Conditional on the survey year of the first interview, columns [4]-[6] show characteristics at the first interview of our analysis sample, aged 18-64 and completing interviews in months 1 and 5. The statistics show that compared with their cross-sectional counterparts, individuals in our analysis sample were slightly more likely to be disabled,⁷ employed at work, older, non-Hispanic white, and have a bachelor's degree. Nevertheless, the differences in their characteristics were small.⁸ For example, the difference in their disability rates was no more than 0.5 percentage point, and the difference in their "employed at work"⁹ rates was no more than 3 percentage points.

⁶ In the interest of space, we focus on comparison between pre-pandemic (2017-2018) and economic recovery (2021-2022) periods. We therefore do not report findings of respondents whose interviews occurred during the onset of the pandemic.

⁷ In unreported analyses we examined responses to each of the six disability questions prior to and after the onset of the pandemic. We found that the rate of reporting an ambulatory difficulty declined after the onset of the pandemic, while the rates of reporting cognitive and independent living difficulties increased. These findings are consistent with those of Erickson et al. (2019, 2020, 2023, 2024), Price (2022), and Bartalotti et al. (2023). However, we do not report these findings because the small CPS sample size results in advising against using the CPS to identify people with specific disabilities (Bureau of Labor Statistics, 2025).

⁸ The CPS selects sample based on addresses and does not follow up with respondents who move during the survey period. Therefore, our analysis sample only captures those who do not move, likely making the sample slightly older and more educated than the general population.

⁹ "Employed at work" refers to doing any work at all for pay or working at least fifteen hours without pay in a family business or farm. We follow Ne'eman and Maestas (2023) in using "employed at work" to measure employment status.

Table 1: Comparison between CPS cross-sectional data and our analysis sample

Attribute	Cross-sectional data, by survey year		Analysis sample, by survey year of the first interview	
	[1] 2017-2018	[2] 2021-2022	[3] 2017-2018	[4] 2021-2022
Number of observations	1,798,198	1,454,983	144,485	109,720
Disability rate	7.7%	7.9%	8.2%	8.3%
Employed at work	70%	70%	73%	72%
Female	51%	51%	51%	51%
Age				
18-34	37%	37%	33%	33%
35-49	31%	31%	33%	33%
50-64	32%	32%	35%	34%
Race and ethnicity				
Non-Hisp Whites	60%	58%	63%	61%
Non-Hisp Blacks	13%	13%	11%	11%
Hispanics	18%	19%	17%	18%
Other	9%	9%	9%	9%
Education				
Bachelor's Degree	33%	36%	34%	38%

Note: Weighted estimates are reported. Cross-sectional data includes respondents aged 18-64 in all months of the survey years. The analysis sample includes people whose first interview occurred between January 2017 and December 2018 or between January 2021 and December 2022, who completed interviews in months 1 and 5, and who were aged 18-64 at each interview. Their characteristics at the first interview are reported.

Table 2 presents employment rates in months 1 and 5, conditional on disability status and survey year of the first interview. Compared with the pre-pandemic period, the employment rates of non-disabled respondents in both months 1 and 5 declined slightly in the economic recovery period. By contrast, employment rates increased for disabled respondents in both months, leading to a decline in the gap in employment by disability status (e.g., 51-percentage-point gap in month 5 prior to the pandemic, but 45-percentage-point gap in the economic recovery period). This decline is consistent with the findings of Ne'eman and Maestas (2023).

Table 2: Employment rates in months 1 and 5

Employment rates, by survey year of the first interview						
	[1] 2017-2018 (Pre-pandemic)		[2] 2021-2022 (Economic recovery)			
	Non-disabled	Disabled	Gap	Non-disabled	Disabled	Gap
Month 1	76.3%	31.3%	45	75.2%	** 34.3%	** 41
Month 5	75.7%	24.9%	51	75.5%	** 30.9%	** 45

Note: Weighted estimates are reported. The analysis sample includes respondents who completed interviews in months 1 and 5 and who were aged 18-64 at each interview. Gap is in percentage point. ** indicates the rate is statistically different from their counterpart in 2017-2018 at the 1% level of significance, holding demographics constant. Demographics includes gender, age (18-34, 35-49, and 50-64), race and ethnicity (non-Hispanic whites, non-Hispanic blacks, Hispanics, and other), and bachelor's degree.

Table 3 presents statistics on the transition into/out of disability status over two one-year periods. Panel [A] shows that the disability rate declined from month 1 to 5 in both periods, although the decline was smaller in the economic recovery period compared with the pre-pandemic period (0.7 versus 1 percentage point). Panel [B] classifies people into four groups, based on their disability statuses in months 1 and 5. It shows that of individuals aged 18-64, approximately 89% were identified as non-disabled in both months. This share was 3% for those becoming disabled (i.e., newly disabled people), 4% for those becoming non-disabled, and 4% were disabled in both months. Compared with the pre-pandemic period, there was a 0.39-percentage-point increase in the share of newly disabled people in the economic recovery period (from 2.87% to 3.26%). This increase was much smaller (0.04 percentage point) for continuously disabled people (from 4.38% to 4.42%).

Table 3: Change in disability status from month 1 to 5

Disability status	Survey year of the first interview	
	[1] 2017-2018	[2] 2021-2022
Panel A: Disability rate		
Month 1	8.23%	8.33% **
Month 5	7.26%	7.68% **
Difference (ppt)	-0.97	-0.65

Panel B: Disability status in months 1 and 5 (0: no disability; 1: disability)

0 0	88.90%	88.40%	**
0 1	2.87%	3.26%	**
1 0	3.85%	3.91%	**
1 1	4.38%	4.42%	**
Total	100.0%	100.0%	

Panel C: Change in disability status from month 1 to 5

% change from non-disabled to disabled	3.1%	3.6%	**
% change from disabled to non-disabled	46.8%	46.9%	

Note: Weighted estimates are reported. The analysis sample includes respondents who completed interviews in months 1 and 5 and who were aged 18-64 at each interview. Disability questions are asked in months 1 and 5. Disability status has two categories, either 0 (no disability) or 1 (disability). Disability statuses in months 1 and 5 are presented by two numbers; the first number represents the status in month 1, while the second represents the status in month 5. For example, 0 0 means no disability in both months 1 and 5. ** indicates the rate is statistically different from their counterpart in 2017-2018 at the 1% level of significance, holding demographics constant. See Table 2 for demographics.

Panel [C] presents the same data, but conditioning on disability status in the first month.

Among initially non-disabled respondents, 3.1% became disabled over the subsequent year prior to the pandemic. This incidence was 0.5-percentage-point higher in the economic recovery period (from 3.1% to 3.6%), potentially reflecting a compositional change of disabled people as a result of the pandemic. By contrast, approximately 47% of disabled individuals became non-disabled in one year, a rate that was roughly constant in both periods.¹⁰

Table 4 reports concurrent changes in disability and employment statuses from month 1 to 5, conditional on survey year of the first interview.¹¹ This table shows that compared with their counterparts in the pre-pandemic period, newly disabled respondents [i.e., disability status = 0 1] in the economic recovery period were less likely to be out of work in both months 1 and 5 (44.2% versus 49.5%) or become out of work (14.1% versus 16.6%), but more likely to become

¹⁰ Further analysis of the six disability types in these two periods indicates that the chance of becoming non-disabled was the highest among people with hearing or vision difficulty (49% each), followed by cognitive (42%), ambulatory (39%), independent living (29%), and self-care (26%) difficulty.

¹¹ In unreported analyses we examined whether part-time employment and hours worked changed from the pre-pandemic to economic recovery period. We found no discernable changes in these measures.

employed (6.2% versus 3.6%) or be employed in both months (35.5% versus 30.3%). Likewise, continuously disabled people [i.e., disability status = 1 1] were less likely to be out of work in both months (72.3% versus 76.6%), but more likely to become employed (4.0% versus 3.1%) or be employed in both months (19% versus 15.8%).

Table 4: Distribution of disability and employment statuses in months 1 and 5

[1] Disability status in months 1 and 5	[2] Share of each disability status	[3] Employment status in months 1 and 5, and the share of each employment status conditional on disability status			
		O O	O E	E O	E E
Panel A: 2017-2018					
0 0	88.90%	16.0%	6.7%	7.0%	70.3%
0 1	2.87%	49.5%	3.6%	16.6%	30.3%
1 0	3.85%	47.1%	9.1%	6.0%	37.8%
1 1	4.38%	76.6%	3.1%	4.5%	15.8%
Panel B: 2021-2022					
0 0	88.40%	16.3%	** 7.5%	** 6.9%	69.2% **
0 1	3.26%	44.2%	** 6.2%	** 14.1%	** 35.5% **
1 0	3.91%	44.3%	9.5%	7.0%	39.3%
1 1	4.42%	72.3%	** 4.0%	** 4.7%	19.0% **

Note: Weighted estimates are reported. The analysis sample includes respondents who completed interviews in months 1 and 5 and who were aged 18-64 at each interview. We present the analysis sample in two panels (A and B) based on the survey year of a respondent's first interview. Disability status has two categories, either 0 (no disability) or 1 (disability). Likewise, employment status has two categories, either O (out of work) or E (employed at work). Disability (employment) statuses in months 1 and 5 are presented by two numbers (letters); the first represents the status in month 1, while the second represents the status in month 5. For example, 0 0 refers to people without disabilities in both months 1 and 5. Share of each disability status presented in column [2] comes from panel [B] of Table 3. ** indicates the rate is statistically different from their counterpart in 2017-2018 at the 1% level of significance, holding demographics constant. See Table 2 for demographics.

We use the estimates in Table 4 to calculate the employment rate among disabled respondents in month 5 in the pre-pandemic and economic recovery periods, as well as the change in the rate between these two periods. This allows us to decompose the overall change in employment among disabled respondents into component parts.

Employment rate of disabled people in month 5 in the pre-pandemic period

$$= \frac{ND * NE_{pre} + CD * CE_{pre}}{(ND + CD)} \quad (1)$$

Employment rate of disabled people in month 5 in the economic recovery period

$$= \frac{(ND + NND) * NE_{post} + (CD + NCD) * CE_{post}}{(ND + NND) + (CD + NCD)} \quad (2)$$

Change in the employment rate

$$= (2) - (1)$$

$$= ND * \left[\frac{NE_{post}}{(ND + NND + CD + NCD)} - \frac{NE_{pre}}{(ND + CD)} \right] + CD * \left[\frac{CE_{post}}{(ND + NND + CD + NCD)} - \frac{CE_{pre}}{(ND + CD)} \right] + NND * \frac{NE_{post}}{(ND + NND + CD + NCD)} + NCD * \frac{CE_{post}}{(ND + NND + CD + NCD)} \quad (3)$$

where

ND: share of newly disabled pre-pandemic

CD: share of continuously disabled pre-pandemic

NND: share of new-newly disabled

NCD: share of new-continuously disabled

*NE_{pre}: employment rate in the pre-pandemic period for newly disabled pre-pandemic*¹²

CE_{pre}: employment rate in the pre-pandemic period for continuously disabled pre-pandemic

NE_{post}: employment rate in the economic recovery period for newly disabled pre-pandemic and new-newly disabled

CE_{post}: employment rate in the economic recovery period for continuously disabled pre-pandemic and new-continuously disabled

Hence, in equation (3), the overall change in employment among disabled people can be separated into that attributable to the rise in employment rates holding the share who were disabled before the pandemic constant [the first two terms in equation (3)] plus the rise in the share with disabilities times the employment rate in the economic recovery period [the latter two terms in equation (3)]. Within each of these, we can further separate the contribution into that

¹² This employment rate is calculated by summing up the rate of becoming employed and the rate of remaining employed in Table 4.

coming from those who were newly disabled (i.e., only disabled in month 5 of the survey, not in month 1) and that coming from those who were continuously disabled (i.e., disabled in both months 1 and 5 of the survey).

Table 5 summarizes these relative contributions. The first two rows capture the effects of rising employment rates among disabled people over this period. The first row depicts the change in employment for newly disabled pre-pandemic; their share was 2.87%, with a 0.76 weighted rise in employment (the weight is disability prevalence). Their contribution to the rise in employment among the entire disabled population, the product of the share and weighted rise in employment, was 0.0217. The rise in employment for this group who were newly disabled before the pandemic represented 36% of the 0.0610 rise in employment among disabled people between the pre-pandemic and economic recovery periods, as shown in column [6]. The next row describes the contribution from the change in employment for continuously disabled pre-pandemic. Increases in employment among this group contributed 28% of the increase in employment among disabled people. Hence, holding the share disabled constant, and only varying the employment rate among disabled people accounted for 64% (3.86 percentage points) of the increase, implying that there has been some true improvement in the labor market prospects of disabled respondents.

Table 5: Decomposition of the increase in the employment rate of disabled people in month 5

[1] Type of disabled people	[2] Share aged 18-64	[3] Weighted rise in employment	[4] Weighted employment in economic recovery period	[5] Rise in employment	[6] Contribution to total rise in employment
[a] Newly disabled pre-pandemic	2.87%	0.76		0.0217	36%
[b] Continuously disabled pre-pandemic	4.38%	0.39		0.0169	28%
[c] New-newly disabled	0.39%		5.43	0.0212	35%
[d] New-continuously disabled	0.04%		2.99	0.0012	2%
Total	7.68%			0.0610	100%

Note: Columns [2]-[4] are derived from results in Tables 3 and 4 and the formulas reference in the Results section. Column [5] is the product of columns [2] and [3] or columns [2] and [4]. Each cell of column [6] is derived by dividing column [5] by the total rise in employment (0.0610).

The third and fourth rows present the employment decomposition for “new” disabled respondents. This population represents the excess incidence of disability seen following the pandemic and could be attributed to conditions such as Long-COVID, or more generally any increase in the propensity to become disabled that happened to coincide with the pandemic. The vast majority of the change in disability incidence is associated with respondents who transition into disability over the course of the survey rather than being long-term/continuously disabled (0.39% versus 0.04%). This is consistent with the notion that, on average, the degree of disability among the “new” disabled population is modestly less severe (both in terms of disability duration and employment propensity) than among disabled people prior to the pandemic (Bartalotti et al., 2023). The rise in disability incidence represented 37% (2.24 percentage points) of the increase in employment among the disabled population from the pre-pandemic to economic recovery period.

Table 6 presents the share of workers in teleworkable occupations, conditional on disability and employment statuses in months 1 and 5. We discuss the estimates in this table together with those in Table 4. For example, concerning newly disabled people, Table 4 indicates that following the pandemic there was a 5.2-percentage-point increase in the chance of remaining employed (from 30.3% to 35.5%). The corresponding cells in Table 6 show that, of newly disabled people who remained employed, there was a 6-percentage-point increase in the chance of working in teleworkable occupations (from 32% to 38%). Regarding continuously disabled people, Table 4 indicates that there was a 0.9-percentage-point increase in the likelihood of becoming employed (from 3.1% to 4%) from the pre-pandemic to economic recovery period.

This same demographic saw a 9-percentage-point increase in the chance of working in teleworkable occupations (from 20% to 29%). These findings suggest that as disability employment increased, so did the share of workers with disabilities in teleworkable occupations, matching the predictions of Ne’eman and Maestas (2023) and Bloom et al. (2025).

Table 6: Share of workers in teleworkable occupations, by disability and employment statuses in months 1 and 5

[1] Disability status in months 1 and 5	[2] Month	[3] Employment status in months 1 and 5		
		O E	E O	E E
Panel A: 2017-2018				
0 0	1		33%	38%
	5	32%		38%
0 1	1		21%	31%
	5	30%		32%
1 0	1		29%	34%
	5	24%		33%
1 1	1		31%	33%
	5	20%		32%
Panel B: 2021-2022				
0 0	1		35%	*
	5	32%		42% **
0 1	1		29%	** 37% *
	5	37%		38% *
1 0	1		27%	37%
	5	25%		38% **
1 1	1		25%	39% *
	5	29% **		38% **

Note: Weighted estimates are reported. The analysis sample includes respondents who completed interviews in months 1 and 5 and who were aged 18-64 at each interview. We present the analysis sample in two panels (A and B) based on the survey year of a respondent's first interview. Disability status has two categories, either 0 (no disability) or 1 (disability). Likewise, employment status has two categories, either O (out of work) or E (employed at work). Disability (employment) statuses in months 1 and 5 are presented by two numbers (letters); the first represents the status in month 1, while the second represents the status in month 5. For example, 0 0 refers to people without disabilities in both months 1 and 5. * indicates the rate is statistically different from their counterpart in 2017-2018 at the 5% level of significance, holding demographics constant; ** indicates difference at the 1% level of significance. See Table 2 for demographics.

Conclusion

This paper examines the recent increase in employment among disabled people, as well as changes in the transition into disability status. We document that roughly one-third of the

increase in employment is associated with a compositional change in disabled people, while the remaining two-thirds appears to be a genuine improvement in the employment prospects of disabled individuals. We further present some suggestive evidence that the employment gains are related to the expansion of telework opportunities for workers. While this note is only able to use the short-panel aspect of the CPS (spanning a single year) to assess the degree of improvement in labor market prospects for disabled people, future research can use a longer panel to extend this analysis.

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