

## ISSUES WITH YOUTH LABOUR MARKET: UNEMPLOYMENT AND PRECARIOUS EMPLOYMENT

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### ABSTRACT

The youth unemployment has become a more and more serious problem over the past few years. The pandemic also raises the number of part-time workers to a huge number. As research shows that the increase in education does not necessarily result in higher level of employment rate, it is hence important to investigate the impacts of different variables on young people's economic states. Therefore, this research aims to study the implication of precarious employment on young people's income and employment conditions throughout their teenagerhood and young adulthood in the USA. Particularly, this research measure the precarious employment from the perspective of gig economy. We adopt both fixed effect and random effect to examine the influence of different variables such as education status and marital status on the annual income of respondents. In general, enrolling in education will have negative impact on workers' annual income, while working in gig-economy sector will bring a positive impact on the income. As respondent's age rise, his or her income will also increase. There exist gender and race discrimination, where female would have a lower annual income compared to male, and the income of white people is higher than other races. The findings give several implications on the current economy condition and choices made by individuals in the labour market.

**Keywords:** Youth unemployment. Precarious employment. Gig economy. Part-time job. Annual income.

### 1. INTRODUCTION

#### 1.1 Background

Over the past few years, the precarious employment has faced increasing concerns among the labour market patterns. The pandemic has further increased the figure of precarity of employment. From April 2022 to April 2024, the number of part-time workers in US has been more than 25 million (Statista 2024). In contrast to the decline of employment rate and quality, there is a growing trend of education. According to Key Indicators of the Labour Market (KILM)2015, the education level of the labour force is improving worldwide but access to a higher education does not contribute to higher employment rate at the global level. Therefore, it is critical to understand the effects of precarious employment on young people's economic states.

#### 1.2 Definition of precarious employment

Although the instability of employment has lasted for decades, the definition of precarious of employment is developed by recent research. Precarious employment is characterised by uncertainty regarding the continuity of the job; limited control (individually and collectively) over working conditions, the labour process and pace of work; limited access to legal and regulatory

protection and to social protection; and economic vulnerability (Rodgers, G.; Rodgers, J. (eds). (1989).

There are some shared characteristics of a precarious employment. The precarity of employment are often embedded in several features related with wage, workload, and employment welfare. Unlike those normal jobs with steady, full-time hours, decent wages and benefits, precarious employment has the following characteristics including unstable, lack of economic and social benefits, limited statutory entitlements, regulatory protection and labor rights, little potential for future career prospect, dangerous working conditions, long working time and heavy work load due to lack of protection (Arne L. Kalleberg, 2014). According to U.S. BLS 2022, the wage of a full-time worker is about \$3000 higher than the one of a part-time worker. Meanwhile, part-time workers are considered to work less than 30 hours per week or 130 hours per month (IRS). Only 25% of part-time employees have medical care benefits and 16% for life insurance, while the percentage are 89% and 74% for full-time employees respectively.

### **1.3 The distribution of precarious employment among societies**

It is worthy noted that the likelihood of experience precarious employment varies across different groups. Based on previous studies, women are more likely to work on a part-time basis than men: nearly six in ten part-time workers (59.1%) are women. Women are about 1.6 times more likely to work part time than men. (National Women's Law Center,2022) The share of part-time and temporary work is larger for less-educated workers and young workers. Full-time contracts are lowest in agriculture sector. The service sector tends to be more at risk of precariousness than manufacturing sector. Bulgaria, Estonia, Greece, Latvia, Lithuania, Spain and Poland are countries that appear to have the highest risks of precariousness in Member States (EMPL Committee,2016).

### **1.4 Definition of gig economy**

The gig economy refers to a collection of markets where providers offer services to consumers on a per-job basis, supporting on-demand commerce. This economy can be understood from the perspectives of workers, clients, and service providers. In its basic model, gig workers form formal agreements with on-demand companies (e.g., Uber, TaskRabbit) to deliver services to the company's clients. Clients request services through an online platform or smartphone application, where they can either search for providers or specify the jobs, they need. Gig workers, engaged by the on-demand company, fulfill these requests and are compensated accordingly (Donovan, Bradley, Shimabukuro, 2016).

### **1.5 Role of gig economy**

In recent years, economic and technological developments have transformed traditional work structures. Entrepreneurs increasingly leverage gig economy platforms to create new business models. Many workers seek the flexibility and potential for higher income offered by the gig economy to enhance their quality of life. A 2016 study by McKinsey Global Institute found that gig workers are slightly more satisfied with their jobs compared to traditional employees. Accordingly, this study aims to: (1) explore the factors influencing job satisfaction in the gig economy; (2) assess the applicability of the Job Characteristics Model (JCM) within the gig economy; and (3) examine how gig work patterns affect job satisfaction (Lo & Kun-Lin, 2024). Digital labour platforms are defined as digital networks that algorithmically coordinate labour services. The rise of these platforms is reshaping how work is organized, and tasks are distributed

across the workforce, presenting new policy challenges. A key issue in forming an appropriate policy response is the lack of reliable estimates of the prevalence of platform workers.

This paper proposes two approaches for measuring platform work. The first approach involves surveying individual participation in platform work, similar to how traditional employment is measured by the Labour Force Survey (LFS). Given the structural differences between traditional and platform work, surveys should also assess the regularity, intensity, and significance of platform work, with a focus on tasks performed. The second approach gathers data directly from platforms to estimate hours worked and wages. However, due to the mixed use of platforms and ambiguous worker identification, this method may risk double-counting when measuring employment (De Groen, Kilhoffer, Lenaerts, Mandi, 2018).

### 1.6 Differences between gig economy jobs and traditional freelance work

Gig economy jobs differ from traditional freelance work in several ways. The coordination of tasks through on-demand companies lowers entry and operational costs for workers, enabling more flexible and transitory participation in gig markets (i.e., workers have greater control over their work hours). Additionally, some platforms impose restrictions on providers, such as discouraging them from accepting work outside the platform from certain clients. This constraint limits gig workers' ability to build an independent client base, distinguishing gig work from conventional freelance jobs. The gig economy's evolving characteristics warrant further research and precise measurement (Donovan, Bradley, Shimabukuro, 2016).

### 1.7 Purpose of current research

This research explores the implications of precarious employment on young people's income and employment conditions throughout their teenagerhood and young adulthood in the USA. In particular, this research measure the precarious employment from the perspective of gig economy.

## 2. DATA AND METHOD

### 2.1 Data

This paper uses data from the longitudinal project National Longitudinal Survey of Youth 1997(NLSY97) that took the cross-sectional samples of American youth born between 1980-1984.The survey took 20 rounds in total from 1997-2021.In round 1 the sample size was 8984 aging from 12 to 18,while about 6713 samples at the age of 36 to 42 were interviewed in round 20.In initial survey,51% of the samples are males and 49% are females. The NLSY97 conducted questionnaire asking about the respondent's topics including schooling, college choice, training, employment, health, welfare knowledge, income and others. This paper chooses questions related to the ways of reporting total earnings, schooling history, employment benefits available, jobs information, wages information about different jobs of each respondent to find their relationships with the employment status.

### 2.2 Model

We used fixed effect for analysis, the fixed effect model is following:

$$\begin{aligned} \text{Income}_{it} = & \text{Gender} + \text{Race} + \alpha_1 \text{Age}_{it} + \alpha_2 \text{Children}_{it} + \alpha_3 \text{Marital Status}_{it} \\ & + \alpha_4 \text{Gig Economy}_{it} + \alpha_5 \text{Schooling Status}_{it} + \alpha_6 \text{Gig Economy}_{it} \# \text{Schooling Status}_{it} \\ & + \alpha_7 \text{Full - time Job}_{it} \end{aligned}$$

We also use a random effect model to compare the difference between different genders and races.

### 2.3 Measurement

Income is measured by annual income of individual. Gender and race measured do not vary with time, so we set them as vectors of individual demographic characteristics. The categorical variable children indicate the number of children of respondents, where we divide it into either have no child or have at least one child in household. We create the variable marital status which divides the respondents into 3 categories: single, cohabiting and married, separated or widowed.

We defined the status of gig economy employment from two aspects. First, type of pay for each job individual has in a year. If the type of pay is piece rate, then the job will be defined as gig economy employment. Second, according to the other feature of gig economy, individuals who have two or more jobs that works for more than 2 hours per week will be defined as gig economy employment. The dummy variable schooling status tells whether respondents are enrolled in education currently. We also include the cross intersection of working in gig economy and enrolled in education represented by Gig Economy#Schooling Status. The last independent variable full-time job indicates whether respondents are having a full-time job or not. We define those respondents whose working hours exceeds 35 hours as having a full-time job.

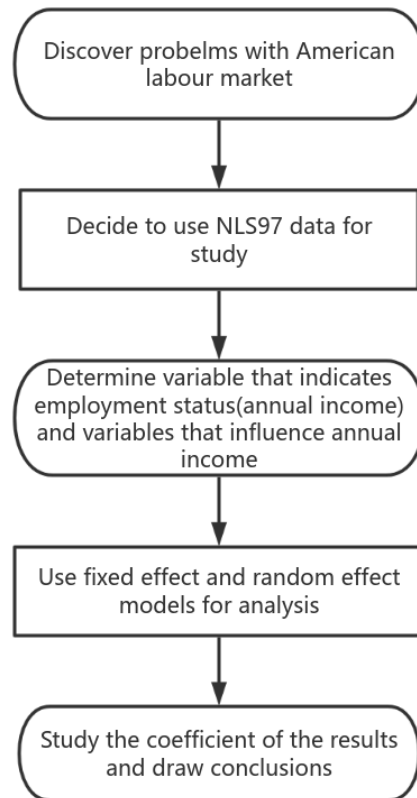
### 3. PROCEDURE OF RESEARCH

After reading several past research papers, we found that youth unemployment has become a more and more serious problem especially in American after pandemic. We also discovered the term 'gig-economy', which is also an employment issue that does not belong to regular employment. Combining these facts together, we would like to use a longitudinal data source and study the key factors that might increase one's unemployment probability. We then found that the National Longitudinal Survey of Youth 1997(NLS97) satisfies our requirements.

We then consider the variables that we are interested about. Since individual's employment status is closely associated with his or her income, we set our dependent variable to be the respondent's annual income. We then looked for variables indicating respondent's employment status and found that there is no categorical variable that directly states the employment status of worker, hence we needed to define the indicators of working in gig-economy sector. According to the characteristics of gig-economy sector job, we found out the variables measuring working hours and the type of pay of the jobs, and then define respondents whose jobs are piece-rate paid or those who have more than one job and each job's working hours exceed 2 hours per week as workers working in gig-economy sector. We found that there exist some respondents' working hours exceeding 168 hours, which is the hours if they work every hour in a week, hence we recode them as 168 hours. We also discovered a series of variables investigating about whether respondents' jobs provide different types of benefits, showing the extent of gig-economy job. We recode those who does not have any benefits as 0 and otherwise as 1. To compare jobs in gig-economy and those full-time jobs, we create a variable naming full-time job where the working hours per week of the job exceed 35 hours, and we also calculate the number of full-time jobs each respondents have. After handling with indicators related to work, we then looked at family sectors. We split respondents into 3 groups according to their marital status. Despite singled and cohabiting, we define all the respondents who used to or currently in marriage as the third group. For the number of children, we singly divide respondents into 2 groups of either no child or at least 1 child.

When processing the data, there exist some respondents who refused to answer, do not know or not interviewed, we recode them as missing.

According to the processed data above, we observed that we could fix the other variables while vary one of the variables, which match the idea of fixed effect. Also, to investigate impacts of those time invariant variables such as gender and race among different individuals, we thought of the random effect model. Hence, we performed fixed effect and random effect in Stata.



#### 4. RESULTS

The result of fixed effects is displayed in table 2. In the fixed effect model, the coefficient of enrolled in education crossing working in gig-economy sector is negative and significant with a value of 2536.85, which indicates that focusing on one respondent, enrolled in education while working in gig economy simultaneously will negatively influence the respondent’s income. Since the coefficient of solely enrolled in education is also negative (significant at 0.1%), the direction of impact of enrolling education on income is the same as enrolling in education and working in gig economy at the same time. However, the value of coefficient of enrolled in education only (not working in gig economy sector) is larger at 1826.83, meaning that the magnitude of the impact is larger. Working in gig-economy sector significantly and positively predicts the outcome of young people’s change in individual income. , However, the coefficient is smaller than the last two

indicators been discussed, which is 745.02. It indicates that the implication of working in the gig economy sector is not as apparent as working & education simultaneously and education only. Being full-time employed has a positive impact on respondent's income, and the magnitude is large with a value of 5010.31. The increase in age of respondent's age has a positive influence on the income with coefficient of 2257.72. The increase in number of children the respondent would positively affect the respondent's income with an coefficient 399.86, which means that if a worker starts to have a child, giving that other variables about the person remain unchanged, then compared with the person when he or she does not have any child, the annual income will increase by 399.86 dollar. If the respondent's marital status change from single to cohabiting or married, separated or widowed, his or her income will be positively influenced according to their coefficients 2649.81 and 8373.85 respectively, while the latter situation will affect the income largely as the value of the coefficient is larger. Besides from those figures of working in gig-economy and having children whose p-values are larger than 0.05, leading to an insignificant outcome, all the other results are significant.

In the random effect model, all the effects of the dependent variables are having the same trends as those in fixed effect despite from the number of children the respondent is having given a negative coefficient -1563.33 in random effect. This means comparing the worker with at least one child with the one who does not have any, his or her annual income would decrease by 1563.33 dollar given that other things remain constant. Furthermore, the random effect tells that the female respondents' incomes have a negative coefficient -6503.54 compared to males. Also, the respondents having black, African American or other races have negative coefficients -5432.77 and -1132.88 respectively referring to those who are white. All the results from random effect are sufficient according to the p-values.

**Table 1: Summary statistics**

Variables	Percentage		
Race of respondents			
White	58.76		
Black or African American	26.82		
Others	14.42		
Gender of respondents			
Male	51.19		
Female	48.81		
	Overall	Between	Within
Whether respondents have benefits			
No	47.54	86.48	50.03
Yes	52.46	97.91	57.95
Whether work in gig-economy sector			
No	90.79	100	90.79
Yes	9.21	68.42	13.46
Whether respondents are enrolled in education			
Not enrolled in education	66.18	96.98	65.65
Enrolled in education	33.82	98.55	36.87
Marital status			
Single	55.35	99.39	57.67
Cohabiting	12.94	60.05	21.01
Married, separated or widowed	31.71	57.4	52.36
Whether respondents have child			
Have no child	75.37	100	75.37
At least one child, in household or non-resident	24.63	68.94	35.72
Whether respondents have full-time job			
No	72.49	100	72.49
Yes	27.51	90.75	30.31
		Mean	
Age of respondents	26.31		
Hours working per week	51.33		
Annual income of respondents	26456.5		
Number of jobs	1.08		

**Table 2: Results of Random effect and Fixed effect**

Annual income	Random Effect			Fixed Effect		
	Coefficient	Std. err.	P value	Coefficient	Std. err.	P value
Enrolled in education#Working in gig-economy sector	-2536.85	474.69	0	-2320.5	477.39	0
Whether respondents are enrolled in education (ref. No)						
Yes	-1826.83	238	0	-3357.07	242.6	0
Whether work in gig-economy sector (ref. No)						
Yes	745.02	284.15	0.01	452.81	287.39	0.12
Whether respondents have full-time job (ref. No)						
Yes	5922.19	196.41	0	5010.31	199.29	0
Age of respondents	2257.72	15.85	0	2192.47	16.71	0
Whether respondents have child (ref. No)						
Yes	-1563.33	228.83	0	399.86	252.66	0.11
Marital status (ref. Single)						
Cohabiting	2567.16	246.49	0	2649.81	254.72	0
Married, separated or widowed	8580.53	251.79	0	8373.85	275.05	0
Gender (ref. Male)						
Female	-6503.54	304.02	0			
Race (ref.White)						
Black or African American	-5432.77	362.98	0			
Others	-1132.88	448.52	0.01			
_cons	-31941.43	459.6	0	-33627.5	410.92	0
R-squared	0.2242 (between)			0.4424(within)		
Observations	89865			8686		
Groups				8686		

**5. DISCUSSION AND CONCLUSION**

According to the results of fixed effect, we could deduce impacts of time variant variables separately on annual income for everyone. If a worker is enrolling in education as well as working in gig-economy sector simultaneously, then his or her annual income will be lower than taking education at school or working once at a time. This may be because those who start to work when they are still at school age are probably not well-educated, so their job are usually low paid. Considering the status of education and employment separately, the effects are clearer. Taking education contributes to lower income compared with the time when individuals were not at school. It is because for most young people, going to school means leaving labour market, and thus a decline in their annual income. Additionally, going to school also means expenditures such as tuition fees and accommodation expense. Regarding the status of whether working in the gig-economy sector, it will raise worker’s annual income, while the contribution is far less than that



of having a full-time job. This result is in consist with existing research that a job in the gig economy sector tend to be low paid.

There are other indicators have significant implications on young people's income. When one respondent has a child, his annual income will increase compare with the income when he had no child. This might because after having children, individuals are highly motivated in their jobs, leading to better performance at workplace and an increase in annual income. Compared to those never married, when young people are cohabiting, or getting married their annual income will rise. Existing research demonstrates positive effects between marriage and income. One explanation suggests that marriage or a long-term cohabitation provide stability and support for one's life, thus individuals can spend more energy on their job tasks. As a results, individuals' income will increase.

According to the results of random effects, there is a significant gap between men and women in terms of annual income. Women's annual income is much lower than the male's if ceteris paribus. The magnitude of this effect is relatively large in our model, indicating an obvious gender discrimination in America. Additionally, the race discrimination exists as well since the other races has lower annual income than the white.

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