

# Why Low Unemployment Rate in the United States Has not Delivered Meaningful Wage Growth

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**Abstract.** Wages have always been one of the most important concerns for employees and unemployment is one of the most important statistics for society. After studying the unemployment rate and wage growth data in the United States in recent years, it is evident that a low unemployment rate does not lead to meaningful wage growth. This paper explains that the main causes of this are domestic and foreign factors in the United States. This paper divides the influencing factors into two broad categories (domestic factors and foreign factors) and summarizes the foreign factors into the composition of employment, the productivity of labor and companies, inflation and labor unions, and the foreign factors are attributed to the effects brought about by globalization.

**Keywords:** Unemployment rate, wage growth, inflation, globalization.

## 1. Introduction

### 1.1 The background of the labor market in the US.

The data for the rate of unemployment in the last three decades shows that the unemployment rate in the US has been fluctuating. During periods of recession, such as the Subprime Crisis in 2008 and the epidemic, the unemployment rate had reached its peak for a period of time.

According to the data of American full-time workers' average weekly wages and salaries, even in a recession, personal wages have continued to grow steadily. However, the figure for the wage growth shows that concentrated between 1% and 5%, the growth rate of wages fluctuates more sharply up and down.

In conclusion, the unemployment rate fluctuates according to the economic environment (when there is a recession, the unemployment rate rises; when there is a rapid development of the economy, the unemployment rate falls). Wages, on the other hand, are always increasing and the rate of growth is constantly fluctuating.

### 1.2 The reasons for choosing this topic

How to solve unemployment and how to raise wages has always been a difficult economic and social problem, so economists have spent a lot of time studying them. According to some extensive research, the relationship between unemployment rate and wage growth was linear. The most famous theory is the Phillips Curve, established by A. W. Phillips. The negative correlation between the change of the number of unemployed citizens and the growth of earnings is stated by this theory. To be more specific, the rate of change in earnings has a downward trend while the number of unemployed citizens increases, but goes up when the amount of people who do not have a job decreases. [1] However, recently, the actual economic data and evidence in the US challenge the Philips curve because low unemployment has not been matched by real wage growth. This is the key part of this article.

Recent statistics demonstrate that during the Great Recession, while unemployment rose sharply, wages grew slowly. Additionally, recent studies found some evidence to support that the relationship

between the change of the number of unemployed citizens and the amount of wage increasing is non-linear. As the Phillips Curve for wages changes with unemployment and inflation, the single-equation approach is no longer suitable to model the wage Phillips Curve.[2] Therefore, it turns out that moderate unemployment does not lead to meaningful wage growth.

### **1.3 The scope of the related literature being investigated**

Since the more referential studies on the relationship between unemployment and wage growth can be traced back to the Phillips Curve theory in 1958. Thus, the scope of the related literature for this article is from 1958 to the present. However, as papers before 20 years ago have little applicability to the current economy, this essay has focused on articles published after 2000.

### **1.4 The definition of the unemployment rate and wage growth.**

In this paper, the rate of changes in the amount of unemployed people is defined by the Bureau of Labor Statistics, which is the figure of unemployed citizens divided by the total amount of population in the labor market in the US. The unemployed do not include all the population that do not have a job, but the population that are not employed by any company who are still trying to find a job in the past month. The most important problem with the current unemployment rate is that there is no accurate methodology to calculate it. The Bureau of Labor Statistics' unemployment rate only includes those who have been actively looking for work in the past five weeks, instead of those who have given up looking for work due to dissatisfaction or discouragement. So this unemployment rate underestimates the actual unemployment rate.

The definition of wage growth is significantly difficult to determine. Some suggest that wage growth should refer to wage growth rates should not include inflation. This is because only minus the inflation rate can wage give a true reflection of purchasing power. Some studies, on the other hand, indicate that the inflation rate should not be excluded, because inflation is inherently part of wage growth. But the one thing that is constant in both definitions is that the real value of a wage is its purchasing power.

The relationship between the two is significantly influenced by the definitions. Therefore, to find out whether the actual relationship between these two is linear, it is necessary to come up with accurate and universal definitions of them.

### **1.5 Structure of the paper**

The main context first introduces the current economic environment of the United States, and then based on the economic environment, explains the four main domestic factors of composition, productivity, inflation, and labor unions. Secondly, it explains the impact of globalization on the labour market in the US. Eventually, the conclusion summarizes all these five factors.

## **2. Factors affecting the unemployment rate and wage growth**

In order to better research the influencing factors, this paper divides the factors which affect the unemployment rate and wage growth in the US into two main parts: domestic economic environment factors and globalization factors.

### **2.1 Domestic Factors**

#### **2.1.1 Background**

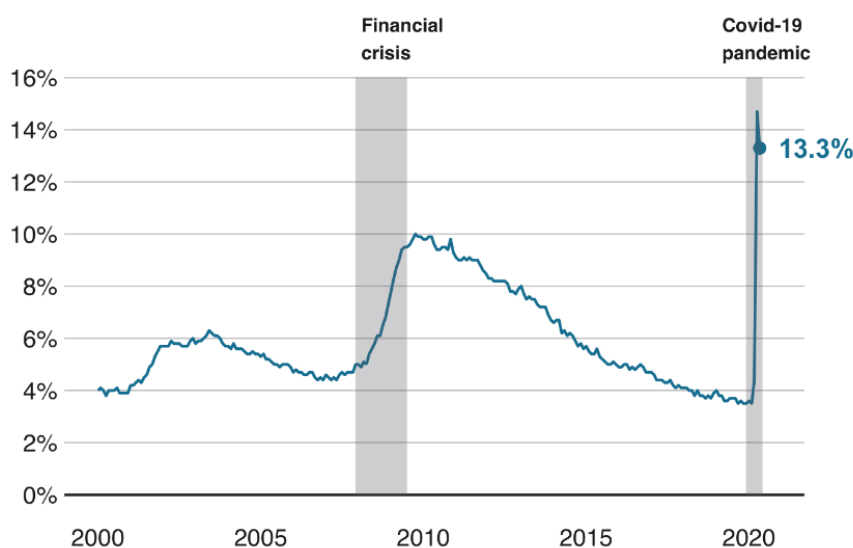
Mentioning the true meaning of economic environment, it is indeed the factors that will affect behaviors in both commercial and consumer aspects. It contains different external factors for different aspects, and for example, when comes to the spot of US society, it shows hardly healthy circumstance. While the US is jubilant about the end of the low interest rate situation, its GDP is still 15% behind the growth rates between 1980 and 1998, and the employment rate for people of working age has improved just little since the "recovery" started. What's more, this increasing data is still less than the

data collected in the early 1980s. The lowest real salaries now are lower than they were 60 years ago. [3]

According to the US PayScale since 2006, it tracks wages in conjunction with inflation. Wages have risen 15.1% overall, but frankly fallen 9.6% when considering the inflation. Suffering from this serious situation, it appears that labor market has turn into a slack mode. An estimate of the current employment gap in the US is 3.3 million full-time, contained incidence of underemployment and hidden unemployment. What's more, the uncertainty of assessment represents the possibility of doubling the amount of current magnitude of shortfall in actual employment. However, according to a recent Congressional Budget Office (CBO) research, demographic trends are now causing the potential work force to grow by about 50,000 to 60,000 people every month. This leads to a possible reason that can explain the growth in employment: aging. After war, during 1946-1964, the period of baby boom started. At the peak of the boom, the birth rate was 12%, which is high comparing later years of 7%. The aging of the baby-boom generation provides significantly support to the labor market. The bulk of the low-frequency fluctuation in unemployment since WW2 comes from the entry of aging baby-boom. [4] The employment gap may thus be closed by the end of next year if nonfarm payrolls continue to grow gradually at a rate of about 260,000 jobs per month (which appears to be the average rate over the last periods). [5]

### US unemployment rate

Percentage of US labour force not in work



Source: US Bureau of Labor Statistics

BBC

Figure 1. The rate of unemployment in the US from 2000 to 2020 (in percentages) [6]

After periods of time of financial crisis, approximately 2006-2010, unemployment decreases nearly 6% continually.

Though the gradual reduction of US unemployment, the growth in US wages receive not much improvements and about to be negligible.

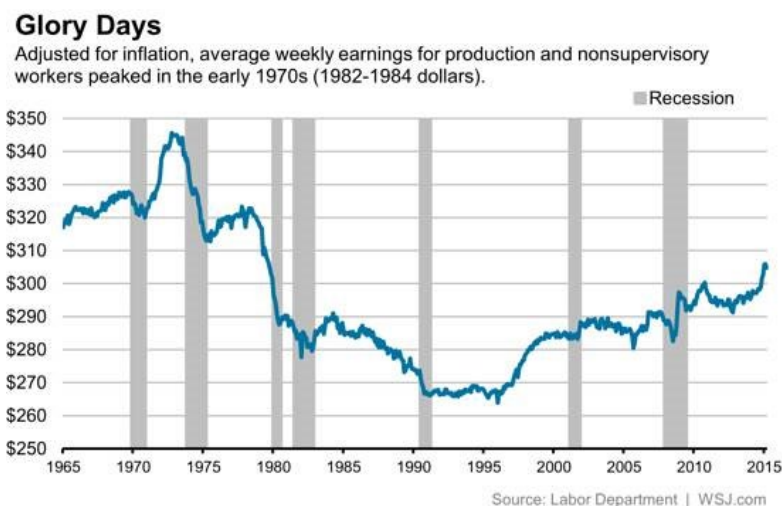


Figure 2. Real average hourly earnings for production and nonsupervisory employees in early 1970s (1982-1084, in dollars) [7]

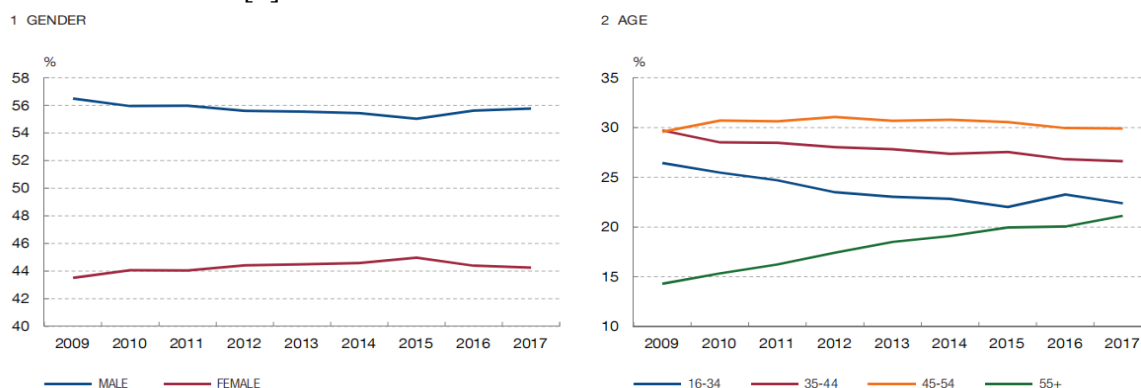
During same era, the average weekly earnings for production and nonsupervisory workers also produce not a lot waves, always retain in the range between \$280-\$300. During 2010-2015, the growth stays even flatter trend.

Slack and weak labor market contributes few to the invariable wage growth, while the low inflation environment also provides significant causes. Low inflation has long thought to be a benefit to the economic market in societies, but when placing in a low inflation environment, the factor of wages will not be boosted by it. The Phillips curve represents that the initial subjects of the study were wage rate and unemployment rate. Nevertheless, the inflation rate was later used in place of the unemployment rate by economists. As a result, the relationship switched and changed: the lower the inflation rate, the higher the unemployment rate. Since the relationship between unemployment rate and wages is negative, low inflation rate does not increase wages. The primary reason is, considering macroeconomics, when the inflation rate is low, if not increases by too large amount, workers normally cannot realize their actual wages are lower than their expected wages. [2]

## 2.1.2 The composition of employment

### 2.1.2.1 Changes in the employment composition also have an impact on unemployment and wage growth.

The aging of the population, the reform of the pension system, and the changes in the employment composition of young workers with higher education than those who stopped working have affected the unemployment rate and wage growth. The study uses EU-SILC statistical method to analyze the impact of changes in personal characteristics of the labor market in the euro area on wages. The EU-SILC microdata 11 in 2017 shows the composition of paid employment's essential alterations in the euro area since 2009. [8]



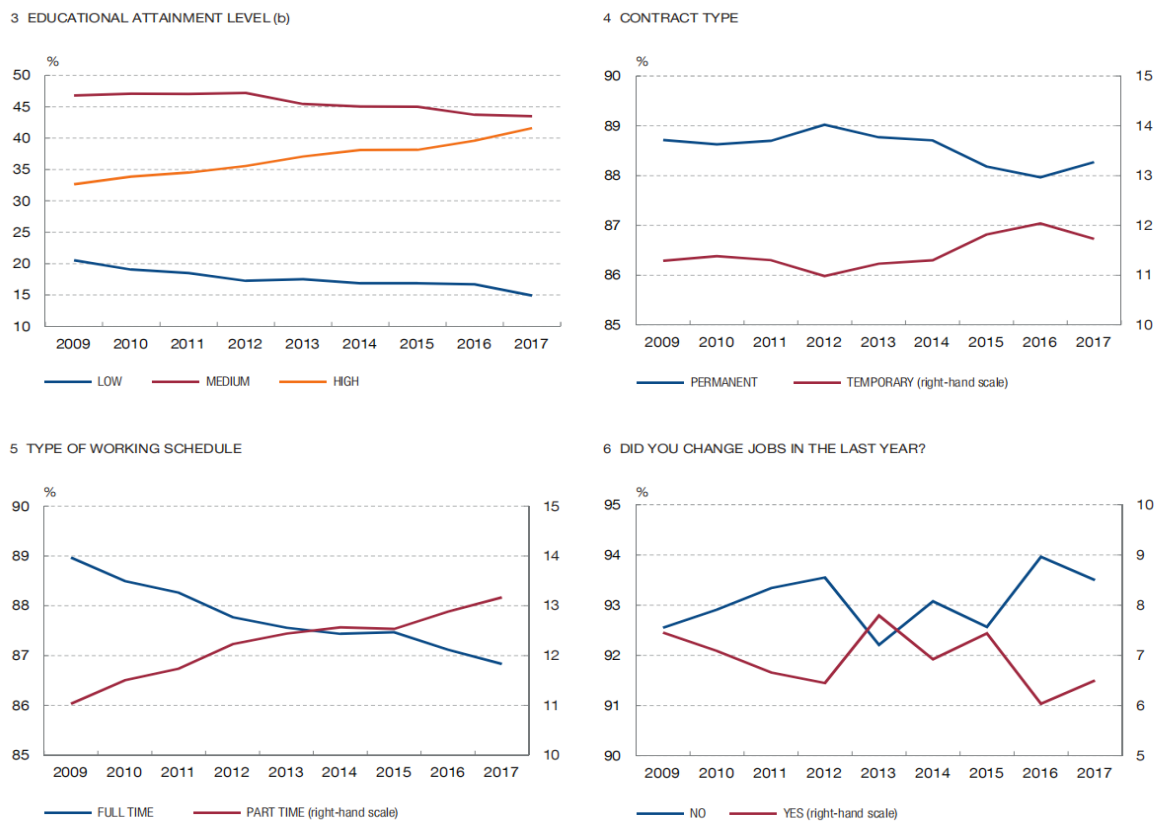
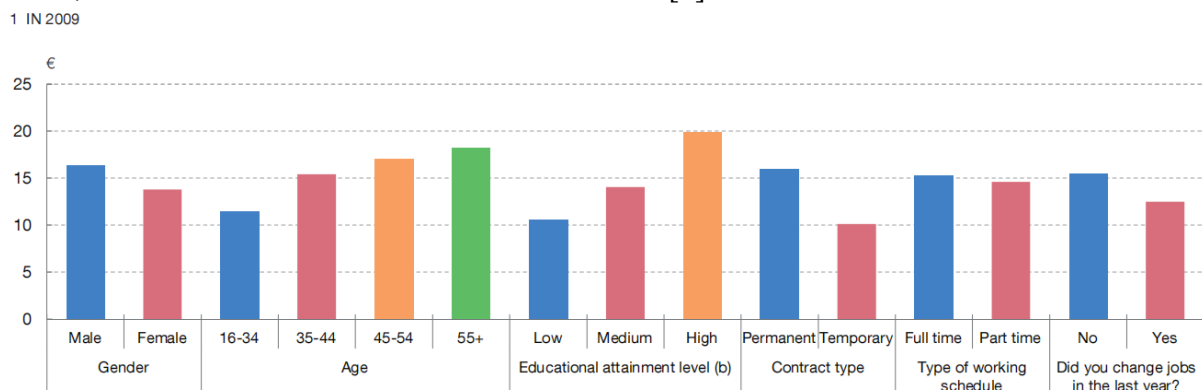
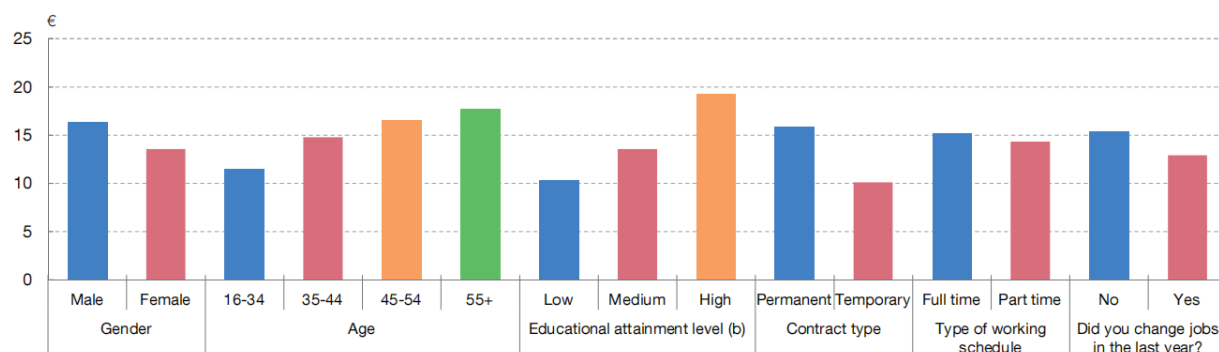


Figure 3. Individual features composition of gainful employment in the EURO area [9]

Cyclical factors can also affect the unemployment rate and wage growth, because during the depression, the first people to lose their jobs are young, uncultured people, which leads to enhance the proportion of older and more educated workers and causes impact of wage growth. By analyzing Figure 3, workers who are over 44 years have more than 30% average wage than the workers who are under 35 years old. The average wage of highly educated workers is actually twice that of the lowest educated workers; The average salary of employees with long-term contracts is nearly 40% higher than that of employees with temporary contracts; When compared by gender and term proxy variables, the observed difference was more than 15%. [9]



2 IN 2013



3 IN 2017

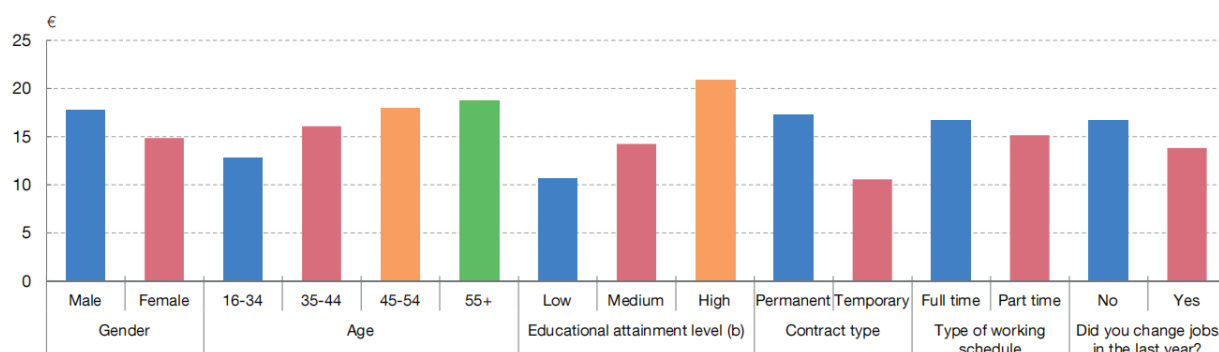


Figure 4. Diverse groups' real hourly wage in the EURO area [9]

### 2.1.2.2 The relation between unemployment rate and wage can be different in different jobs.

In standard economic models, unemployment and wage growth are closely linked. A prominent feature of the Great Recession, and of the recovery, has been dysfunctional wage behaviour at financial institutions. One explanation for this pattern is that nominal wage declines occur (employers are also reluctant to reduce wages during recessions, and workers are reluctant to accept wage cuts). From the survey, wage rigidity to the recent recession and recovery can also be seen across industries. By comparing industries with higher or lower wage flexibility. The results show that the industries with the most rigid wage structure before the recession, namely the lowest wage flexibility, have the slowest wage growth during the economic recovery. By contrast, industries with relatively flexible wage structures have seen more closely aligned changes in unemployment and wage growth. [10]

### 2.1.3 The productivity of labor and companies

#### 2.1.3.1 Productivity influences the Phillips Curve.

Phelps and Taylor put forward the concept that is the staggered wage contracts. It includes monetarist and rational expectations factor which provide prerequisites with new Phillips curve. This paper analyzes the new Phillips curve characterized by productivity, and shows that: frictional growth (generated by the interaction of wage surprise and monetary growth) will produce a long-term inflation unemployment trade-off, and the long-term Phillips curve changes with productivity growth. (Downward sloping long-term new Phillips curve shifts to right to connect with lower productivity growth rate) [11]

#### 2.1.3.2 The profit of the enterprise which is influenced by productivity can impact the wage growth and the unemployment.

The imbalance between the profit growth of American enterprises and the unemployment situation has led to doubts about the assumed negative correlation between these two variables. The preliminary study shows that the negative correlation between enterprise profit growth and

unemployment has not been strongly confirmed. The quarterly report after the depression shows that the corporate profits of most American companies continue to grow, but the unemployment rate is still high. The weak growth of the US manufacturing industry, macroeconomic uncertainty, globalization, the continued impact of the recession in 2008, and the weak global economic performance may be the reasons for this phenomenon. Because the growing unemployment situation in the United States can be attributed to the development trend of globalization, which has redistributed and continues to redistribute important parts of the international supply chain to developing economies around the world, and this globalization has had a serious impact on the employment growth and wage level of the United States and most developed countries, Because it will redistribute employment opportunities and income from developed economies such as the United States to developing economies with relatively low operating costs and loose labor and environmental laws.

The uncertainty of domestic and global macro-economy is also considered to be the main factor causing the recent high unemployment rate in the United States. The long-term impact of the continuous fluctuation of the global financial system is increasingly uncertain, and the weak domestic macroeconomic situation is the reason for the continued low investment tendency of domestic and international enterprises. Therefore, this uncertainty will have a serious impact on investment and employment. The increase of political uncertainty is also the main reason. [12]

#### 2.1.3.3 Weak Labour productivity growth was the key macro drag on wage growth.

The dynamics of wage growth are related to the weakness of the labor market and the development of productivity. In the study, the contribution of these factors to wage growth in the United States is studied by using a simplified wage equation. In fact, quarterly nominal wage growth will return due to the labor input gap (people's reaction to the weakness of the labor market) and the lag of productivity growth. Figure 3 shows that since 2010, the weak labor market (represented by the labor input gap) has significantly dragged down the wage growth in the United States, but this is not the main reason for the slow wage growth. Low inflation and exhausted productivity growth have become persistent drag factors. This phenomenon fully shows the reason why wage growth is weaker than that shown by the labor market. At present, the labor productivity growth trend is far lower than that in the 1990s and the beginning of this century (Figure 5).[13]

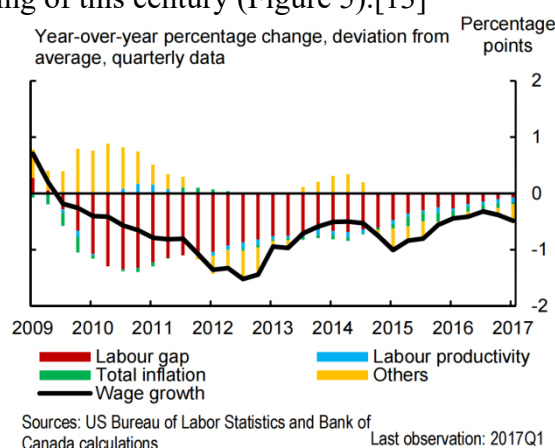


Figure 5. Labour slack is no longer a large drag on US wage growth, but productivity and inflation continue to weigh [13]

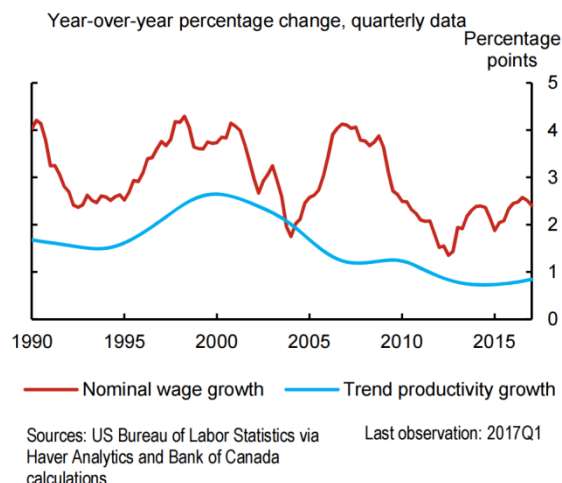


Figure 6. he trend of slowing US productivity growth [13]

## 2.1.4 Inflation

### 2.1.4.1 There is a negative correlation between the unemployment rate and the wage growth.

The negative correlation between unemployment and wage means that if unemployment rate is very low, the wage growth rate will become very high. The cost-driven inflation theory indicates that wages rate can shows the inflation rate. Therefore, the curve express the opposite relationship between unemployment rate and inflation rate. In general, economic recession represents the high unemployment rate and low wages and prices. These factors indicate that the inflation rate is very low. By contrast, a low unemployment rate shows that the economic exists in the flourish period so the wage and price level are high. As a result, the inflation rate is high in this period. The figure 7 is the wage rates' change rate and the percentage unemployment from 1861 to 1913. [1]

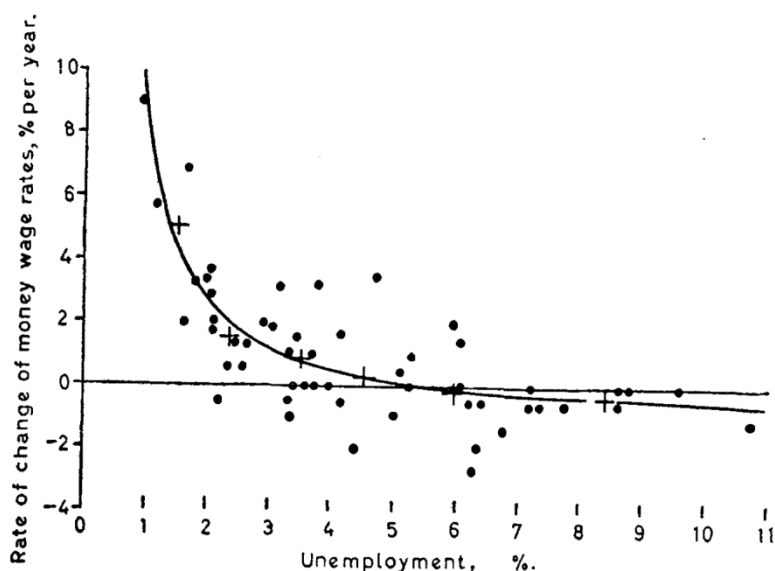


Figure 7. The relation between rate of change of money wage rates and unemployment from 1861 to 1913 [1]

### 2.1.4.2 Wages and prices tend to move in the same direction, and inflation affects prices, so prices affect wage growth.

There is indeed a link between economic activity, wages and prices, although there are some problems. The price inflation's benchmark model, namely the new Keynesian Phillips curve, assumes that recent price inflation is a kind of function of anticipated price inflation and present marginal production cost; Through forward iteration, today's price inflation depends on the current

rent and the expected future micro cost. The marginal cost usually rely on wage, peculiarly in labor-intensive industries. Therefore, though in some cases, price fluctuation seems to be the cause of Granger's wage rise, theoretically, other elements of present and anticipated future wages and costs may really cause the volatility process. [14]

#### 2.1.4.3 The relationship of inflation in the US and unemployment trade-off.

According to the research, money growth changes cause to balanced inflation changes. Specifically, in the long run, long-term neutrality means that constant exogenous changes in the money supply level will have no impact of real variables level and will lead to equal proportion changes in price levels (and other nominal variables). From the simulation of CRT model, it is shown that during the period 1993-2000, the monetary growth rising brought upward pressure to inflation, and the unemployment rate dropped significantly. However, the improvement of productivity growth, reduction of budget deficit and the trade deficit increasing have brought the pressure of decreasing inflation and have a moderate influence on the unemployment rate. [15]

#### 2.1.4.4 In the Great Recession, it is clear that inflation destroys the real value of wages, slowing wage growth and reducing unemployment.

Unemployment and wage growth normally are tightly related and more in opposite directions. However, due to the rigid decline of nominal wages (employers are unwilling to adjust wages immediately through changing economic conditions), employers are unwilling to reduce wages and workers are unwilling to accept wage cuts during the economic depression. This kind of wage rigidity makes the nominal wage increase positive during the recession and a large number of wage cuts are accumulated. With the economic recovery, the suppressed wage reduction may continue to slow wage growth for a long time after the unemployment rate returns to a more normal level. Therefore, nominal rigidity may explain some abnormal behaviors of wage growth and unemployment rate during the recent economic recession and recovery. The study uses the wage Phillips curve (reflecting the relationship between wage growth and changes relative to the natural unemployment rate) to test. Figure 3 measures the relationship between the unemployment gap and wage growth by analyzing the performance of the wage Phillips curve from 1986 to 2012. In particular, the arrows in the three sequence diagrams connect the paths of this relationship during and after the past three recessions. The grey dots not connected by arrows show the relationships of other quarters in our 27 year sample. However, the basic relationship between wage growth and weak labor market was broken after the economic recession. Figure 3 with the expansion of the unemployment rate gap, the slowdown of wage growth is far lower than expected. Long after the unemployment gap begins to normalize, wage growth will continue to slow. [16]

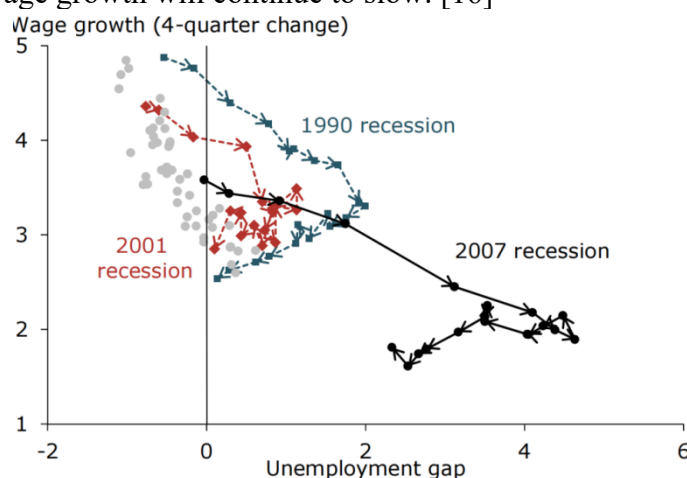


Figure 8. U.S wage Phillips curve, 1986-2012 [16]

#### 2.1.5 Labor Unions

Labor unions are businesses established by employees in a certain trade, industry, or business to enhance workers' compensation, benefits like temporarily salaries promotion, and most importantly,

their working conditions. It often has a democratic framework, with elections held to select executives to represent the group members and negotiate or communicate with employers like companies. All of their actions aim in benefiting the labor union members. The labor union receives dues from the employees in exchange for advocating on their behalf. Nearly all unions are structured and work in similar ways.

However, according to the data published by Statista Research Department, the number of union members in the United States from 2000 to 2021, the data keeps appearing in a falling trend since 2008, with first 16.1 million in 2008 to 14.01 million in 2021.

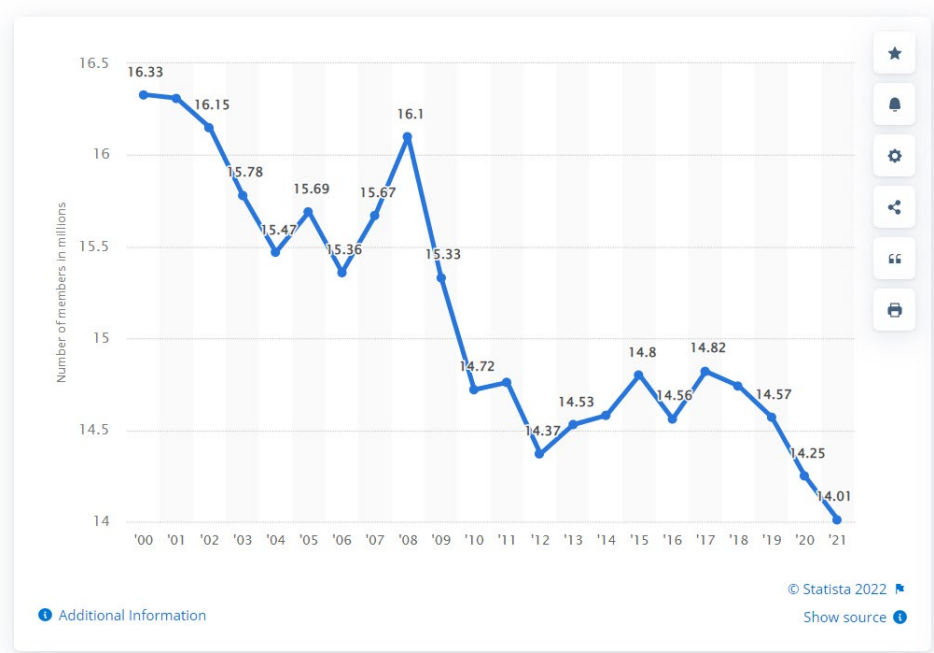


Figure 9. The number of members in labour unions in the United States from 2000 to 2021(in millions) [17]

This decline tremendously causes negative impacts in workers' wage protection, since these unions directly bargaining on behalf of covered employees for maintaining and increasing wages and indirectly produce influence on other outcomes for covered employees (Freeman and Medoff, 1984), threat of unionization raises wages in the non-union sector (Rosen, 1969) and excess labor supply to non-union sector because of job losses in union section. Despite having less influence in negotiations, unions nevertheless provide higher wages. Income inequality would very probably be larger than it is today if these unions hadn't been successful in negotiating wage increases for workers.

What's more, if considering whether labor unions really act usefully in wage growth, perhaps the answer is not for certain, and it might not gather its effects. In replace, it is actually productivity benefit wage growth more, instead of labor unions. Does LeBron James really make an outrageous salary because the Los Angeles Lakers are so kind-hearted, for instance? The solution lies in productivity instead. Due to his personal appeal, this basketball player may both draw spectators who want to enjoy his victory and advertise to promote their products. He significantly boosts the revenue of his employer. Even though his union adds value, to a certain degree, this boost is posed on a much smaller scale. To figure out whether productivity contribute to wage growth, economists have a simple proof. Suppose someone adds \$15 per hour to the bottom line, but is earning only \$10. The \$5 surplus that employers receive from employee labor is unsustainable. Others will counter with an offer of around \$10.25, and a competition for his services will start. It will keep going until the price reaches \$15. \$20 or \$17 an hour wages are likewise untenable. As a result, productivity may equal to wage.

Nevertheless, the existence of labor unions somehow decreases workers' productivity, due to the fact that the union will divert workers' attention on the job, which owe to be vital in increasing their

productivity with organizing. The difference between different labor unions will create and set up arguments and fights; workers need to spend time choosing proper unions for them and attend series of activities after joining, like walkouts and demonstrations for better labor legislation, which are all inevitable in everyday life in labor unions, all at the expense of productivity. To certain degree, labor unions indeed reduce real wages instead of increase them. [18]

## **2.2 Foreign Factor -- Globalization**

Globalization may influence a country's politics and economy, so globalization also affects American politics and economy. Therefore, globalization may be one of the reasons.

### **2.2.1 The impact of globalization on unemployment rates**

Globalization has always been a controversial issue and an extremely complex process that requires much effort. Siddiqua, Hussain and Qasim studied how globalization is affecting unemployment and economic growth over a 10-year period (between 2003 and 2013), and they suggest that becoming globalized economically and politically has important implications for the reduction of unemployment in developing countries.[19]

But the impacts of globalization are not always good. For example, as a result of benefiting from globalization, before the 1990's, Hong Kong was a far better economy than Mainland China and enjoyed almost full employment. However, globalization continued and once Hong Kong's economy had developed to a high stage. Capital moved to less developed regions, because of the obviously lower wage. Therefore, after 1990, a growing amount of capital has been shifted from Hong Kong to Mainland China, which has negatively impacted the employment in Hong Kong.[20] Similarly, the United States, one of the developed international countries, has the same situation, especially when it is trading with China. Before the trade war between China and the United States, the employment rate of the American manufacturing industry was inversely related to Chinese imports penetration ratio.[21] But the U.S. government is also aware of this problem, thereby starting a trade war with China. By restricting imports from other countries to develop the domestic manufacturing industry and reduce the unemployment rate.

Globalization's influences on relative wages and unemployment primarily depend on transport costs, wage flexibility, and the distribution of low-skilled labor and high-skilled labor across countries. Globalization does not always do harm to the employment environment for the low-skilled. In contrast, with the development of globalization, low-skilled people can benefit from globalization. [22] But the specific impact still depends on the economic environment.

### **2.2.2 The impact of globalization on wages**

In most studies, globalization has been a main factor leading to wage inequality since 1970. Before 1970, mass migrations to the United States and Canada was the main reason for wage inequality. But the growth of an increasing number of skilled labor, skills demanded jobs, and labor demand have been the main reasons for wage inequality in the United States since 1970.[23]

Globalization not only causes wage inequality, but also leads to low wage growth. Companies will seek higher profitability, so they want to pay lower salaries. This makes them establish their manufacturing plants, which do not require high technology, in developing countries, where wages are lower. Additionally, considering the legal minimum wage, the minimum wage in developed countries is generally higher than that in developing countries. Therefore, if people want to get a proper job in the US, they need to lower the standard of wages. Only in this way can they compete with workers in developing countries.

### **2.2.3 Unemployment and wage growth in globalization**

Globalization benefits the low-skilled population in the United States and causes a positive development that there is a small number of people unemployed in the United States. According to recent data, the number of unemployed people in the US was significantly low, except for some special conditions, such as pandemics. However, globalization has also increased the inequality of

earnings in the United States and reduced the growth of wage. So because of globalization, low unemployment may not lead to wage growth.

### 3. Conclusions

To conclude, in our paper of discussing why low unemployment rate in US has not delivered meaningful wage growth, our members separately measure the background period of corresponding time in history, global economic situation with aspects of unemployment and wages, and data analysis of workers' payment that time from statistics sources like U.S. Bureau of Labor Statistics. After choosing and referencing proper articles in related fields, members moved to determine the possible reasons that lead to this result. Based on data of unemployment rate and wage growth in the United States in recent years, we can conclude that low unemployment rates do not deliver meaningful wage growth. This is not consistent with previous studies, and especially true after the subprime mortgage crisis in 2008.

From two main parts, domestic economic environment factors and globalization factors, 6 reasons in total are summarized to affect the unemployment rate and wage growth in US and lead to unexpected consequence: For domestic factors, after introducing the US economic background, the composition of employment, the productivity of labor and companies, inflation, and the amount of labor unions are the possible reasons; for globalization factors, we analyze the impact brought on unemployment rates and wage growth by globalization, and trends of similar events.

Wages represent the results of people's work and are the largest part of ensuring people's basic survival. Therefore, the investigation on whether wages are fair and conform to the development of the times has never stopped. It is not the most critical to find the reason why the low unemployment rate cannot increase the wage-growth, but to really find a way to solve the problem and make the behavior that benefits the masses the most. There will still be investigations and progress in the future.

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