The 2022 American Economic Association Annual Meeting

Diversity & Inclusion: A Tale of Two Economies

January 2022

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"Not everything that counts can be counted, and not everything that can be counted counts." –Albert Einstein

Abstract

This study employs the natural unemployment rate as a benchmark to characterize the state of the labor market by race and gender. In our analysis, we find that the COVID recession produced asymmetric economic damages to some segments of the population and that the pace of recovery from the recession is slower for some races and gender than for others. This pattern matches similar trends of asymmetric damages and recovery seen over the prior three business cycles.

The Black labor market was affected most by recessions and experienced the slowest pace of recovery; in particular, Black women's pace of recoveries was the slowest among any race and gender. Of all segments examined over this 30-year-period, only the Black labor market never achieve the full employment status, making the past three business cycles "recovery-less" experiences for Black Americans. Essentially, the longest recovery following the Great Recession together with the historically largest monetary incentives were unable to push the Black unemployment rate to meet the natural rate of unemployment.

This finding, that one race never achieved full employment, suggests that policymakers should incorporate "diversity & inclusion" into their efforts to confront recessionary periods, rather than the current tradition of one-policy-fits-all. Our work proposes a new policy goal of full employment for each race and gender, which we believe would be a start to ending the "recovery-less" experience for Blacks. Typically, policymakers rely and respond to the aggregate economic numbers, however, we believe there must be policy tools specifically focused on the race/gender-defined labor markets. Our analysis suggests that a faster recovery in the Black labor market would boost national recovery pace and that focusing on the Black market would also help the aggregate market. As a result, incorporating the race and gender data would help to design policies to benefit all. In other words, full employment for each race and gender should be the policy goal going forward.

Key Words: Diversity & Inclusion; Gender; Race; Unemployment; Monetary Policy.
JEL Classification: E32; J16; J16

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Introduction

The 2020 Covid-induced recession was the shortest on record and the stage is set for the current recovery to be the fastest pace in decades. Policymakers are currently at work architecting this economic recovery, using largely traditional tools aimed at returning the country to full employment. This study examines the current and past labor market recoveries, specifically by race and gender. This examination reveals an uneven post-recessionary emergence, with Black Americans never fully recovering. The underperformance by this group belies the notion of a "national recovery." Instead, the disparities in how different segments of the nation's labor markets recover suggest that traditional policies aimed at a return to full employment on a national scale should be revised to incorporate race- and gender-focused strategies. Our work is intended to highlight the need to identify and account for disparities beneath the aggregate statistics and to facilitate policymakers' transition toward a framework that benefits all. When all segments participate in a national recovery, the consequences will be a more equitable and stronger aggregate recovery.

Our study utilizes the natural unemployment rate as a benchmark to characterize the state of the labor market. Theoretically, the *natural unemployment rate* indicates whether or not the labor market is operating at its potential level, with the *unemployment rate* reflecting the normal turnover of jobs and mismatches between the skills of available workers and the skills required to fill vacant positions. Using the *national* labor market at its full employment level (as is done currently) clouds underlying slacks for some segments of the population, we believe. Instead, we utilize the natural *unemployment rate for each race and gender (race/gender)* as benchmarks. These rates mark the level at which the labor market of a race/gender is operating at its potential.

The second part of our analysis measures the potential economic damages from the Covid pandemic for each race and gender segment to gauge whether they have suffered disproportionate economic damage. We do so by comparing the pace at which each segment's unemployment rate deviated from the natural unemployment rate. The slower the move toward the natural unemployment rate (relative to other segments), the larger the negative economic impact from the Covid pandemic-related downturn, we estimate.

The third part of our study examines the relative economic impact on the labor market for the past three business cycles—i.e., whether economic damages, as well as the rate of recovery, from the 1990-1991, 2001 and 2007-2009 recessions were asymmetric for different segments of the population (race/gender).

In addition, we estimate whether a slower pace of recovery from a recession by one or more race/gender segment(s) might have hampered the national labor market recovery as a whole. The Federal Open Market Committee (FOMC) sets the nation's monetary policy stance to meet its dual mandate of fostering full employment and maintaining stable inflation levels. Our analysis, if employed, would help the FOMC gauge if a particular race/gender suffered more from recessions and/or lagged recoveries versus other race/gender segments. Armed with this information regarding recession recovery equality, the Committee could design policies to assist the magnitude and/or pace of recovery for a particular segment(s), in place of its traditional approach of one-policy-fits-all, thereby benefiting the national recovery as a whole.

The fourth and final phase of our study analyzes what the impact of policy actions aimed at labor market recovery equality would have had on past recessions. For example, our first scenario examines what the recovery landscape would have looked like had the Black labor market recovered at the same pace and degree as the national market. Our second scenario looks at the same, but with a focus on the Black women labor market segment, specifically, and the resulting effect on the national labor market. Essentially, we run scenarios in which all races and gender follow a similar pace of recovery, analyzing the implied national labor market recovery pace. These scenarios would help policymakers to gauge pace of the national labor market when all races/gender follow healthy, similar labor market recovery.

Our analysis utilizes the Bureau of Labor Statistics (BLS)'s Household Survey data. We employ the Congressional Budget Office (CBO)'s measure of the natural unemployment as the benchmark. The analysis covers the 1990:Q1-2021:Q2 period, which includes three complete business cycles and four recessions. These 30-plus years of data allow us to determine if recessions/business cycles are producing asymmetric effects for certain segments of the population.

Our work estimates the asymmetric economic damages from the Covid-19 pandemic for different segments of the population to date. The Black labor market experienced larger damage than White/Asian or the national labor market. Moreover, Blacks place last in the recovery race. Based on the past three business cycles, our analysis suggests that whether a recession is mild or severe, it affects the Black labor market more than other race. By the same token, whether the expansion is moderate (the 2001 cycle) or the longest (the 2007-2009 cycle), the Black labor market recovered more slowly than any other race-defined segment or the overall labor market. And, drilling down, among gender-/race-based segments, Black Women experienced the slowest recoveries during the past three business cycles. Most important, by our analysis, the Black labor market is the only race segment that *never* achieved full employment, leading us to label all recessions we examined as *"recovery-less"* experiences for the Black Americans.

Our simulation analysis suggests that a faster pace of recovery of the Black market would help to reduce the magnitude of the long-term unemployment rate for Blacks, which in turn would boost the pace of the national labor market recovery. Similarly, a faster recovery in the Black women's labor market would boost Blacks' as well as the overall market's recovery.

The final step of our analysis identifies that an average growth of 17% during the past business cycle would have helped the Black labor market to achieve full employment. Had this happened, the overall labor market also would have experienced a faster recovery, as the aggregate unemployment would have hit the natural rate four quarters earlier (in Q1 2016 vs. Q1 2017) than the observed rate. The scenario does produce the full employment level for the Black labor market; however, the results have some vital implications for policymakers. First, the average growth rate of 17% is markedly higher compared with growth rates generally observed by the national markets, and other races—the fastest recovery in our analysis is 2.47% for the overall market. In other words, Blacks would need to see a recovery that is *7 times the fastest* overall recovery to achieve the full employment rate.

Typically, when the aggregate economy experiences a recession/slowdown, policymakers activate stimulus measures to combat recessions/slowdown on a national level. Similarly, when the aggregate numbers signal a recovery, policymakers shift their efforts toward guiding to recovery—again, on a national level. It is vital, however, that decision makers not be influenced by aggregate numbers, which while important, may lead to an inaccurate assessment of the pace of the recovery and thereby trigger ineffective or premature policies. One example of such a scenario is from the post-Great Recession era, when the FOMC started raising the fed funds rate faster in 2017 (three rates hike in 2017 vs. one rate hike in 2016). One major reason for the faster rate hikes was that aggregate unemployment hit the natural rate in Q1 2017. (At the time the inflation rate was below the target of 2%; the average PCE deflator for 2017 is 1.8 %). As such, the full employment level for the overall labor market (along with other factors) may have influenced the FOMC to raise rates faster than the previous year. Notably, in retrospect, signals from race/gender labor markets may have been obscured by having the spotlight on the aggregate numbers.

Regrettably, this scenario may be repeated in the near future. Real GDP for Q2 2021 has already crossed the pre-Covid peak, and the Q2 2021 unemployment rate is only 1.4 percentage higher than the natural rate. As such, the *talks* of the fastest recovery are growing louder every day; financial markets are predicting a "tapering" announcement from the FOMC sometime later this year. Some FOMC members are suggesting a possible rate hike in 2023. Essentially, aggregate numbers may influence policymakers to change the path from stimulus toward tapering, at the least. But Q2 data indicates that the Black unemployment rate is 4.8 percentage points higher than the natural rate, which a shift away from stimulus would "lock in," creating another "recovery-less" experience.

If the FOMC and other policymakers were to eschew national statistics in favor defining recovery as being the point at which all race and gender segments have reached full employment, it would start a path toward ending the "recovery-less" experience for Black Americans, our analysis suggests. Certainly, aggregate numbers are important, but the value of race-/gender-level statistics is equally important, if we wish to equalize the recovery experienced by all segments of the population. While policy tools should be utilize to jumpstart a race's slower recovery, our analysis suggests that a faster recovery in the Black labor market would boost national recovery pace. So by incorporating race/gender data, and making full employment in all segments a determinant in defining a recovery, policymakers would help move the aggregate market toward a faster full recovery for all. In other words, full employment for each race and gender should be the policy basis for pivoting toward post-recessionary actions going forward.

2. Characterizing the State of the Labor Market by Race and Gender

The labor market is a crucial element of the economy. Whether people have jobs or not is often the most relevant gauge of the economy's health, and serves as a central input in the FOMC's dual mandate: setting the monetary policy stance to achieve maximum employment, and price stability.

Unemployment, particularly long-term unemployment (LTU), has very serious socio-economic consequences, and there is much literature that discusses such consequences: Nichols, Mitchell and Linder (2013) provides great detail about the effects of LTU—that is, long-term unemployment rate leads not only to declining income and consumption, but it also affects future income as well as declining human and social capital. Some studies suggest job losses affect physical and mental health (see Browning and Heinesen, 2012), and affect children and families (Wightman, 2012 and Lindo, 2011). Past studies have documented the impact of LTU on local communities—i.e., when long-term unemployment becomes more concentrated, the neighborhood in question becomes a source of persistent poverty and potentially high crime (Wilson 1987; Rege, Telle and Votruba, 2012).

These socio-economic consequences are layered onto the macroeconomics aspects of the LTU (e.g., the economy not operating at the full employment) and are important for policymakers as they design policies to achieve maximum employment.

It is important to mention that the focus of the present study is not to address the consequences of the long-term unemployment. Rather, we present a framework to characterize state of the labor market by race and gender as the economy enters recovery mode. We believe aggregate numbers such as the national unemployment rate may not be an accurate measure of the unemployment rate for every race and gender, and that a race/gender segment may be experiencing long-term unemployment rate while the aggregate number suggests full employment.

Our framework estimates damages from recessions for each race and gender. We also gauge the pace of recovery for different races/gender, helping us to identify whether recessions produce asymmetric damages for some population groups. We also look at whether a race/gender experiences chronic unemployment while the economy/overall labor market is considered to be operating at full potential. Essentially, our study helps to validate policies that account for disparities beneath aggregate statistics and facilitate policymakers' transition toward a framework that benefits all.[1]

2.1. Setting the Stage: A Benchmark to Characterize the State of the Labor Market

We employ the natural unemployment rate as a benchmark to characterize the state of the labor market by race and gender. The natural unemployment rate is used to gauge economic activity relative to its potential. The CBO defines the natural rate of unemployment as "the rate that results from all sources, except fluctuations in aggregate demand, including normal turnover of jobs, mismatches between the skills of available workers and the skills necessary to fill vacant positions." In other words, there is some percent of the labor force that is still looking for a job, even in the best economic times, and this share represents the natural unemployment rate. Therefore, when a race/gender's unemployment rate hits the natural unemployment then the labor market for that race/gender is considered to be operating at its full potential. Essentially, at that point, the nature of unemployment for that race/gender may be temporary, not chronic, all else equal.

We set the CBO's natural unemployment rate as a benchmark, eschewing the other possible options, including employment growth, employment-population-ratio, and labor force participation. Although data by race and gender is available for these variables, there is not a set criteria (such as a specific growth rate) that helps us to determine if a specific labor market is operating at its full potential. That is, there is not a specific employment growth rate or employment-population ratio that indicates whether a race/gender segment of the labor market is at full employment. The natural unemployment rate is widely used to gauge whether the labor market is at the full employment; therefore, we set the natural unemployment rate as a benchmark to determine when a race/gender labor market is operating at its full potential.

There are some major benefits of our benchmark. First, the natural unemployment rate is a theoretical concept, which is estimated rather than measured. And while there is some debate regarding how accurate the estimate is and what we can infer from it, policymakers such as the FOMC use the natural unemployment rate along with other variables to gauge the state of labor

[1] Past studies have estimated the wage/income gap between White and Black, see Bayer and Charles (2018) for more detail; however, our work also estimates damages from recessions and characterizes pace of recoveries by race and gender.

market (Powell, 2018). Second, using the natural unemployment rate, we can estimate damages from a recession by race and gender. That is, knowing how far a race's unemployment rate is from the natural unemployment during a recession helps to determine the magnitude of damages for that race. Furthermore, we can estimate which race/gender is affected the most from a recession. Third, given a set benchmark, we can estimate the pace of a recovery by race/gender—i.e., how fast or slowly a segment is moving toward the natural unemployment rate. The fourth benefit is that it helps to understand how long a race's labor market has not operated at its full potential, which also suggests possibility of long-term unemployment rate for that race.

The fifth and final benefit of our benchmark is that it can help policymakers design policies to jumpstart a race/gender's labor market recovery to avoid long-term unemployment for that race/gender. That is, we run simulations that reveal various possible paths for a race/gender-defined market to achieve its full employment, if that race's labor market is not operating at its full employment. Additionally, our framework sheds light on the question of whether a slower pace of recovery for a race/gender labor market in turn slows the pace of national market recovery, and vice versa.

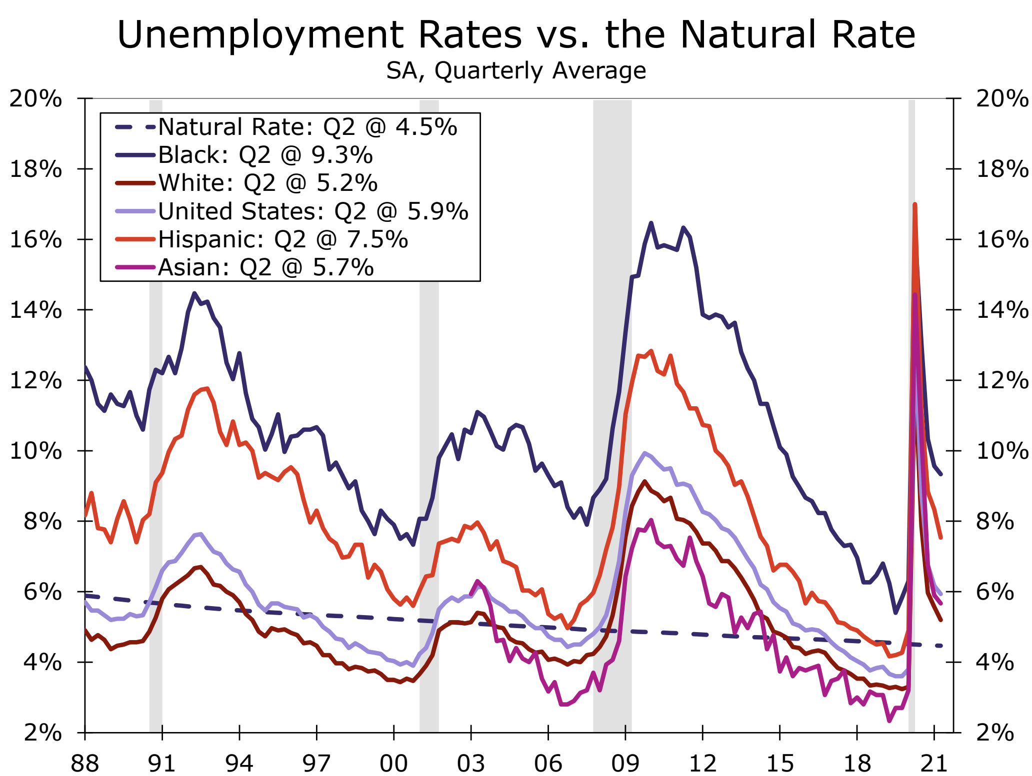
We utilize the Bureau of Labor Statistics (BLS) Household Survey Data (HSD) and the CBO's natural unemployment rate. The HSD provides unemployment rates (and other key labor market statistics such as the employment-population ratio) by race and gender. We utilize a quarterly data set for the 1990:Q1—2021:Q2 period.[2] There are three complete business cycles along with four recessions in our sample period, which allows us to characterize state of the labor market during different business cycles. The BLS does not provide unemployment rates by gender for Asians, so we are unable to conduct analysis for Asians by gender. Data for Asians goes back only to 2003, hence the start date for Asian analysis. The Hispanic or Latino Ethnicity (Hispanic) data does go back to our starting date of 1990, but gender data goes back only to 2003. Hispanic gender data (for example, unemployment rate for Hispanic women) is for age "20 years and over," and Black/White gender data is for all age groups, therefore Hispanic gender analysis is not directly comparable with other races' gender data. The Hispanic gender analysis is still useful in analyzing whether Hispanic women are affected more than Hispanic men by a recession, and vice versa.

[2] Since the CBO's natural unemployment rate is quarterly, we convert the BLS data into quarterly from monthly using monthly average of a quarter.

Since gender data for Blacks and Whites goes back to 1990 and is available for same age groups, our work concentrates on the gender analysis for Black and White only.

A picture is worth a thousand words, and Figure 1A provides some useful "hits." We plot the natural unemployment rate along with the total (U.S. aggregate) unemployment rate as well as rates for races. The U.S. aggregate and White unemployment rates achieved full employment (hit the natural unemployment rate) in each of the last three business cycles. Asian unemployment rate (which only goes back to 2003) also hit the natural unemployment rate during the 2001 and 2007-2009 cycles. The Hispanic unemployment rate achieved full employment level during the 2001 and 2007-2009 cycles but did not hit that milestone during the 1990-1991 business cycle. The Black labor market (dark blue-line) never achieved full employment, in our analysis.

Figure-1A: The Natural Unemployment Rate vs. Unemployment Rates by Race and Total



Source: The Bureau of Labor Statistics (Household Survey Data) and the Congressional Budget Office's natural unemployment rate.

The unemployment rates for women along with the natural unemployment rate is shown in Figure 1B, and for men in Figure 1C (see Appendix for those charts). Both figures draw similar conclusions: women and men unemployment rates for total and White hit the natural unemployment rate in each of the past three business cycles. The data for Hispanic women/men only goes back to 2003, and those rates crossed the natural rate during the 2001 and 2007-2009 cycles. The Black women and men rates never touched the natural rate during the past three business cycles.

These simple charts highlight a very serious issue, which is that during our sample period of over 30 years, the Black labor market never operated at its full potential. Essentially, regardless of whether the U.S. economy experienced the mild/moderate recession of 2001/1990-1991 or the Great Recession (2007-2009), the goal of full employment for the Black labor market remained unachievable. By the same token, whether the economy enjoyed the long expansion of the 1990-1991 cycle or the longest expansion of the 2007-2009 cycle, those long and longest durations fell short of helping Black unemployment hit its natural unemployment rate. Indeed, these charts hint at chronic unemployment for the Black Americans.

2.2. The Covid Recession (2020): Estimating Damages and Pace of Recovery

The 2020 recession is the shortest but sharpest in our sample period, as the recession lasted for only two months but experienced the largest job losses. To analyze whether the Covid recession produced asymmetric damages for some segments of the population, we estimate damages from the recession by race and gender. We also characterize the pace of the labor market recovery by race and gender.

Our framework sets the natural unemployment rate as a benchmark; a race/gender's labor market would be considered to be operating at its potential level when the unemployment rate of that race/gender is at (or below) the natural unemployment rate. By the same token, any deviation (above the natural rate) from the natural rate would suggest damages, as more workers are unemployed than suggested by the natural rate. Additionally, since the natural unemployment is identical for all races and gender, that implies we can compare a race/gender's damages to others, which would shed light on the asymmetric damages from the Covid recession. We can also examine the relative pace of recoveries by identifying which race/gender's unemployment rate moved faster toward the natural rate. That is, whether the White labor market is experiencing a faster pace of recovery compared with other races.

Our results are reported in Table 1. Damages related to the Covid recession are estimated as a change from the natural unemployment to the race/gender's peak unemployment rate. For example, the U.S. aggregate (total) unemployment rate peaked at 13.07% in Q2 2020, and the CBO's natural unemployment rate was 4.5% at that time. Therefore, an 8.6 percentage point (difference between the 13.07 and 4.5) increase from the natural rate is labeled as the estimated damages for the U.S. national labor market from the 2020 recession. Unemployment rates for all races/gender also peaked in Q2 2020.

Our framework suggests that the largest estimated damages among races and overall labor market is for Hispanic labor market, which experienced a 12.5 percentage point increase in the unemployment rate from the natural rate, followed by the Blacks (11.7) and Asian (9.9) segments. The White labor market experienced the smallest increase at 7.7 percentage point. Although, Hispanic gender unemployment rates are for age "20 years and over," which is not comparable to other race's gender (e.g., Black women's unemployment rate is for all age groups), but it suggests that Hispanic women suffered more (13.6) than Hispanic men (10.3).

Table-1:

The COVID-Recession (2020): Estimated Damages and the Pace of Recovery by Race/Gende

Race/Gender		Damages (Natural U.R. to Peak)**	Pace of Recovery	
			Drop: Peak to Current	Devaition from the Natural U.R.
Overall	Total	8.6	7.1	1.4
	Female	9.6	8.4	1.2
	Male	7.6	6	1.6
Black/African American	Total	11.7	6.9	4.8
	Female	11.8	7.6	4.2
	Male	11.7	6.2	5.5
White	Total	7.7	7	0.7
	Female	8.9	8.4	0.5
	Male	6.7	5.8	0.9
Hispanic/Latino*	Total	12.5	9.5	3
	Female	13.6	10.5	3.1
	Male	10.3	7.9	2.4
Asian* **	Total	9.9	8.8	1.2

* Hispanic unemployment rates for both female and male are for "20-year and over"

**The CBO's Natural Unemployment Rate (Natural U.R.) as a benchmark to estimate damages/pace of recovery for each race/gender

*** The BLS does not provide uneployment rates by gender for Asian Americans

Source: Our calculation using the Bureau of Labor Statistics' Household Survey Data and the Congressional Budget Office's natural unemployment rate.

The Black women (11.8) experienced the largest damages among Black/White and Overall labor markets. With a 6.7 percentage point increase, White men are standing at the other end of the spectrum, with the least damage among any race/gender as well as overall labor market. In sum, our analysis suggests that the Covid recession produced asymmetric damages for some segments of the population. That is, Hispanic experienced the largest increase in unemployment among races and the overall labor market. Furthermore, by race as well as for the overall labor market, women were adversely impacted more than men by the recession.

A two-step approach is employed to characterize the pace of recovery by race/gender. The first step calculates the peak-to-current (Q2 2021) drop in the unemployment rate for races/gender. That is, how much improvement a race's labor market has shown during the recovery phase? Since the objective for each race's labor market is to achieve the full employment, the second step estimates how far a race's unemployment rate is from its natural rate. Essentially, a relatively smaller gap (between the natural unemployment and a race's unemployment rate) for a race/gender would suggest that a race is relatively closer to achieving its potential level, all else equal.

The Hispanic unemployment rate enjoyed the largest drop (from the peak to the current rate) at 9.5 percentage points, followed by Asian (8.8), overall (7.1), and White (7), Table 1. With a 6.9 percentage point drop, the Black labor market had the worst recovery race. By race as well as for the overall market, women's unemployment rates experienced a larger drop than men's. However, compared with White women and overall, Black women experienced the smallest drop in the unemployment rate. White men compared with Black Men and overall saw the smallest drop in the unemployment rate.

Among races and gender, White women are the closest (only 0.5 percentage point above the natural rate) to achieving full employment status, Table 1. With a 5.5 percentage point gap, Black men are least expected to hit the natural unemployment rate. The Black labor market (both Black women and men) is furthest from the natural unemployment rate and the White labor market (both White women and men) is closest to achieving its full employment level. In other words, the pace of recovery is not even among races and gender.

Summing up, the estimated damages and pace of recoveries are asymmetric for some segments of the population. The Covid recession lasted for only two months (March/April 2020), and recovery from the recession is moving at a faster pace. However, some segments of the population suffered more than others. Unfortunately, the pace of recovery is not similar for all races and gender. The Black labor market experienced larger damages than White/Asian as well as the national labor market. At the same time, Blacks are in last place in the recovery race. A vital implication for decision makers is not to be influenced solely by the aggregate numbers, as doing so may lead to an inaccurate assessment of the pace of the recovery and result ineffective policies. A better approach would be to incorporate labor market data based on race and gender when designing effective policies that benefit all.

3. Two Tales of a Recession: Asymmetric Damages and Different Pace of Recoveries

We covered the past three business cycles in our sample period. As of July 2021, the pace of the current labor market recovery is faster than that of the past three recoveries, but only time will reveal if the current recovery will break the past weaker recovery trend. In our study, we analyzed the state of the labor market by race and gender during the past three business cycles.

There are some major benefits of analyzing past cycles. First, while the Black labor market is currently experiencing the slowest recovery versus other race/gender segments, that may change as we move further into the recovery/expansion phase of the current cycle. However, since past cycles are already finished, their expansion phases help us to analyze whether the current slow pace of recovery for the Blacks is a repeat of past cycles. Second, we can learn whether past recessions produced asymmetric damages and pace of recoveries. Third, we can learn whether the depth of a recession matters for a race/gender—i.e., does one particular race (the Blacks, for example) always experience significantly larger damages than do the others? That is, the past three recessions were different in their depth/severity: the 2001 recession was mild; the 1990-1991 moderate; and the 2007-09, labeled as the Great Recession, was, of course, severe. Analyzing them tells us whether these three recessions shared a similar characteristic, where one race, more than the others, was affected the most. For example, if the Black labor market experienced larger damages and slower recoveries in all three recessions, that would portend a more serious situation currently, and signal a greater and more urgent concern for policymakers—i.e., a strong possibility of chronic unemployment, which may highlight the necessity of different-than-past policies.

The fourth and final major benefit would to help policymakers to design effective policies. The past three recoveries are considered to have been weak/jobless, and our analysis would help to gauge whether a slower recovery of a race's labor market could slow the pace of the national market recovery, and vice versa. That is, would a slower recovery in the Black labor market slow down the national labor market recovery.

We first characterize the state of the labor market during the 2007-2009 cycle by estimating damages from the Great Recession and its subsequent recovery. The results are reported in Table 2. To estimate damages, we first calculate the change between the natural unemployment and the peak rate for race/gender. For example, the overall U.S. unemployment rate peaked at 9.93% in Q4 2009 and the natural rate at that time was 4.9%. Therefore, estimated damages of 5.0 (9.93 – 4.9) percentage point. During the 2020 recession, unemployment rates peaked at the same time (Q2 2020) for all races/gender. That wasn't the case for the Great Recession, however. That is, the peak date was different for different races/gender. This may have implications for estimated damages as well as pace of the recovery—a relatively sooner peak may imply a relatively sooner start of the recovery phase, all else equal.[3] Therefore, we also include duration (number of quarters to the peak for each race/gender) in Table 2.

During the Great Recession, the Black labor market (11.6) suffered the most, followed by Hispanic (7.9), and overall labor market (5.0). Asian experienced the smallest increase at just 3.1 percentage point from the natural rate. Black women (9.6) among White/overall Women, and Black Men (14.8) compared with White/overall Men, were affected the most by the Great Recession. The Black women labor market took eight quarters to reach the peak unemployment rate, which means they were the last segment to enter in the recovery phase. Women compared with men took longer to reach peak unemployment, and that is true among all races/overall, with the White labor market being an exception (same peak date for White women and men). Additionally, our analysis confirms that, as with other recessions, the Great Recession too produced asymmetric damages, with Blacks affected the most.

We employ two statistics to characterize the pace of recovery by race and gender from the Great Recession: (1) the number of quarters with double-digit unemployment rates for a race/gender, and (2) duration (number of quarters) to achieve full employment. Essentially, these two statistics

[3] A relatively late peak could also indicate a slower pickup in the unemployment rate, all else equal. However, the change between the natural unemployment and actual unemployment rates would capture the relative difference in peak values, s the natural rate is identical for all races/gender.

would shed light on the pace of recovery as well as the severity of damages, particularly the number of quarters with double-digit unemployment rates.

Table-2:

The Great Recession (2007-09): Estimated Damages and the Pace of Recovery by Race/Gender

Race/Gender		Damages**		Pace of Recovery	
		Magnitude: Natural U.R. to Peak	Duration: Quarters to U.R. Peak	Quarters of Double-Digit U.R.	Duration: Quarters to Natural U.R.
Overall	Total	5.0	2	0	31
	Female	3.8	6	0	31
	Male	6.1	2	6	31
Black/African American	Total	11.6	3	23	Never Hit
	Female	9.6	8	21	Natural
	Male	14.8	3	24	U.R.
White	Total	4.2	2	0	24
	Female	3	2	0	23
	Male	5.3	2	1	25
Hispanic/Latino*	Total	7.9	3	13	37
	Female	7	6	11	38
	Male	7.5	1	9	31
Asian***	Total	3.1	3	0	21

* Hispanic Unemployment rates for both Female and Male are for "20-year and over"
**The CBO's Natural Unemployment Rate (Natural U.R.) as a benchmark to estimate damages/pace of recovery for each race/gender
*** The BLS does not provide uneployment rates by gender for Asian

Source: Author's calculation using the Bureau of Labor Statistics' Household Survey Data and the Congressional Budget Office's natural unemployment rate.

The recovery from the Great Recession is widely considered weak and jobless. By the same token, the recovery for the Black labor market could be labeled *"recovery-less."* Indeed, the Black labor market experienced 23 quarters of double-digit unemployment rates compared with zero quarters for the Asian, White and overall labor markets. The Hispanic market saw 13 quarters of double-digit unemployment. Black women experienced 21 quarters, with double-digit unemployment rates compared with zero-quarter for White/overall women. The largest number of quarters of double-digit unemployment is for Black Men (24), compared with one quarter for White Men and six for Overall Men (national labor market, Men). Furthermore, the Asian labor market reached full employment in 21 quarters (the fastest), followed by White (24), overall labor market (31), and Hispanic (37). Except for Black, all races and gender achieved full employment levels in the post-Great Recession era.

The Black labor market (Total, Women and Men) never achieved the full employment status in the post-Great Recession period, making it "recovery-less." It is worth mentioning that the expansion from the Great Recession is the longest on record. If the longest expansion could not take Black unemployment to the natural rate, then what would it take for Black to achieve full employment? This is a vital question for policymakers.

Table-3: The 2001 Recession: Estimated Damages and the Pace of Recovery by Race/Gender

Race/Gender		Damages**		Pace of Recovery	
		Magnitude: Natural U.R. to Peak	Duration: Quarters to U.R. Peak	Quarters of Double-Digit U.R.	Duration: Quarters to Natural U.R.
Overall	Total	1.0	6	0	15
	Female	0.7	6	0	15
	Male	1.4	6	0	14
Black/African American	Total	6	6	13	Never Hit Natural U.R.
	Female	5.4	7	4	
	Male	7.1	6	15	
White	Total	0.3	6	0	8
	Female	-0.2	6	0	stayed below N.U.R
	Male	0.7	7	0	9
Hispanic/Latino*	Total	2.9	6	0	20

Source: Author's calculation using the Bureau of Labor Statistics' Household Survey Data and the Congressional Budget Office's natural unemployment rate.

Table-4:

The 1990-1991 Recession: Estimated Damages and the Pace of Recovery by Race/Gender

Race/Gender		Damages**		Pace of Recovery	
		Magnitude: Natural U.R. to Peak	Duration: Quarters to U.R. Peak	Quarters of Double-Digit U.R.	Duration: Quarters to Natural U.R.
Overall	Total	2.0	6	0	22
	Female	1.6	6	0	21
	Male	2.4	6	0	22
Black/African American	Total	8.9	5	24	Never Hit Natural U.R.
	Female	8	5	22	
	Male	9.8	5	24	
White	Total	1.1	6	0	13
	Female	0.7	6	0	12
	Male	1.6	7	0	13
Hispanic/Latino*	Total	6.2	6	13	Never Hit Natural U.R.

*Hispanic data by gender only goes back to 2003
**The CBO's Natural Unemployment Rate (Natural U.R.) as a benchmark to estimate damages/pace of recovery for each race/gender

Source: Author's calculation using the Bureau of Labor Statistics' Household Survey Data and the Congressional Budget Office's natural unemployment rate

The analysis for the 2001 cycle also produces a similar conclusion to the one suggested by the Great Recession, Table 3.[4] The Black labor market experienced the largest damages from the mild recession of 2001. The unemployment rates for all segments peaked at almost similar dates (Black women and White men lagged the peak by one quarter), which suggests a similar start date of the recovery-phase for all races and gender. White women unemployment rates stayed below the natural rate during the entire period, which suggests the 2001 recession may not have had a significant impact on the White women labor market. Except Black, no race/gender hit double-digit unemployment rate during the cycle.

The Black labor market, in addition to incurring the largest damages, experienced 13 quarters of double-digit unemployment, 15 quarters for Black Men and 4 quarters of double-digit unemployment for Black Women. The Black labor market never achieved the full employment level during the 2001 cycle. Again a "recovery-less" experience for the Black labor market.

The 1990-1991 cycle repeats the Black labor market narrative of the largest damages, larger number of quarters with double-digit unemployment, along with never hitting the natural unemployment rate, Table 4. Essentially another "recovery-less" experience for Blacks. The Hispanic labor market was unable to achieve the full employment status during the 1990-1991 cycle and also experienced 13 quarters of double-digit unemployment.

3.1. The Black Labor Market and a Dream of Full Employment

Our analysis suggests that whether a recession is mild or severe, it affects the Black labor market more than other races. By the same token, whether the expansion is moderate/long (2001/1990-1991 cycles) or the longest (the 2007-2009 cycle), the Black labor market is nevertheless associated with a "recovery-less" experience. Furthermore, the Black labor market never operated at its full potential in our analysis. In other words, over the past 30 years, neither the duration of an expansion and economic policies to combat recessions/jumpstart recoveries was able to bring about full employment levels for Blacks. It seems that *very long-term unemployment* is a *very serious problem* for the Black labor market. As noted, serious consequences are associated with a chronically high unemployment rate, and policymakers need to find ways to end this chronic unemployment for this segment of the population. One possible way would be to deviate from the

[4] Since data for Asian and Hispanic women/men goes back only to 2003, we exclude that race/gender from the 2001 and 1990-1991 cycle analysis.

past tradition of concentrating on aggregate numbers, and designing policies based on those aggregate numbers. That is, to design policies that benefit all, policymakers must abandon their current tradition of one-policy-fits-all in favor of policy based on race and gender data.

4. Faster the Black Labor recovery, Faster the overall Labor Market Recovery?

Our study also explored whether a slower recovery of a race's labor market slowed down the pace of the national labor market recovery. The Black labor market experienced the slowest recoveries during the past three business cycles. Would a faster recovery of Blacks boost the pace of the national labor market recovery? Essentially, we asked if during the last three business cycles policymakers had concentrated on the Black labor market, in addition to the national labor maker, would that have led to a faster national labor market recovery than observed. Therefore, accounting for the disparate impacts of economic downturns and the uneven pace of recoveries on the race/gender labor markets would help to achieve faster recoveries and place less burden policymakers' traditional toolkit.

In running our simulations, we first estimated pace of recoveries for the overall and Black labor markets over the past three business cycle. Using our benchmark of the natural unemployment rate, we identified the recovery time period—i.e., the period between the peak-quarter and the quarter when the overall labor market hit the natural unemployment rate. That period helps us to estimate pace of the recovery for the overall labor market. For example, the aggregate U.S. unemployment rate peaked in Q4 2009 and crossed the national rate in Q1 2017. Next, we calculated the growth rate of the unemployed-persons series for that period; the average growth rate for the overall labor market was -2.47% during the post Great Recession, Table 5. In other words, the unemployed-persons series dropped by an average of 2.47% (average per quarter drop) during the Q4-2009: Q1-2017 period. The average-per-quarter drop for the Black labor market for the same time period is 1.96%, and 2.76% for the White labor market, Table 5. Put differently, the White labor market experienced the fastest improvement (fastest drop in unemployed person series) during the post-Great Recession era and the Black pace of recovery was the slowest. In addition, the Black labor market experienced slower recoveries during the 2001 and 1990-1991 cycles.

We measure the pace of recovery as the average drop in the unemployed-persons series so we can impose a specific growth rate on the series to reconstruct the unemployment rate based on that average drop. The unemployment rate is calculated using unemployed-persons as a percent of the labor force. For example, the average drop in the Black market is 1.96%, which is smaller than the overall drop rate of 2.47%; therefore, we have the estimated magnitude of recovery for both markets, which allows us to "shock" the Black labor market to analyze the aftermath. That is, all else equal, we assume the Blacks follow the same pace (which is 2.47%) of what the overall market observed, which helps us to answer, what would be the Black and overall unemployment rates if both Blacks and overall market observed same average drop in the unemployed-persons series. Using the new average growth rate for Blacks, we can reconstruct unemployment rates for the Blacks and overall markets, and compared those rates with the actual rates to analyze whether a faster Black recovery would boost the pace of the national market recovery.

Table-5:

The Pace of Recoveries of the Past Three Business Cycles

Business Cycle	Overall	Black	White
1990-1991	-2.0	-1.3	-2.16
2001	-2.12	-1.39	-2.27
2007-2009	-2.47	-1.96	-2.76

Average Growth Rate of Unemployed Persons: During the Peak to the Natural Unemployment Rate

Source: Our calculation using the Bureau of Labor Statistics' Household Survey Data.

Scenario 1: The first simulation assumes, all else equal, that the Black and overall markets experienced the same pace of recoveries over the past three business cycles. For example, we assume the average growth rate of -2.47% for the Black and overall during the 2007-2009 cycle, and using that average growth rate, reconstruct U.S. aggregate and Black unemployment rates. We repeat the process for the 2001 and 1990-1991 cycles; results are reported in Table 6.

Under this simulation, the Black labor market shows significant improvement by following the same recovery pace that the overall market observed. For example, during the 2007-2009 cycle, Black unemployment is on average lower by 0.27 (average per-quarter drop in the unemployment rate) percentage point than the actual unemployment rate. Additionally, the segment exhibits 10.83 percentage point less unemployment during the 2007-2009 cycle. That implies, 10.83 percentage point more Black workers would have been employed if the Black labor market had followed the same pace of recovery as the overall labor market during the post-Great Recession era.

As a read-across to the overall market, the faster pace of the Black labor market does boost the overall recovery pace. For example, the overall unemployment drops by an average of 0.03 percentage point (per-quarter drop) in response to a faster Black market recovery. By the same token, the total drop in the aggregate unemployment is 1.15 percentage point during the 2007-2009 cycle. Put differently, all else equal, a faster Black market recovery would have led to 1.15 percentage point increase in employed workers in the U.S. during the post-Great Recession era.

Table-6:

Scenario-1: Same Pace of Recoveries for the Black and National Labor Markets

Business Cycle	Overall	Black
	Avg. (total) Drop in U.R.*	Avg. (total) Drop in U.R.
1990-1991	0.02 (0.54)	0.20 (6.95)
2001	0.03 (0.5)	0.21 (3.7)
2007-2009	0.03 (1.15)	0.27 (10.83)

Case-1: The Black labor market followed the same pace of recoveries what the national labor market observed during the past three business cycles

*The average percentage point drop in unemployment rate from the peak to the cycle-end

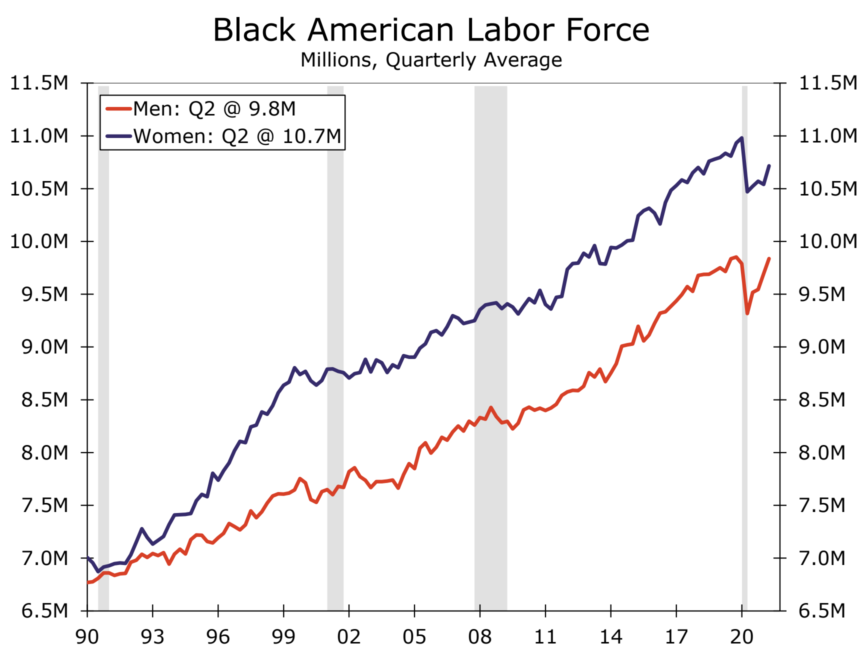
Note: The total percentage point drop in U.R. is in parentheses

Source: Author's calculation using the Bureau of Labor Statistics' Household Survey Data.

Furthermore, the same pace of recovery for the Black and overall markets during the 2001 cycle would have reduced Black unemployment by 0.21 percentage point per quarter, with a total reduction of 3.7 percentage point during the cycle. The total reduction in the unemployment for the 1990-1991 cycle is 6.95 percentage point, with an average drop of 0.2 percentage point in the Black unemployment rate. Moreover, for the overall market, a total drop of 0.5 percentage point (average drop of 0.03 percentage point) for the 2001 cycle and 0.54 percentage point (an average of 0.02 percentage point) reduction is associated with the 1990-1991 cycle. Therefore, a faster pace of recovery reduces unemployment rates in both the Black as well as overall labor markets.

Scenario 2: the second simulation repeat the process of the Scenario 1 but assumes the Black women and overall markets experienced the same pace of the recoveries over the past three business cycles. There are two major reasons to run the simulations for Black women instead of Black Men. First, unlike any other race/overall market, there are more Black women (blue-line) than men (red-line) in the labor force, Figure 2. The second reason is that, over the past three business cycles, Black women experienced slower pace of recoveries than Black men and Black-total. For example, the average growth rate of unemployed-women was -1.62% for the 2007-2009 cycle, -1.09% for the 2001, and -0.95% for the 1990-1991 cycle. Black men labor market observed larger average drops for those cycles such as -2.1% (-1.96% for Black-total) for the 2007-2009 cycle, -1.34% (-1.39% for Black-total) for 2001, and -1.51% (-1.3% for total) for the 1990-1991 cycle. Therefore, Black women represents a major part of the Black market and also experienced the slowest pace of recoveries.

Figure-2: The Black American Labor Force: Women and Men



Source: The Bureau of Labor Statistics' Household Survey Data.

Table 7:

Scenario-2: Same Pace of Recoveries for Black-Women and National Labor Markets

Business Cycle	Overall Avg. (total) Drop in U.R.*	Black-Women Avg. (total) Drop in U.R.
1990-1991	0.03 (1.11)	0.20 (6.72)
2001	0.04 (0.71)	0.17 (2.98)
2007-2009	0.05 (1.85)	0.27 (10.65)

Case-2: The Black-Women followed the same pace of recoveries what the national labor market observed during the past three business cycles

*The average percentage point drop in unemployment rate from the peak to the cycle-end

Note: The total percentage point drop in U.R. is in parentheses

Source: Author's calculation using the Bureau of Labor Statistics' Household Survey Data.

There would have been a 10.65 percentage point increase in employed women had Black women experienced the same pace of recovery as the overall labor market observed during the post-Great Recession era, Table 7. That scenario also suggests an average drop of 0.27 percentage point in the Black women unemployment rate during the cycle. A faster recovery in the Black women labor market would have reduced aggregate unemployment rate by 1.85 percentage point during the post Great Recession era. By the same token, faster Black women recoveries during the 2001 and 1990-1991 cycles would have boosted the pace of the national labor market recoveries during those cycles, Table 7.

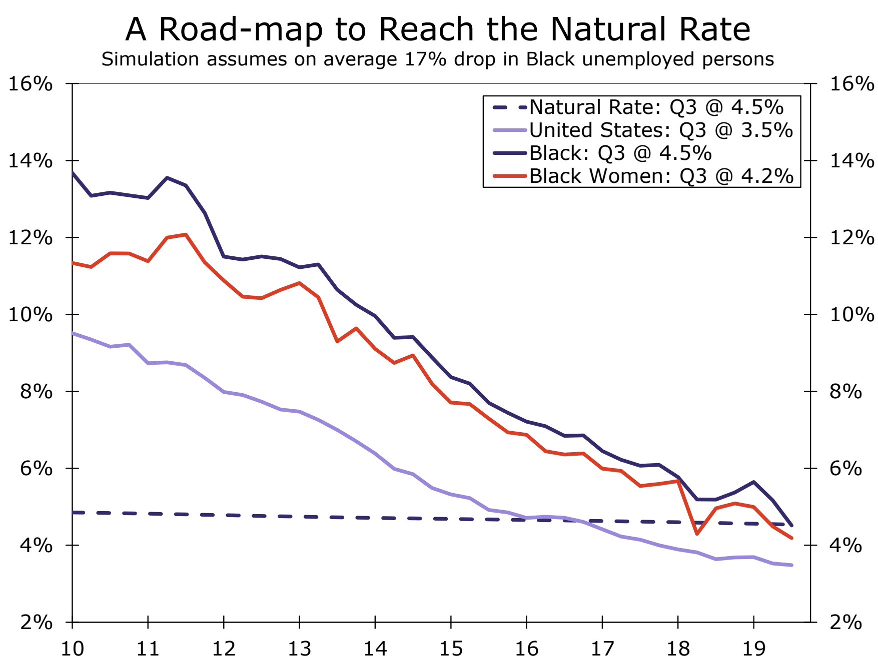
In sum, our analysis suggests that a faster pace of recovery by the Black market would help to reduce magnitude of the long-term unemployment rate for Black Americans. It would also boost pace of the national labor market recoveries. In particular, Black women experienced the slowest pace of recoveries in the past three business cycles, which highlights the importance of concentrating on the gender aspect of the labor market. Furthermore, a faster recovery in the Black women labor market would boost the Black labor market as well as overall market recovery. This leads us to conclude that policymakers should consider the state of the labor markets by race and gender when designing policies.

4.1 A New Policy Goal: Full Employment for All Races/Gender

The final step of our analysis identifies an average growth of the unemployed-persons series that would help the Black labor market achieve full employment status. Put differently, we seek to estimate the pace of recovery for Blacks that would take the Black unemployment rate to the natural unemployment rate—i.e., when the Black labor market operates at its full potential and experiences a "real" recovery.

Following the procedure discussed in the Scenario 1, we find that, all else equal for the post-Great Recession era (such as the same duration of the expansion and peak quarter, etc.), an average drop of 17% (per quarter drop) in the Black unemployed-persons series generates a path for the Black unemployment rate to hit the natural unemployment rate, Figure 3.[5]

Figure-3: Scenario-3; The Black Labor Market Achieves Full Employment



Source: Author's calculations using the Bureau of Labor Statistics (Household Survey Data) and the Congressional Budget Office's natural unemployment rate.

The Black unemployment rate (dark blue line) touches the natural rate on Q3 2019, just a quarter before the post-Great Recession era peaked. Black women achieve full employment briefly, on Q2 2018 (red line). The rate ticked up and then dropped again to hit the natural rate in Q2 2019. Unfortunately, the average growth rate of 17% fails to produce a path for Black Men to achieve the full employment rate in our simulation. Therefore, a higher average growth is needed for the Black Men to achieve the full employment. The overall labor market also experienced a faster

[5] We utilize several different growth rates. An average growth of 17% is the minimum growth rate to achieve full employment for Blacks.

recovery, as the aggregate unemployment hit the natural rate four quarters earlier (in Q1 2016 vs. Q1 2017) than the observed rate.

The scenario does produce the full employment level for the Black labor market. However, the results have some vital implications for policymakers. First, the average growth rate of 17% is an off-the-charts number compared with those growth rates observed by the national markets and other races. For example, the fastest recovery in our analysis is 2.47% for the overall and 2.76% for White populations, and both rates are for the 2007-2009 cycle, Table 5. That implies, the Black segment would need *7 times the fastest* overall recovery pace (around 6 times that of White) to achieve the full employment rate. And that's why we call it an off-the-charts growth rate compared with the historical standard.

Notably, the post-Great Recession era experienced the longest expansion as well as the largest policy stimuli (particularly, monetary incentives), and the longest duration in modern times (before the Covid era). So even the longest expansion and largest policy stimuli could not help the Black segment achieve its full employment level.

The final point is that under our simulation, using the extraordinary growth rate of 17% coupled with the longest expansion and largest policy stimuli, it still took 10 years to take the Black unemployment rate to the natural rate (from Q4 2009 to Q3 2019). This tells us that an even larger growth rate is needed for Black men to achieve the full employment status if we want to achieve this in a more reasonable time frame.

Essentially, extraordinary policy measures are vital to achieving full employment for each race and gender. We believe **a new policy goal of full employment for each race and gender** would be a practical start. The current FOMC dual mandate includes fostering maximum employment as well as price stability. However, that policy goal focuses on the aggregate statistics, which obscures signals from different race/gender labor markets. During the post-Great Recession era, the FOMC started raising the fed funds rate faster in 2017 (three rates hike in 2017 vs. one rate hike in 2016). One of the major reasons for the faster rate hikes was that the aggregate unemployment hit the natural rate in Q1 2017. It is worth mentioning that the inflation rate was below the target of 2% (average PCE deflator for 2017 is 1.8%). Therefore, the full employment level for the overall labor market (along with other factors) may have influenced the FOMC to raise rates faster than the previous year. In retrospect, signals from race/gender labor markets may have been obscured by the focus on the aggregate numbers.

We believe that the above scenarios may be repeated in the near future, which implies the Black labor market may continue the "recovery-less" trend in the near future. The Q2 2021 real GDP has already crossed the pre-Covid peak and the Q2 unemployment rate is only 1.4 percentage higher than the natural rate. Therefore, talk of a "fastest recovery" are getting louder by the day. Financial market participants are predicting a "tapering" announcement from the FOMC sometime later this year. Some FOMC members are also calling for a potential rate hike sometimes in 2023. Essentially, aggregate numbers may influence policymakers to change the path for monetary stimulus. On the other hand, the Q2 data indicate the Black unemployment rate is 4.8 percentage point higher than the natural rate, which may suggest a "recovery-less" experience in the near future.

Instead, our proposed policy goal of full employment for each race and gender would start a path toward ending the Black segment's "recovery-less" experience. We acknowledge the importance of aggregate measures, but we also stress the value of race-/gender-level statistics. That is, policymakers should response to the aggregate numbers as they are doing at present, but at the same time, there must be specific policy tools directed at incorporating the race/gender labor markets as well. When the aggregate economy experiences a recession/slowdown, policymakers activate stimulus to combat recessions/slowdown. By the same token, policy tools should be utilized to jumpstart a race's slower recovery. As our analysis suggests, a faster recovery in the Black labor market would boost the national recovery pace, and focusing on race markets would also help the aggregate market. Therefore, incorporating race/gender data would help in designing policies to benefit all. In other words, full employment for each race and gender should be the policy goal going forward.

5. Conclusion: Full Employment Should Be an Achievable Goal for Each Race/Gender

Our work utilizes the natural unemployment rate as a benchmark to characterize the state of labor market by race and gender. We estimate that the Covid recession has resulted in asymmetric damage to some segments of the population and that the pace of recovery from the recession is slower for some race/gender segments than for others.

We also analyzed the past three business cycles and found a similar conclusion of asymmetric damages and an uneven pace of recoveries for some race/gender segments. In particular, the Black labor market has been affected the most by these three recessions and it experienced the slowest pace of recovery. Black women's pace of recovery was the slowest among any race and gender. Over the past 30 years, only the Black labor market never achieved the full employment, making the past three business cycles "recovery-less" for Black Americans. Essentially, the longest recovery of the past business cycle along with the largest monetary incentives were unable to push the Black unemployment to its natural rate.

The finding that one race never achieved the full employment strongly suggests that policymakers should incorporate race-/gender-focused strategies, instead of the current practice of employing a one-policy-fits-all approach. Accounting for the disparate impacts of economic downturns and the uneven pace of recoveries would help to achieve faster recoveries and expand policymakers' traditional toolkit.

We propose a policy goal of full employment for each race and gender. We believe the new goal would start a path toward ending the "recovery-less" experience for Black Americans. As our analysis suggests, a faster recovery by the Black labor market would boost national recovery pace. Incorporating race and gender data into policy would benefit all, supporting making full employment for each race and gender the policy goal going forward.

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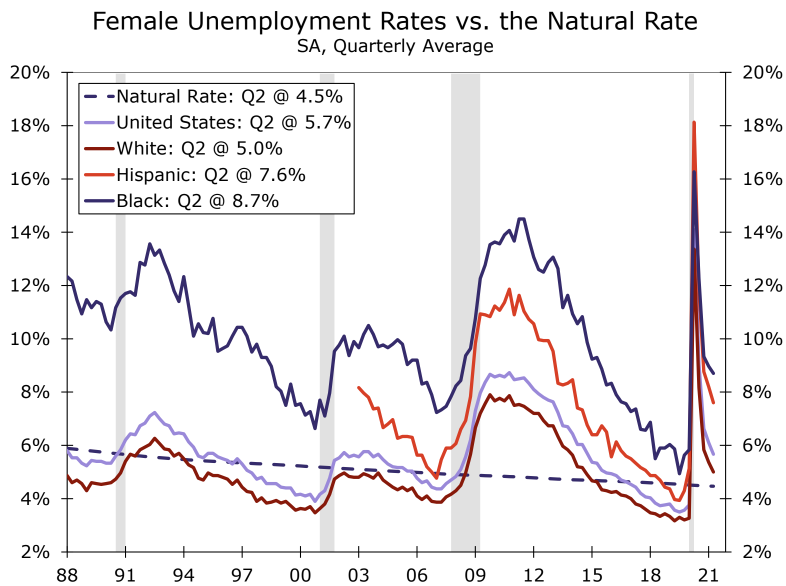
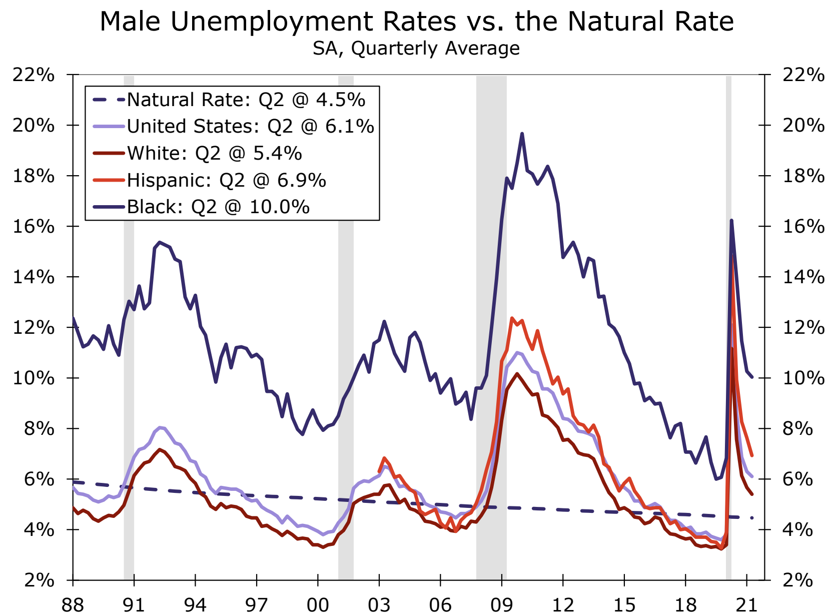
Appendix

Figure-1B



Source: The Bureau of Labor Statistics (Household Survey Data) and the Congressional Budget Office's natural unemployment rate.

Figure-1C



Source: The Bureau of Labor Statistics (Household Survey Data) and the Congressional Budget Office's natural unemployment rate.