

# **Differential Effects of Labor Tightening on the Black-White Wage Gap, the Role of the Minimum Wage**

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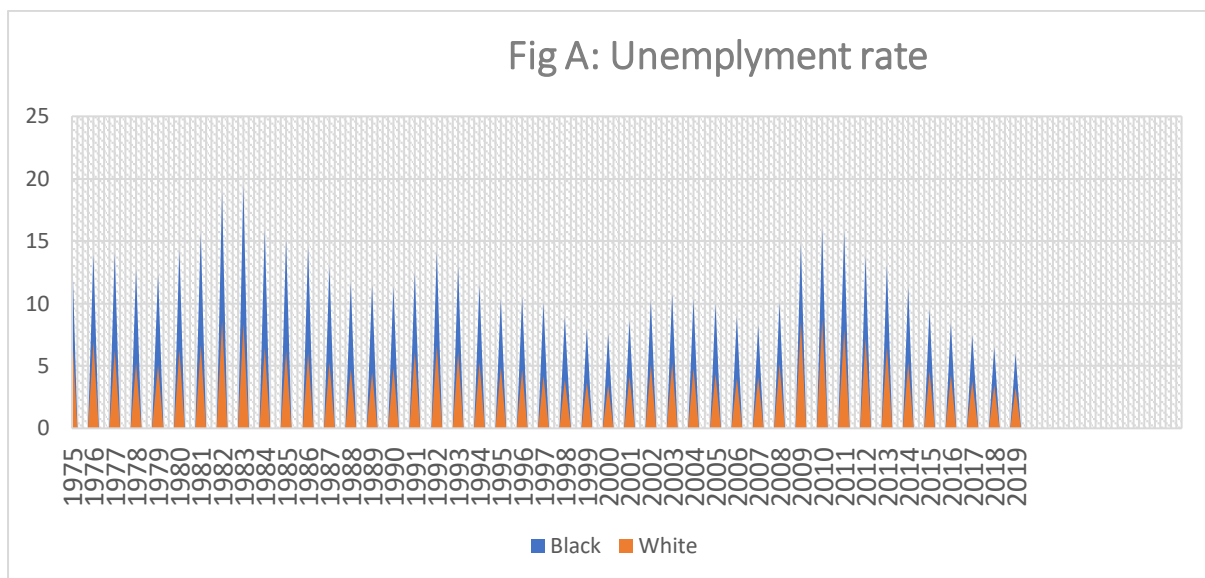
## **Abstract:**

During the expansion from the Great Recession, black wage growth lagged that of whites. While lower unemployment rates and the increased transition of workers from unemployment to employment are correlated with rising wages, this effect is through the correlation of job-to-job transitions on wages that increase as the labor; the actual mechanism is the increase in job-to-job transitions. But the minimum wage is important as a reservation wage, and because increases in the minimum wage cause wage compression within firms create wage pressures on job-to-job transitions. But these pressures have different results by race, because of differences in job-to-job transitions and differences between minimum wage increases that occur by race; Black workers disproportionately live where minimum wages have not increased. This study investigated two comparative views of wage-setting based on labor mobility during the business cycle. It also examined whether the changes in the minimum wage play any significant role in wage dynamics for black and white workers. I used state-level panel data for the period (Q3, 2000 – Q3, 2019). The research found that the job to job transition rate dominates the unemployment to employment movement rate in explaining both; stable and new hire earnings fluctuations in the labor market. Additionally, this paper highlighted the importance of the minimum wage ripple effects in the labor market dynamics and its missing role in narrowing the racial wage gap.

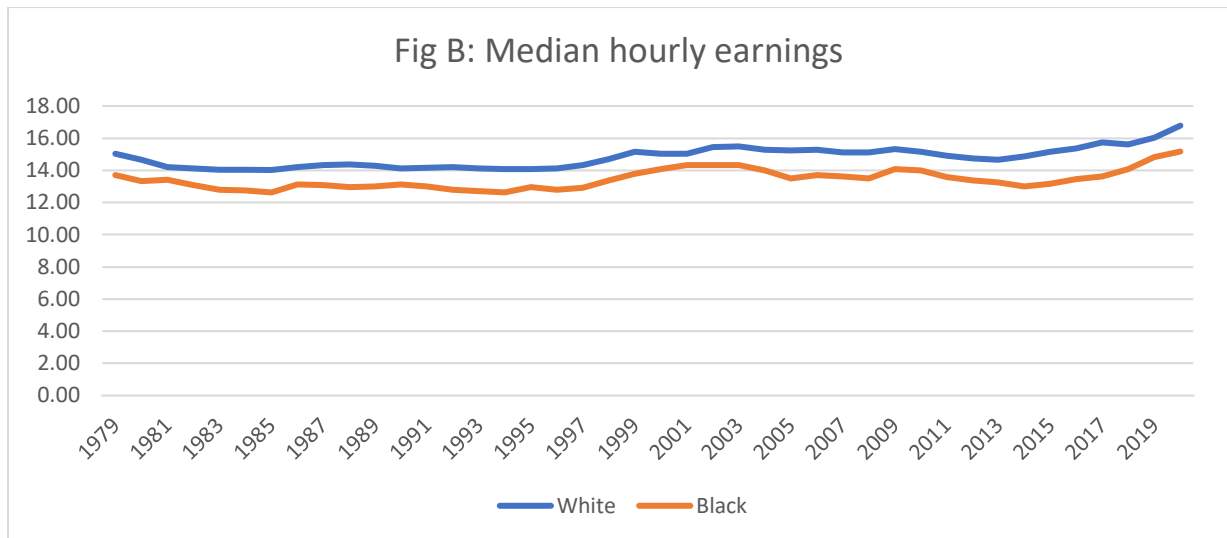
**Key Words:** labor market dynamics; racial wage gap; wage dynamics; Job to job transition; minimum wage.

## Introduction:

Racial wage inequality is among the leading problems facing US society today. Since the late 20th century, the government has strived to assuage racial inequalities by implementing wage and labor laws. However, the constant unemployment rate gap between black and white workers and the fact that black workers receive relatively lower wages than their white counterparts demonstrate these efforts' futility. Figure A shows that in 2019, the racial gap in the unemployment rate is just as serious as in 1975 where black workers' unemployment rate was 50% higher than white workers. Moreover, the median hourly wage gap between black and white workers remained 10% higher in favor of white workers for the past forty years (Fig B).



Source: U.S. BUREAU OF LABOR STATISTICS



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The growing implications of the racial inequality in the United States, including wages and unemployment rates, have divided the nation, increased African-American's reliance on government aid, and bolstered poverty rates. The US government implemented the Fair Labor Standards Act in 1938 to combat racial and gender discrimination in the workplace. One of the basic provisions of this law is the federal minimum wage. The Federal Reserve has also imposed expansionary macroeconomic policies to narrow these gaps.

Expansionary macroeconomic policies create pressure on labor markets, generate more jobs, and increase wages. However, these policies are restricted by potential inflation. Studies exploring the wage gap provide evidence to support the importance of expansionary macroeconomic policies in narrowing racial wage gaps (Bivens, 2021).

In contrast, recent work by (Karahan & Michaels & Pugsley & Sahin & Schuh, 2017) shows that tightening the labor market has no impact on real wages. They assess the relative importance of the unemployment to employment transition and job-to-job transition rates for wage dynamics. They concluded that J2J transition rates dominate the job-finding rates, and the job-finding rate has no significant role at all. In this paper, I will examine these two different

approaches on wages in general; then, I will test my results on black and white wages separately.

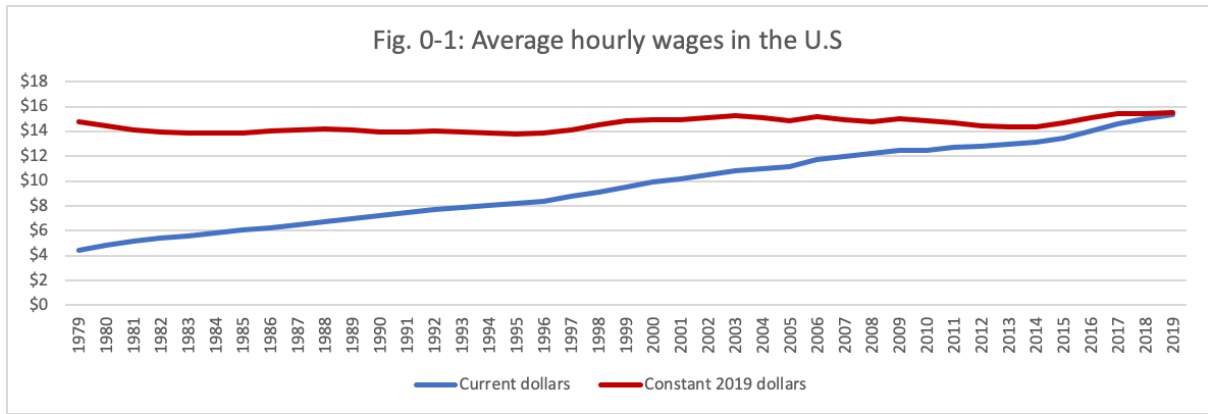
### **The Unemployment rate and inflation:**

Since the 2008 global financial crisis, inflation has been stable at very low rates, and for some countries, it was even lower than the central bank monetary policy targets (Jordà et al. 2019). Also, the unemployment rate has decreased during the last ten years by around %0.5 every year, and it was lower than 4% straight before the Covid-19 health crisis.

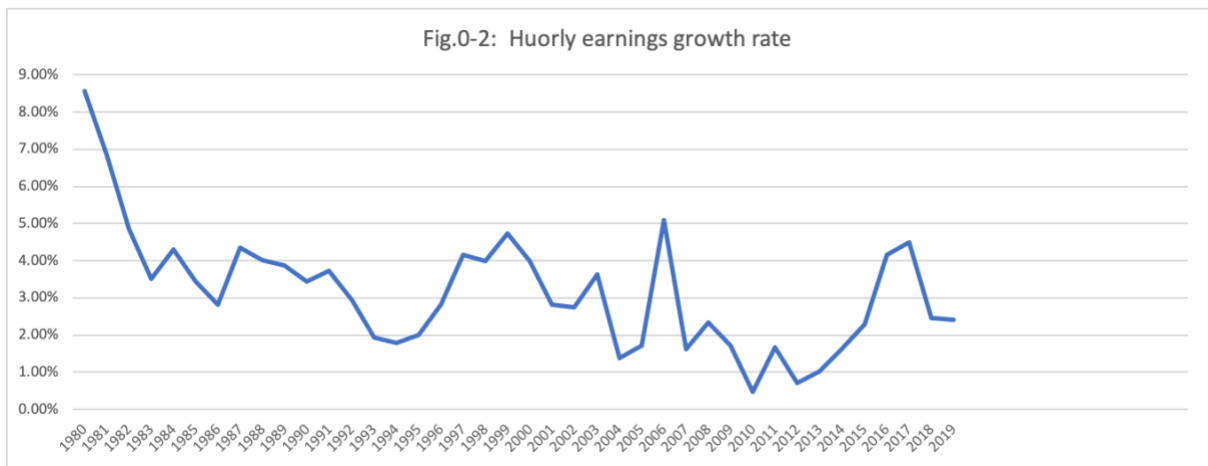
Inflation and employment are very important factors for any economy; they are also main targets for the central banks to maintain a healthy economy through the influence of monetary policies. The main paradigm in analyzing and understanding the inflation dynamics used by the central bank is the Phillips curve. However, many researchers believe that due to the rich available data during the last ten years, the Phillips curve is no longer a fruitful framework to explain the inflation pressure on the economy (Coibion and Gorodnichenko 2015). (Jorda et al. 2019).

The relationship of the Phillips curve suggests that tightening the labor market is a key to raising wages through expansionary macroeconomic policies. The pressure of these policies on the labor market creates more jobs, lowers the unemployment rate, and increases wages.

However, the available data doesn't support this relationship. Fig:0-1 shows that the average hourly wage has been significantly increasing. In contrast, the annual growth rate for wages ranged only between %1 and %2 for most of the years after 2009, where it was growing %4 year by year before the financial market collapse in 2008. Even during the high-inflation years of the early 80s, average wages growth was up to %9 ( Fig:0-2).



Source: Labor Force Statistics from the Current Population Survey



Source: Labor Force Statistics from the Current Population Survey

After adjusting for the inflation, Fig 0-1 again shows that the average hourly wage has almost the same purchasing power through the past 4 decades. Notably, as the U.S. reached a very low inflation rate and low unemployment rate, real wages have not responded as predicted.

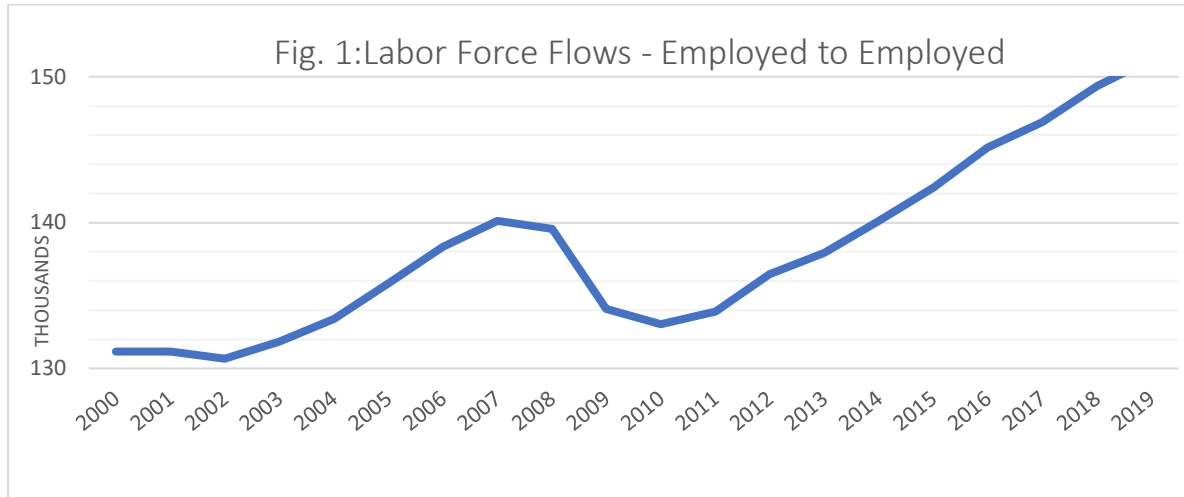
## **Search and Matching Theory – Job to Job Flows:**

Search and matching theory is another framework that has been discussed broadly to analyze the wage dynamic through the power of labor market tightening. Based on this theory, real wages are determined by a Nash bargain, where workers and firms use their bargaining power over wages. The main assumption is that individuals have imperfect information about jobs and wages, so finding an optimal job takes time. This assumption suggested that workers better decide on their search behavior based on two characteristics; the search effort and the reservation wage. Both components rely on different factors, such as the income during the job search, the probability of receiving a job offer, and the speed of receiving that job offer. Another approach for search theory abstract from Job-to-Job transitions suggested that receiving an incumbent worker's job offer is the speed with which a worker would find a new match if she were quit to unemployment. Consequently, the pace at which the unemployed find jobs is the proximate driver key of wage fluctuations.

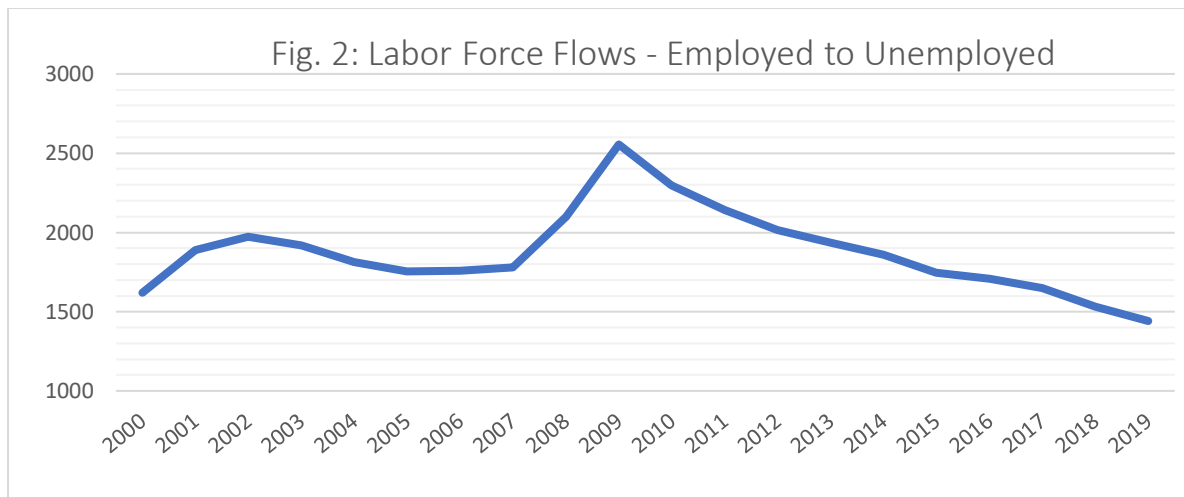
By far, this theory of non-competitive wage-setting mechanism was discussed broadly by applied labor economists for years. Most of these papers were influenced by Mortensen and Pissarides (1994) (1999) and their famous equilibrium search and matching framework.

Tobin (1972), in his presidential address to the American Economic Association, criticized this view and indicates that many workers change jobs without any intervening unemployment period. He underlined the importance of on-the-job search as a key aspect of labor market flows. Figures 1 and 2 illustrates that the labor force flows from employed to employed is way higher than the flows to unemployed. The job-to-job movements are 81 times higher than the spell from unemployed to employed, and these results emphasize Tobin's viewpoint that most job movers don't experience an unemployment period.

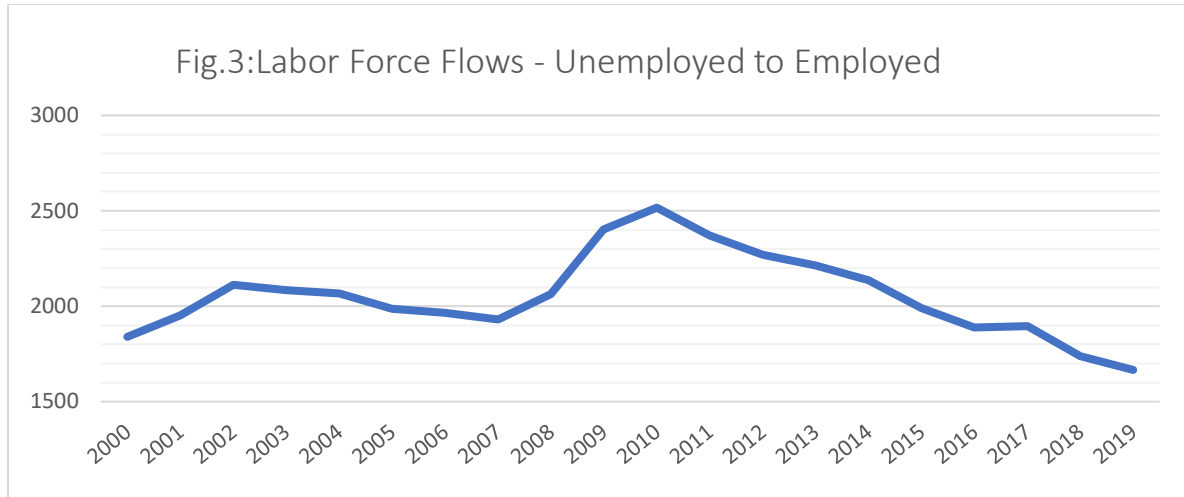
Figures 3 and 4 demonstrate the flows from unemployed and non-employed to employed, and by comparing these two figures with figure 1, it is clear that the Job to Job flows in the labor market are larger than other flows.



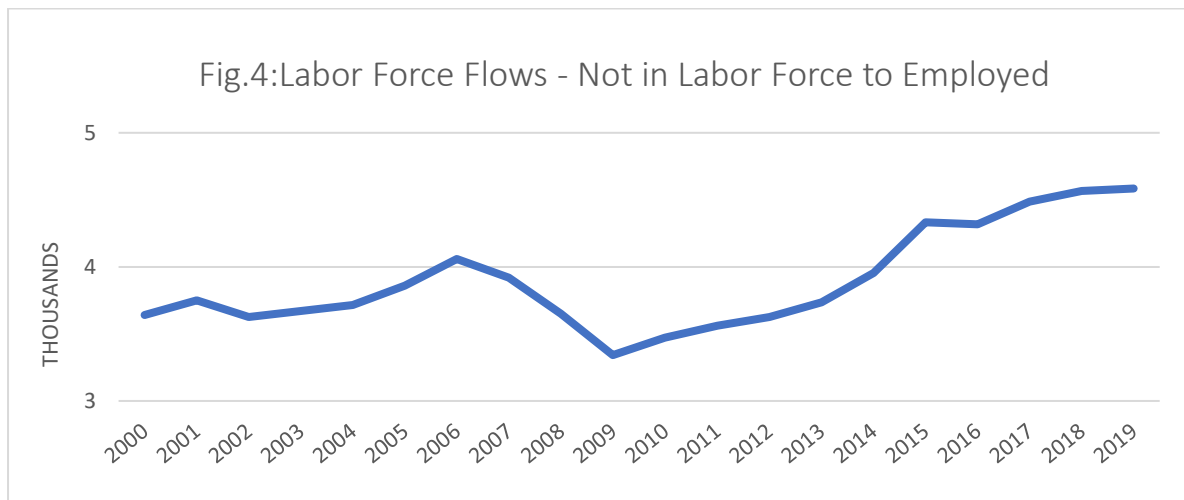
Source: Labor Force Statistics from the Current Population Survey



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Here comes the importance of investigating the implications of job-to-job transitions for cyclical wage dynamics theories. In (1998), Burdett and Mortensen developed their canonical framework and implied restrictions on the map from labor market flows to real wages. Wages in the BM model are more sensitive to changes in the arrival rate of job offers to the employed than changes in the arrival rate of job opportunities to the unemployed.

These findings contrast with the results of the early search models. However, Moscarini and Postel-Vinay (2006) combined these two comparative views in one study. They developed



an equilibrium model with strategic wage bargaining and on-the-job search and then used it empirically to determine wages in France. They found that the between-firm competition resulting from the job-search matters more than the other two essential determinants of wages in their model: productivity and Nash bargain. In Moscarini and Postel-Vinay (2016) 's later work, they supported their previous model's prediction that wages are more responsive to the on-job search rate than the unemployment exit rate.

However, in their empirical work, Moscarini and Postel-Vinay (2016) rely only on aggregate time-series data. Therefore, (Karahan & Michaels & Pugsley & Sahin & Schuh, 2017) raised a similar question using state-level data for worker flows and wages. They found that the job-finding probability of the unemployed has no explanatory power to determinant wages. This important finding was explained by Burdett and Mortensen (1998) in their model of on-the-job search. BM indicates that unemployment to employment transitions probability rate does not affect wages when the minimum wage binds.

This important prediction on minimum wage is supported by Moscarini and Postel-Vinay (2016) on their wage function work. They find that wage function only depends on the arrival rate of offers to the employed and not on the unemployed. Therefore, the change in the arrival rate of offers to the unemployed doesn't directly affect the wages equilibrium. It only works through the reservation wage, which the minimum wage may anchor.

The implications of minimum wage from the job search models have not been empirically tested by scholars yet. Therefore, this study aims to evaluate these implications based on Karahan's work findings.

## **Literature review:**

### **Black-White Wage Gap and Minimum wage:**

It is well acknowledged that White workers earn more than their Black counterparts. Between 1999 and 2001, black workers earned only 66 percent of the annual income of whites, and only 64 percent of whites' personal income (Cheryl Hill & Spriggs. 2007)

Studies exploring the wage gap discussed several factors contributing to the black-white wage gap. Some scholars suggested that the wage difference between black and white employees differs from one occupation to the next, and it's based on the required type of skills for each occupation. Fan et al. (2017) accentuate the importance of soft skills in improving people's eligibility for higher wages. In this case, soft skills denote characteristics and dispositions associated more with personality, attitude, and behavior instead of technical know-how and skills (Fan et al., 2017). These skills are intangible compared to hard ones, making it impossible to measure them. Fan et al. claim that most employers rely on their subjective judgments of potential employees to gauge whether or not they have soft skills (2017).

These individuals associate whites with soft skills and blacks with inferior soft skills in most cases. Fan et al. link these negative perceptions to the prevalence of racism and bigotry (2017). Fan et al. confirm that this is one of the chief factors contributing to the high rates of unemployment and wage differences. The unemployment rates for African-Americans have increased by 6.9%, and the number of colored individuals constantly searching for jobs has multiplied exponentially within the last decade. Relatedly, Fan et al. (2017) posit that most employers recruit several African-American workers to evade lawsuits filed due to employment discrimination and violation of the Fair Laborers Act and maintain a flawless public image. However, these employees work in inferior positions and receive meager wages, while their white colleagues occupy prominent positions and earn significantly higher salaries. Fan

et al. hypothesize that the racial wage gap is wider in soft-skill occupations and lower in jobs that require specialized aptitudes. Thus, Blacks specializing in soft-skills jobs earn significantly lower than White employees in the same field.

Another line of research links laborers' earnings directly to productivity (Bowlus & Eckstein, 2002). According to Bowlus & Eckstein study, White productivity is 3.3% higher than black productivity, using a sample of black and white high school graduate students from labor market survey data.

Other work has attributed this gap to demographic characteristics such as age, type of career, and level of education. Daly et al.'s (2017) study affirm that colored workers receive lower wages than whites because the two often specialize in different industries. Besides this, educational attainment is another crucial factor influencing the wage gap. Daly et al. (2017) claim that many black workers lack advanced education and often work for employers in need of unskilled and inexpensive labor. In sharp contrast, whites have higher rates of academic attainment, which makes them eligible for well-paying jobs that demand the use of advanced skills. Daly et al. show that the amplified rates of illiteracy among blacks and the heightened demand for novel skills, which people can acquire by pursuing higher education and specializing in a certain field, account for 5% of the total wage gap (2017). Thus, factors such as education level and the type of industry determine the wages black and white workers receive for their labor.

While most researchers explored several reasons for the racial earnings gap, others focused on the discrimination factors that expand the gap during recessions. Chattopadhyay & Bianchi (2020) found that the black-white wage gap increases during recessions. Especially in states with a larger black population and in states known for negative attitudes about black people from whites. Moreover, the authors defined two mechanisms by which the wage gap

widens during recessions. They found that black workers are more likely to be laid off during downturns and lose some paid hours in hourly wage jobs.

Over the years, the U.S. government has formulated laws and policies to reduce the racial wage gap. For instance, it enforced the Fair Labor Standards Act (FLSA) was effected in 1938 FLSA defines the tolerable standards for earnings and overtime pay. It demands firms provide their workers with at least the federal minimum wage and offer one-and-a-half times the standard remuneration for overtime work (Andrias, 2018).

Indeed, the federal minimum wage is one of the most vital provisions of the FLSA. Since July 24, 2009, all companies have been required to pay their workers a minimum of \$ 7.25 hourly. Despite this minimum hourly wage specified by the federal government, individual states have the liberty to endorse their minimum wage guidelines as long as the hourly pay does not fall below the federal rate (Reich, 2021). The only acceptable case where employees can receive earnings lower than the required minimum is if they fit in categories exempt from FLSA.

Despite the popular view, the federal minimum wage policy has not been as effective as initially expected. Under the law, states should ensure employees receive wages at the specified federal minimum or higher than this rate. Since the policy's inception, multiple American states have increased the minimum wage rates, allowing employees to earn significantly higher remunerations than before (Wursten & Reich, 2021). However, one of the main questions posed by critics of this policy is why the racial gap has aggravated despite its enforcement. Wursten and Reich (2021) stated that there are relatively fewer colored workers in states that pay more than the stipulated average, such as Washington. These states often comprise a large share of white citizens compared to African-Americans. Conversely, those that offer rates consistent with the federal minimum are more likely to have more colored

workers than white ones (Wursten & Reich, 2021). Thus, this is a key factor hampering the efficacy of this wage policy in narrowing the racial wage gap.

A significant share of current studies underpins the vitality of increasing the minimum wage to promote racial wage equality and eliminate poverty in the U.S... Nguyen (2018) claims that a wage increment to a minimum of \$15 per hour can help close the racial wage gap between Black and white American employees. According to the study, this rate can considerably heighten people's self-support and diminish their over-reliance on public subsidies (Nguyen, 2018). In short, the author finds that the current federal minimum is inadequate in reducing the wage gap. It also impedes people from meeting their most fundamental needs. However, all states should adhere to the same standard wage requirements (Nguyen, 2018). For instance, if the stipulated average wage for every hour is \$15, all employees across different states should receive this pay for every hour they provide labor. Notably, this would reduce the discrepancies in racial-wage-gap among different states, especially those comprising more white employees than colored ones and vice versa.

### **Labor market flows pressures and wage dynamics:**

Although there is rich literature on the black-white wage gap, discussing the different effects of labor market transitions on black-white wages and the role of the minimum wage as a reservation wage has not been elucidated yet.

For many years, the search and matching models have been the main focus of researchers to determine the relationship between the power of labor flows and the cyclical wage fluctuations, Influenced by Diamond (1982), Mortensen (1982), and Pissarides' (1985) (henceforth DMP) matching model. DMP model suggested that wages are set between the employer and the employee through their bargaining power. In the case of a Nash bargain, the wage is a weighted average of a worker's productivity and her reservation wage. The latter is

determined by how quickly a person would find a new job if she became unemployed. As a result, the rate at which unemployed people find work is the primary (proximate) driver of wage fluctuations. Therefore, when the job-finding rate is high, workers have more bargaining power since they can leave the negotiation table and seek a better offer elsewhere; hence wages rise.

An important key assumption of the DMP model is that new jobs vacancies can be filled only by unemployed people ignoring employed people who search for jobs. This view was criticized by Tobin (1972) in his presidential address to the American Economic Association. He indicates that many workers change jobs without any intervening unemployment period, and he underlined the importance of on-the-job search as a key aspect of labor market flows.

Burdett and Mortensen (1998) developed their canonical framework and implied restrictions on the map from labor market flows to real wages. Wages in the BM model are more sensitive to changes in the arrival rate of job offers to the employed than changes in the arrival rate of job opportunities to the unemployed. Motivated by this insight, Moscarini and Postel-Vinay (2016) analyze US times series data and find that the wages fluctuations over the business cycle are closely linked with the pace of job-to-job transitions more than unemployment transitions. Their empirical finding contradicts the DMP model's theoretical prediction that the job-finding rate is primarily a predictor of wage dynamics. According to their model, the fundamental driver of real wages is the competition among firms for employed workers.

However, in their empirical work, Moscarini and Postel-Vinay (2016) rely only on aggregate time-series data. Therefore, (Karahan & Michaels & Pugsley & Sahin & Schuh, 2017) raised a similar question using state-level data for unemployment to employments flows,

job to job flows, and real wages. They found that the job-finding rate of the unemployed has no explanatory power to determine wages. This important finding was mentioned earlier by Burdett and Mortensen (1998) in their on-the-job search model. BM indicates that unemployment to employment transitions probability rate does not affect wages when the minimum wage binds.

### **Data and Methodology:**

The data analyzed in this paper consists of; First, ( $\Lambda_{it}^e$ ) Job-to-Job Flows Data series from the Longitudinal Employer-Household Dynamics (LEHD) program released by the Census Bureau in their public use. ( $\Lambda_{it}^e$ ) Measures the share of the employed who moved directly from the employer to another during or across calendar quarter without intervening nonemployment's spells.

Second, for the measure of the unemployment to employment transition probability ( $\Lambda_{it}^u$ ), I followed the same methodology by Karahan et al. (2017) in their paper using the Current Population Survey (CPS) data to track the monthly share of the unemployed that turns to employment in the following month.  $\Lambda_{it}^u$  is defined as the total monthly flows from unemployment to employment during a quarter divided by the average unemployment level in the three months before these flows (see Karahan et al., 2017).

Third, I use data on earnings from the Quarterly Workforce Indicators (QWI), also released by the Census Bureau from the LEHD program. QWI data series allows for two different earnings measures. The average earnings as an applied measure on the BM framework, and new hires' earnings as a preferred measure (Karahan et al., 2017). The latter is defined as the average monthly earnings of full-quarter employees who started working with a firm in the previous quarter. While the average monthly earnings of employees with stable jobs

who worked with the same firm throughout the quarter. From these two definitions, (Karahan et al., 2017) claimed that the new hire earnings reflect the impact of j to j flows more clearly because the stable earnings are suspected to be infrequently updated compared to frequent adjustments on new hire wages.

Finally, Minimum wage changes by state; this data series was collected from the U.S. Department of Labor. Since it is annual data, I tracked the changes' effective date from the Minimum Wage Tracker released by The Economic Policy Institute.

The estimating equations :

$$\text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \varepsilon_{it} \quad (1)$$

$$\text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \alpha_m \log mw_{it} + \varepsilon_{it} \quad (2)$$

$$\text{White} - \text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \varepsilon_{it} \quad (3)$$

$$\text{Black} - \text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \varepsilon_{it} \quad (4)$$

$$\text{White} - \text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \alpha_m \log mw_{it} + \varepsilon_{it} \quad (5)$$

$$\text{Black} - \text{Log } W_{it} = \alpha_i + \alpha_t + \beta_i t + \alpha_e \Lambda_{it}^e + \alpha_u \Lambda_{it}^u + \alpha_m \log mw_{it} + \varepsilon_{it} \quad (6)$$

Where  $i$  denotes a state and  $t$  a calendar quarter.  $W$  measures earnings;  $\alpha_i$  is a state fixed effect,  $\beta_i$  allows for a linear state trend,  $\alpha_t$  is a calendar quarter fixed. The variable  $\Lambda_{it}^e$  refers to the job-to-job transition probability published by the LEHD program. The variable  $\Lambda_{it}^u$  is the CPS measurement of the quarterly transition probability from unemployment to employment. The variable  $MW_{it}$  refers to minimum wage published by (DOL).



## Results and Discussions:

This paper tests the two comparative explanatory power of labor mobility and the minimum wage implications on wage setting. Also, it evaluates the relationship between job market flows, minimum wage, and wage settings during the business cycle by race.

Estimates of equation (1) for stable and new hire earnings are reported in table (1) and table (2), respectively. In panels (A), columns 1, unemployed job finding rate by its own  $\Lambda_{it}^u$ , has a positive and significant impact on earnings. A 1 percentage point increase in  $\Lambda_{it}^u$  implies between .092 (Table 1) and .147 percent (Table 2) rise in quarterly earnings. These findings comply with the implications of models without an on-the-job search. In columns 2, conditional on the on job search measure  $\Lambda_{it}^e$ , the impact of  $\Lambda_{it}^u$  declines by around .05 percent for the stable earning and becomes insignificant for the new hire earning. Further, the coefficients of  $\Lambda_{it}^e$  are remarkably large and do predict higher quarterly earnings. An increase by 1 percent point in  $\Lambda_{it}^e$  leads to 2.41 and 5.96 higher quarterly earnings.

The results of equation (2) estimation for stable and new hire earnings are reported in table (1) and table (2), respectively, Panels (B). In columns 3, the unemployed job finding rate  $\Lambda_{it}^u$  slightly declines with controlling for the minimum wage. While the M.W. measure shows a positive and significant effect on the stable earning, it doesn't for new hire earning.

Moreover, repeating the same key takeaways from column 2 with respect to the minimum wage in column 4, I again find that  $\Lambda_{it}^e$  has a significant and positive impact and dominates  $\Lambda_{it}^u$  as a stronger prediction factor of earnings, especially for new hires earnings.

Further, the minimum wage measure is both economically and statically significant. It also boosts the effect of  $\Lambda_{it}^e$  on earnings, and contributes to diminishing the impact of  $\Lambda_{it}^u$  compared to column 2.

Estimates of equations (3) and (4) for stable and new hire earnings are reported in table (3) and table (4), respectively. In panels (A), columns 1, unemployed job finding rate by its own  $\Lambda_{it}^u$ , has no impact on stable earnings for black workers. But for white workers, tightening the labor market by one percentage increases white workers' stable earnings by .01 percent. For new hire earnings, the unemployment flows rate is positive and significant for both black and white workers. One percentage change in that rate raises the new hire earnings by .04 and .05 for white and black workers, respectively. Panel A, column 2 shows that when controlling for the J2J rate, the impact of the unemployment flows rate becomes insignificant, and the J2J flows coefficients are positive and significant for both black and white workers. However, the impact of J2J transitions for new hire earning is higher than the impact of J2J transitions for stable earnings.

Estimates of equations (5) and (6) for stable and new hire earnings show that the minimum wage plays a significant role by boosting the impact of J2J transitions, especially for black workers. When controlling for the minimum wage, J2J flows coefficients in column 4 increase by 1.4 for white workers and 1.3 for black workers. Also, M.W. is more significant for black works' stable earnings and has a higher coefficient for new hires.

### **Robustness:**

The job-to-job flows share rate captures the actual worker's transitions from firm to firm within or across the quarter. However, the unemployed to employed flows share rate measures the probability of transitions based on the search model. These measurements give

$\Lambda_{it}^e$  domination power over the  $\Lambda_{it}^u$ . To address these concerns (Karahan et al., 2017) suggested a different measure for J.2.J. flows ( $\lambda_{it}^e$ ).  $\lambda_{it}^e$  Captures the probability of job to job movements driven by the wage distribution (see Karahan et al., 2017).

Panels (C) in table (1) and table (2) report the results for using the job to job probability transitions  $\lambda_{it}^e$  instead of J.2.J. flows. In column 5, the semi-elasticity drops from 2.412 to .492 percent and from 5.96 to 1.38 percent for stable and new hire earnings, respectively. However, the estimation results for  $\lambda_{it}^e$  indicate statically and economically significant impact on earnings and still dominates  $\Lambda_{it}^u$  as a proximate determinant of wage dynamics.

Also, table (3) and table (4) panels (C) show that the job to job probability transitions  $\lambda_{it}^e$  has no different results from  $\Lambda_{it}^e$ .

**Table 1: Stable earnings**

	Panel A.		Panel B		Panel C	
	(1)	(2)	(3)	(4)	(5)	(6)
$\Lambda_{it}^u$	.0922*** (.02542)	.04235*** (.0159)	.0921*** (.0253)	.0375*** (.0152)	.0548*** (.0169)	.0519** (.0167)
$\Lambda_{it}^e$		2.4123*** (.4170)		2.6330*** (.3443)		
Log MW			.0211* (.0141)	.0361*** (.0120)		.0312** (.0125)
$\lambda_{it}^e$					.4929*** (.1019)	.5282*** (.0916)
Observations	3,468	3,468	3,468	3,468	3,468	3,468

Standard errors are reported in parentheses. \*, \*\*, \*\*\* indicates significance at the 90%, 95%, and 99% level, respectively.

Notes: All regressions include state and quarter fixed effects and state-specific linear time trends. Dependent variables and M.W. are in logs.

Standard errors are clustered at the state level.

Table2: New hire earnings

	Panel A.		Panel B		Panel C	
	(1)	(2)	(3)	(4)	(5)	(6)
$\Lambda_{it}^u$	.1478** (.0580)	.0243 (.0252)	.1477*** (.05788)	.0177 (.0245)	.0429* (.0253)	.0391 (.0249)
$\Lambda_{it}^e$		5.9669*** (1.5908)		6.2662*** (1.5817)		
Log MW			.0132 (.0119)	.0490*** (.0165)		.04044*** (.0146)
$\lambda_{it}^e$					1.3816*** (.3780)	1.4274*** (.3752)
Observations	3,468	3,468	3,468	3,468	3,468	3,468

Standard errors are reported in parentheses. \*, \*\*, \*\*\* indicates significance at the 90%, 95%, and 99% level, respectively.  
Notes: All regressions include state and quarter fixed effects and state-specific linear time trends. Dependent variables and M.W. are in logs.  
Standard errors are clustered at the state level.

Table3: Stable earnings

		Panel A.		Panel B		Panel C	
		(1)	(2)	(3)	(4)	(5)	(6)
$\Lambda_{it}^u$	White	.0124849* (.005143)	-.0001345 (.0039373)	.0123357* (.0051407)	-.0011858 (.0038405)	.0012275 (.0040965)	.0001164 (.0039875)
	Black	.0191674 (.010164)	.00493 (.0071812)	.0190475 (.0101711)	.0039773 (.0072257)	.0048244 (.0066677)	.0037673 (.0066944)
$\Lambda_{it}^e$	White		2.135498*** (.3139528)		2.275757*** (.2882148)		
	Black		2.409307** (.6938019)		2.536396*** (.670172)		
Ln-MW	White			.0197158 (.0160162)	.0293984* (.0142605)		.0294582* (.0144643)
	Black			.0158465 (.0098554)	.026638** (.0086222)		.0280293** (.0087263)
$\lambda_{it}^e$	White					.46307*** (.0702781)	.4996008*** (.0665065)
	Black					.5899919*** (.1701607)	.6247507*** (.1666209)

Standard errors are reported in parentheses. \*, \*\*, \*\*\* indicates significance at the 90%, 95%, and 99% level, respectively.  
Notes: All regressions include state and quarter fixed effects and state-specific linear time trends. Dependent variables and M.W. are in logs.  
Standard errors are clustered at the state level.

Table4: New hires earnings

		Panel A.		Panel B		Panel C	
		(1)	(2)	(3)	(4)	(5)	(6)
$\Lambda_{it}^u$	White	.0449441*** (.0122917)	.0148235 (.0086697)	.044984*** (.0123118)	.0137198 (.0087329)	.0140283 (.0088487)	.0128801 (.0089565)
	Black	.0587711** (.0189943)	.0220768 (.0156965)	.0588519** (.0190058)	.0203686 (.0157927)	.0205211 (.0155485)	.0187459 (.0156911)
$\Lambda_{it}^e$	White		5.161802*** (1.247467)		5.368057*** (1.250692)		
	Black		6.288346*** (1.894094)		6.607572*** (1.891525)		
Ln-MW	White			.0165771 (.0096742)	.0414372** (.0125342)		.0431997*** (.0119607)
	Black			.0335328* (.0133253)	.0641333*** (.0172534)		.0667912*** (.0172485)
$\lambda_{it}^e$	White					1.287675*** (.2777283)	1.339835*** (.2786871)
	Black					1.593149*** (.4346023)	1.673795*** (.4341028)

Standard errors are reported in parentheses. \*, \*\*, \*\*\* indicates significance at the 90%, 95%, and 99% level, respectively.

Notes: All regressions include state and quarter fixed effects and state-specific linear time trends. Dependent variables and M.W. are in logs.

Standard errors are clustered at the state level.

## Conclusion :

This study empirically evaluates the relationship between job market flows, minimum wage, and the settings during the business cycle for black and white workers. I used quarterly state-level panel data from Q3, 2000 to Q3, 2019. My findings indicate that Job to Job flows rate is an important determinant of cyclical wage dynamics, and it dominates the impact of tightening the labor market. The minimum wage has ripple effects on both job market flows. The minimum wage also has a positive and significant impact on earnings, especially for black workers. This paper supports the previous implications of job-to-job (JJ) transitions for cyclical wage dynamic theories and introduces empirical evidence for Burdett and Mortensen (1998)

model prediction. Namely that when the minimum wage binds, the unemployment exit rate doesn't have explanatory power in the wage settings.

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