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Impacts of the COVID-19 Pandemic on Wages and Workforce Attachment for Utah Adults Experiencing Intergenerational Poverty

Kelsey A. Martinez, Ph.D.

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Abstract

The COVID-19 pandemic forced many businesses and industries to close or operate at reduced patron capacity. Many adults impacted by intergenerational poverty (IGP) worked in industries most impacted by business closures during the COVID-19 restrictions, such as retail, service, and education. Following a group of Utah adults in 2019 through the COVID-19 recession in 2020, the main objective of this research was to understand the impact of the COVID-19 business closures on wages and workforce attachment of those experiencing IGP. This research also used a control cohort of a demographically similar group of adults experiencing situational poverty for analytical and comparison purposes. Change in wages from 2019 to 2020 and workforce attachment (quarters worked annually), are the primary metrics used in this study. Overall, there were no statistically significant differences in wages changes from 2019 to 2020 or workforce attachment changes between those impacted by IGP and the control group even after controlling for demographics such as gender, race, age, education level and ethnicity. However, wages declined from 2019 to 2020 for 67.8% of adults impacted by IGP in this study, and about 32% of adults impacted by IGP experienced a reduction in workforce attachment from 2019 to 2020. All people included in this study were likely negatively impacted by the COVID-19 recession, though Utah's relatively quick economic recovery in late 2020 and early 2021 likely bolstered the economic recovery of all of its citizens.

Keywords

Intergenerational poverty, Utah, cyclical poverty, COVID-19 recession

1 | Introduction

Since 2019, the Utah Department of Workforce Services (DWS) has conducted longitudinal poverty research on a population of individuals experiencing intergenerational poverty (IGP) in Utah. This research is mandated by the Intergenerational Welfare Reform Commission. In the past, DWS' longitudinal poverty research has examined demographic and educational factors that are predictive of experiencing IGP in Utah, and wage growth and workforce trends for those impacted by IGP in Utah (Martinez 2019, Martinez 2020). The objective of DWS' longitudinal IGP research this year is to begin to understand the impacts of the COVID-19 recession on those experiencing IGP in 2019. Specifically, this research seeks to understand how COVID-19 has impacted wages and workforce attachment of adults who were impacted by IGP in 2019.

1.1 | Literature Review

In 2020, the COVID-19 pandemic and related business closures caused unprecedented job loss and unemployment rates. Before the COVID-19 recession, unemployment in Utah was around 2.4% (BLS 2021). In contrast, in Utah during the 2020 recession, the unemployment rate peaked at 10.1% in April 2020 (BLS 2021). As businesses began to reopen following the relaxation of public health guidelines in late April of 2020, the unemployment rate began to decrease. However, as of April 2021, the unemployment rate has not returned to its pre-2020 recession level. Utah's unemployment was 2.7% as of June 2021 (Dept. of Workforce Services 2021a).

Literature on the impacts of the COVID-19 recession on people impacted by poverty is just becoming available. Individuals affected by IGP tend to work in the service and retail industries (Martinez 2020), many of these industries have been heavily impacted by the 2020 recession due to COVID-19 business closures and gathering restrictions. Many service and retail businesses had reduced hours or decreased patron capacity as a result of COVID-19 and related health orders (Salt Lake County 2020), which impacted the number of hours employees could work. Furthermore, people employed in these industries cannot work at home, making them more likely to contract COVID-19 than those who can work from home (Baker 2020). Becoming ill with COVID-19 may have forced many employees to stay home and therefore decreased their wage-earning potential during 2020 (Baker 2020), which ultimately compounds the impacts of poverty.

COVID-19 disproportionately infected those experiencing poverty, especially those in racial and ethnic minorities. In Utah, minority groups are disproportionately employed in service and retail industries. For example, 36% of foodservice industry employees in Utah are non-White (Dept. of Workforce Services 2021b). Since these industries typically do not have options to work from home, individuals in these industries faced increased COVID-19 exposure (Chen et al 2020). Other socioeconomic factors impacting racial and ethnic minorities also increased their propensity to contract COVID-19 (Centers for Disease Control and Prevention 2021a). Past research on IGP in Utah suggests that people in racial and ethnic minorities in the state are more likely to experience IGP than those not in minority groups (Martinez 2019).

Some research suggests that increased unemployment benefits during the early stages of the pandemic may have reduced poverty rates (Han et al 2020). However, with the expiration of federal benefits in early 2021, the poverty reduction may reverse. Additionally, individuals impacted by IGP in Utah may not necessarily have been eligible for increased unemployment benefits resulting from the pandemic, if they were not employed from the start of 2020.

2 | Methods

2.1 | Data

Individuals were considered to be experiencing IGP in 2019 if they received at least one month of public assistance in 2018 and at least twelve months of public assistance as a child and at least twelve months of public assistance at any time as an adult. The 2019 IGP control cohort was used for comparison purposes in the regression models. The control (reference) cohort was defined by individuals who received at least one month of public assistance in 2018 and less than twelve months of public assistance as children and as adults. This control group is considered to be experiencing temporary or situational poverty as opposed to being in a long-term cycle of poverty, though due to data limitations, it is possible they are also experiencing long-term poverty.

Individuals in the 2019 IGP cohort were linked to the unemployment insurance (UI) wage record to determine their 2019 and 2020 quarterly wage and employment data. If individuals in the cohort had multiple jobs, their wages were summed for each job quarterly. Workforce attachment was determined for 2019 and 2020, defined as the number of quarters the person appeared in the UI wage record in each of these years. If an individual did not appear in the wage record for an entire quarter during 2019-2020, zeroes were entered for their wage amounts. If individuals were not present in the UI

wage record from 2019 to 2020, they were excluded from the final regression analysis cohort to prevent zero inflation in the analysis. A total of n = 80,070 adults were included in the regression models. Data for race, age, ethnicity, gender and education level were used from self-reported information collected as part of each individual's application for public assistance.

2.2 | Data Analysis

Wage and employment data for 2019 were compared to wage and employment data for 2020 by extracting wage slopes from 2019 Quarter 1 (Q1) to 2021 Q1 and workforce attachment data from 2019 Q1 through 2020 Q4. Wage and workforce attachment slopes were determined both for individuals impacted by IGP and those in the control group. Each quarterly wage was used to determine the slope across the nine quarters in the study (change in wage from 2019 Q1 to 2021Q1). For workforce attachment, the slope was determined using two data points: the count of quarters worked in 2019 and quarters worked in 2020. Using the slope of these data points allows for examination of change over time of wages and workforce attachment for individuals in the study. The formula of the wage regression followed the formula:

Mean change in wage/quarters worked ~ IGP status + Gender + Age + Race/ethnicity + education level

Where mean change in wage was calculated using a linear model of quarterly wages for each individual from 2019 Q1 through 2021 Q1.

Slope data points for the two groups (IGP and control) were analyzed using two regressions: one regression for wages and one for workforce attachment. Regressions controlled for the effects of race, ethnicity, gender, education level and age since these variables are known to impact the rates at which individuals experience IGP in Utah. These demographic factors also impact the ways individuals interact with the workforce based on previous research (Martinez 2019, 2020).

All data analyses were performed in R v. 4.1.0 (R Core Team 2021).

2.3 | Data Limitations

The UI record does not include individuals who are employed by certain non-profit businesses, the federal government, or who are self-employed. If an individual left the state of Utah during 2019 or 2020, the wage record available through UI does not account for this, and the person would appear absent from the wage record, even though they might be earning wages in another state.

Furthermore, this research does not take into account any unemployment benefits the individuals in the study may have received during 2020, which may have helped mitigate some of the stresses of income loss. Lastly, 2019 and 2020 wage data are not adjusted for inflation.

3 | Results

3.1 | Summary of Population

There were a total of 39,307 adults considered to be experiencing IGP in the 2019 IGP cohort and 90,187 adults in the 2019 control cohort. Both the IGP cohorts and control cohorts were largely comprised of female adults. Greater than 60% of the adults in both groups were female (Table 1). The most common racial and ethnic groups in both the IGP cohort and control cohort were White and Hispanic, in that order. The third-largest racial group in the IGP cohort was Native American and Black in the control cohort (Table 1). The majority of adults in this study had a high school level of education and were in the 21-31 age bracket (Table 1). More than 40% of adults in both the IGP cohort and the control cohort were absent from the UI wage record in both 2019 and 2020. Approximately 31% of both the IGP cohort and control cohort were present in the UI wage record in all four quarters in 2019 and 2020. The number of individuals who were employed in all four quarters in both the IGP cohort and the control cohort did not change noticeably from 2019 to 2020. The rate for year-round employment hovered around 31-32% for both groups in both 2019 and 2020. The median annual wage for both those impacted by IGP and those in the control cohort rose slightly from 2019 to 2020 (Table 2). Note that the median annual wage calculation excludes individuals who never appeared in the UI wage record.

3.2 | Wage Regression

There was no statistically significant difference in wage changes from 2019 to 2020 between those impacted by IGP and those in the control cohort (Table 4). However, males experienced significantly more wage loss from 2019 to 2021 Q1 compared to females, as did those who were older experienced significantly more wage loss (Table 4). There were no significant impacts of education level or race/ethnicity on wage change from 2019Q1 to 2021 Q1 in this sample of individuals. The total number of individuals included in this regression was 80,070, which excluded individuals who never appeared in the wage record from 2019Q1 to 2021 Q1. When checking for interaction between IGP status and

Table 1: Summary data for adults experiencing Intergenerational Poverty (IGP) and adults in the cohort used in this research.

	IGP (n)	IGP (%)	Control/Reference (n)	Control/Reference (%)
Gender				
Female	25,973	66.1%	55,373	61.4%
Male	13,334	33.9%	34,813	38.6%
Race				
Asian	323	0.8%	1,251	1.4%
Black/African American	870	2.2%	1,872	2.1%
Native American	2,178	5.5%	1,796	2.0%
Other	200	0.5%	1,148	1.3%
Pacific Islander	302	0.8%	1,337	1.5%
White	23,199	59.0%	44,314	49.1%
Ethnicity				
Hispanic	5,057	12.9%	7,920	8.8%
Education Level				
Less than High School	2,148	5.5%	14,682	16.3%
High School (or equivalent)	18,009	45.8%	29,556	32.8%
Post-secondary Certificate	2,148	5.5%	5,102	5.7%
College Degree	1,797	4.6%	8,945	9.9%
None or Unknown	8,279	21.1%	31,902	35.4%
Age				
21-31	22,413	57.0%	36,056	40.0%
32-41	14,489	36.9%	35,867	39.8%
42-48	2,405	6.1%	18,264	20.3%
Quarters Employed				
2019				
0	16,586	42.2%	40,035	44.4%
1	3,760	9.6%	7,436	8.2%
2	3,098	7.9%	6,501	7.2%
3	3,466	8.8%	7,387	8.2%
4	12,397	31.5%	28,826	32.0%
2020				
0	17,583	44.7%	43,025	47.7%
1	3,240	8.2%	6,008	6.7%
2	3,128	8.0%	5,840	6.5%
3	3,162	8.0%	6,421	7.1%
4	12,194	31.0%	28,891	32.0%
Total	**39,307**		**90,187**	

gender in the wage regression, there were no significant interaction terms found, so they were excluded from the final model structure. 67.8% of adults experiencing IGP and 68.5% of adults in the control group had wage loss from 2019 to 2021 Q1.

Table 2: Median annual wages for adults in the study (excludes those never present in the wage record from 2019-2020).

	IGP	Control
2019	$8,885	$11,724
2020	$9,028	$12,681

3.3 | Workforce Attachment

There was no statistically significant difference in the change in the number of quarters worked in 2019 and 2020 between those experiencing IGP and those in the control cohort (Table 5). Similar to the results of the wage regression, males experienced a significant reduction in the number of quarters they worked in 2020 as compared to 2019. Some racial minority groups, Black and Native American, worked significantly fewer quarters in 2020 as compared to 2019. Those with a college degree or higher were significantly more likely to have experienced no change in the number of quarters worked or a slight increase in the number of quarters worked from 2019 to 2020 (Table 5). Adults with no education or an unknown level of education experienced statistically significantly reduced workforce attachment from 2019 to 2020, as did those with less than a high school level of education (Table 5). There were no significant interaction terms found for workforce attachment between IGP status and demographic terms, so interactions were excluded from the final model structure. 31.1% of control adults and 32.1% of adults experiencing IGP had reduced workforce attachment from 2019 to 2021 Q1.

4 | Discussion

The analyses performed in this study indicate individuals impacted by IGP and or those experiencing situational poverty (control cohort) were equally impacted by the COVID-19 recession in 2020. Over half of adults experiencing IGP and of adults in this study experienced wage loss from 2019 to 2020 (Figure 1). Increased potential for experiencing wage loss or job loss during the COVID-19 pandemic was more related to other demographic factors than experiencing IGP. Both gender and age impacted wage loss, where males were more likely to experience wage loss than females. In addition, increasing age was associated with decreased salary during the COVID-19 recession (Table 4).

Education bolstered wages and workforce attachment in this study (Table 5). Previous research also suggests that increasing education reduces a person's likelihood to experience IGP in Utah (Martinez 2019). Those with higher education are eligible for higher paying jobs that are more likely to be computer-facing and able to work from home or remotely during the pandemic as compared to jobs that require face-to-face interaction with customers.

Table 3: Change in number of quarters worked (excludes those absent from wage record 2019-2020)

Change in quarters employed	IGP (n)	IGP (%)	Control (n)	Control (%)
-4	438	1.7%	979	1.8%
-3	1,431	5.7%	3,251	5.9%
-2	2,464	9.8%	5,192	9.4%
-1	3,722	14.8%	7,679	14.0%
0	10,306	41.1%	23,850	43.4%
1	3,080	12.3%	6,346	11.5%
2	1,890	7.5%	3,905	7.1%
3	1,448	5.8%	2,987	5.4%
4	314	1.3%	788	1.4%
Total	25,093		54,977	

Table 4: Wage change from 2019 Q1 to 2021 Q1 regression results. Asterisks indicate significant p-values levels. (* p<0.05, ** p<0.01, *** p<0.001)

Dependent Variable	Model Estimate (95% Confidence Interval)
Control Cohort	-4.45 (-36.22, 27.32)
Gender - Male	-44.67** (-73.76, -15.57)
Age	-18.14* (-33.41, -2.87)
Hispanic	-40.06 (-84.97, 4.85)
Black	-51.82 (-144.97, 41.34)
Pacific Islander	-58.62 (-174.49, 57.25)
Native American	-28.04 (-112.60, 56.53)
Asian	-61.70 (-189.41, 66.02)
College Degree	-17.05 (-91.93, 57.83)
High School or Equivalent	18.11 (-44.24, 80.46)
Less than High School	-0.79 (-67.70, 66.13)
None/Unknown Education	17.17 (-48.62, 82.96)
Intercept	-141.18*** (-204.12, -78.26)
Observations	80,070
R-squared	0.0003

It is hypothesized that those adults experiencing IGP and those in the control cohort experiencing situational poverty were at similar risks for losing their job or wages during the pandemic, and thus experienced similar rates of loss in these areas. While the industry areas for these two groups vary slightly, they are both heavily employed in retail and service industries (Martinez 2020). Furthermore, older individuals (those age 50 or higher) were more at risk for experiencing severe illness from COVID-19 compared to younger people (Centers for Disease Control and Prevention 2021b). If older peoples' jobs involved a lot of direct contact with the public, they may have been more likely to quit their jobs or take leave without pay during the pandemic.

Many of these wage loss scenarios during 2020 are likely the result of business closure or job loss due to COVID-19 shutdowns. On March 27th, 2020, Governor Gary Herbert issued a stay-at-home directive for all Utahns (Herbert 2020). Under this directive, many non-essential businesses closed or severely limited capacity and hours, especially in metropolitan areas of the state, such as Salt Lake City and Salt Lake County. For example, all dine-in service in Salt Lake County was ordered to shut down on March 29th 2020, following the governor's stay at home directive (Salt Lake County 2020). This directive was put in place to limit social contact and hopefully reduce the spread of COVID-19. Other business restrictions were heavily concentrated on education-, service- and retail-based industries because of their high social contact. Industries in which many individuals impacted by IGP and those in the control cohort are employed.

Our result showing that men were more likely to experience wage and workforce attachment reduction than women is counter to many national trends. Nationally, women experienced more job loss during the COVID-19 pandemic than men. During the period from February to May 2020, about 11.5 million women lost their jobs in the U.S., while only 9 million men lost their jobs (Pew Research 2020). It is not possible to determine the exact reason why wage loss and workforce attachment loss do not follow these trends for the Utah IGP cohort. Some possible explanations include the fact that those experiencing IGP and the control group already have a disproportionate number of women in them compared to the larger population, and the women in the cohort may have already been out of the workforce before the beginning of the pandemic. About 66% of adults impacted by IGP in 2019 were female, and about 61% of the 2019 control

Table 5: Workforce attachment change from 2019 Q1 to 2021 Q1 regression results. Asterisks indicate significant p-values levels. (* p<0.05, ** p<0.01, *** p<0.001).

Dependent Variable	Model Estimate (95% Confidence Interval)
Control Cohort	-0.02 (-0.04, 0.01)
Gender - Male	-0.11*** (-0.13, -0.09)
Age	0.03*** (0.02, 0.04)
Hispanic	0.0003 (-0.03, 0.04)
Black	-0.13*** (-0.20, -0.06)
Pacific Islander	-0.05 (-0.14, 0.04)
Native American	-0.18*** (-0.24, -0.11)
Asian	0.07 (-0.03, 0.17)
College Degree	0.06* (0.0005, 0.12)
High School or Equivalent	0.003 (-0.05, 0.05)
Less than High School	-0.05* (-0.11, -0.01)
None/Unknown Education	-0.06* (-0.11, -0.01)
Intercept	-0.02 (-0.06, 0.03)
Observations	80,070
R-squared	0.0003

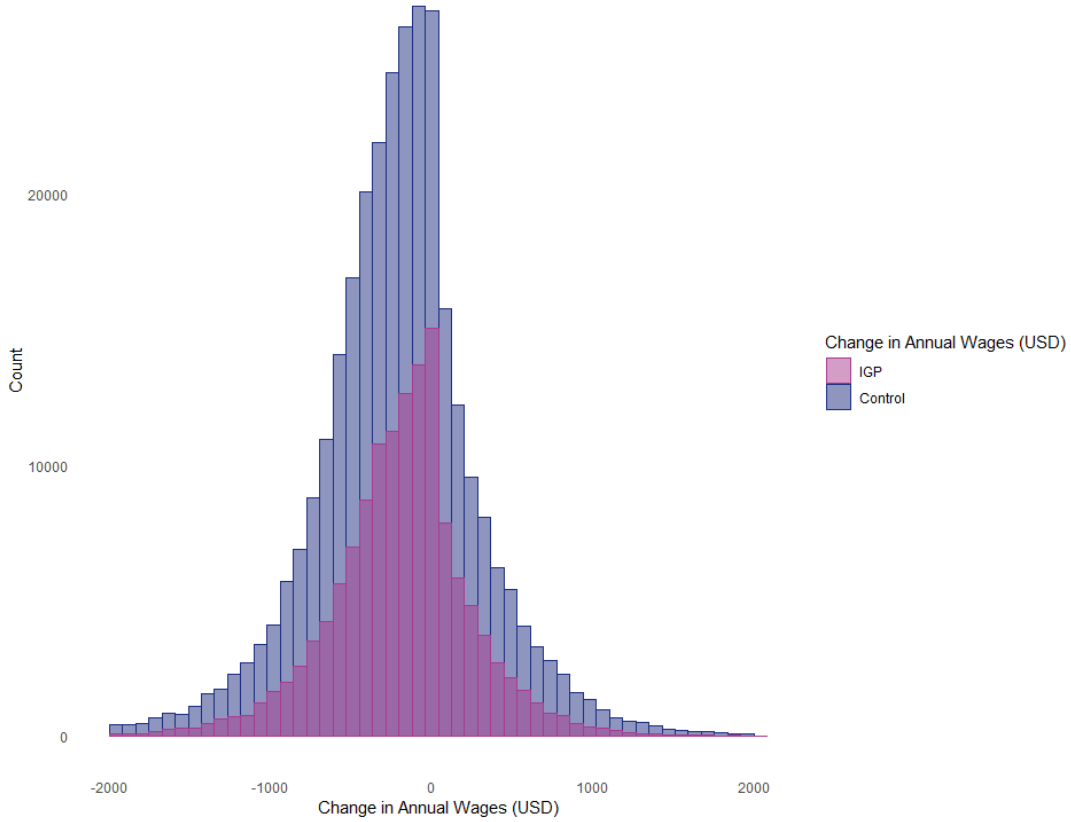

Table 5: Histogram of individuals' wage changes from 2019 to 2021 Q1. This data does not include individuals who were never present in the wage record during the study period. Count values indicate the number of individuals in the study who experienced the wage loss or gain indicated on the x-axis.

cohort were female (Table 1). While the distribution of employment industries was not examined in this research, in Utah, men may have been more likely to have been employed in industries impacted by business shutdowns than women. Similarly, racial and ethnic minorities were impacted differently by the COVID-19 business closures. This was not a focus of the study, but racial and ethnic minorities undoubtedly experienced worse impacts of the COVID-19 pandemic than the racial majority and should not be overlooked (CDC 2021a).

Future research should examine trends in these groups of people over a longer period since the COVID-19 pandemic is ongoing at the time of publication of this research. Future research should also compare the groups in this research to other populations with different workforce histories. It would be useful to understand how these groups of people compare to a random sampling of individuals from the entire population of Utah. Unfortunately, at the time of this research, DWS did not have access to demographic data for a larger subset of individuals in the wage record. Therefore, this research focused only on those in the IGP and those experiencing situational poverty (control cohort).

5 | Conclusion

Both adults experiencing IGP and adults experiencing situational poverty (control group) in this research who experienced some wage loss and reduction in workforce attachment during the COVID-19 recession. Certain demographic groups experiencing poverty, such as men and those with less than a high school level of education were more likely to be impacted. While the results of this research and the impacts on those experiencing a cycle of poverty (IGP) or those at risk for experiencing situational poverty during the COVID-19 pandemic were somewhat negative, Utah as a whole has recovered quickly from the pandemic (Salt Lake Chamber 2021). This is promising for all citizens as Utah continues its economic recovery. Finally, it is important to note the impact that education had and could have on the lives of those experiencing IGP or situational poverty. This research showed, as has previous IGP research (Martinez 2019), that those with higher education were somewhat insulated from the impacts of the COVID-19 recession.

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