

PAPER • OPEN ACCESS

An analysis of the employment trends in Central Java province

To cite this article: S Subanti *et al* 2019 *J. Phys.: Conf. Ser.* **1321** 022053

View the [article online](#) for updates and enhancements.



IOP | ebooks™

Bringing you innovative digital publishing with leading voices to create your essential collection of books in STEM research.

Start exploring the [collection](#) - download the first chapter of every title for free.

An analysis of the employment trends in Central Java province

S Subanti^{1,4,*}, A R Hakim⁴, H Pratiwi¹, U S Sucahyo² and E D Kurniati³

¹ Department of Statistics, Faculty of Mathematics and Natural Science, Universitas Sebelas Maret

² Department of Accounting, Faculty of Economics and Business, Universitas Kristen Satya Wacana

³ Department of Management, Faculty of Economics and Business, Universitas Darul Ulum Islamic Centre Sudirman GUPPI

⁴ Institute for Research and Social Services, Universitas Sebelas Maret

*Corresponding author : sri_subanti@yahoo.co.id

Abstract. This paper aims to provide a descriptive explanation about the employment trends in Central Java Province. Using some publication from Central Bureau of Statistics, starts from 2014 until 2017. This paper found that (1) the creation of formal employment is still not sufficient to increase population aged 15 and above; (2) the outcomes of employment still tend to fluctuate to decrease throughout the year; (3) the outcomes tend to concentrated among employment of aged 25 years and female in rural areas; and (4) the service sector and the financial sector accelerate employment growth and an improve the employment elasticity. The suggestion of this study is the local governments still have to maintain the continuity of the momentum of economic growth and the labor market, with a focus on strengthening the job creation needed. The projected workforce population continues to grow with the dominance of the millennial generation above and the high penetration of the digital economy, so it needs to be a major component in the employment development strategy in Central Java Province.

1. Introduction

The economy of Central Java Province is one of the most stable provinces in terms of economic growth. In the period of 2011 to 2017, Central Java is able to grow above five percent with an average of 5,29 percent. In addition, the growth rate in the period 2014 - 2017 is 5,32 percent or higher if it compared to the period 2011 to 2017. Economic sectors consistently able to grow above the provincial economic growth during the period 2014 to 2017 are trade and communication, finance, and services. As we know that these sectors usually can be categorized as the tertiary sector [1].

If we want to see that the contribution by sector, it can divided into the primary, secondary, and tertiary sectors. The change of contribution to GRDP, where the primary sector has a downward trend but the secondary and tertiary sectors have a tendency to increase. Throughout 2010-13, the contribution of the primary sector to GRDP by 17.54 percent, this figure decreased to 15.90 percent in 2014-17 period. Secondary and tertiary sectors, both sectors have their respective values of 45.10 percent and 37.36 percent in the period 2010-13, then increased to 45.39 percent and 38.71 percent in the period 2014-17. This change indicates that there was a change in the economic structure that was originally subsistence and focused on the primary sector to be more modern economic structure, dominated by the secondary and tertiary sectors [2-6].



The economic sectoral composition on GRDP are in line with the composition of the labor. Throughout 2010-13, the employment in the primary sector was 33.82 percent; it decreased to 29.60 percent in 2014-17 period. The secondary and tertiary sectors have a tendency to increase, respectively by 25.96 percent and 40.22 percent in the period 2010-13, increase to 28.67 percent and 41.73 percent in the period 2014-17 [1]. Based on this background, the paper aims to give some description analysis on the general employment trends in Central Java Province, focusing on labor market performances and employment outcomes.

2. Methods

2.1. Data

The data used for this paper came from the Central Bureau of Statistics publications. These publication including Central Java in Figure, The Manpower Profile in Central Java Province (Sakernas Results), and The Situation of Labor Force in Central Java Province. Information obtained from such publications includes the number of workers, the labor force, the proportion of the adult population actively engaged in economic activity in a region, the number of unemployed persons included the proportion of the labor force as a whole, the gender wage gap, the sector employment growth, and employment elasticity.

2.2. Methodology

The method in this paper tries to provide a description analysis of the composition of the working population or looking for work as well as several other indicators. In other words, this paper also try to describe the overview of trends in the labor market, including general employment trends related to labor market performances and employment outcomes.

This paper uses information on employment and regional economy data provided by the Central Bureau of Statistics. In addition, this paper also uses several general concepts in labor such as man power, labor force, unemployment, labor participation rates, employment growth, and employment elasticity [7,8].

3. Results and Discussions

The increasing of economic growth is also followed by an increase in population. From table 1, it shows that the population continues to grow throughout the period 2014 to 2017, although population growth is not greater than 1 percent for every year. On the other hand, the increase in population followed by an increase in the proportion of the population aged 15 years and above to the total population, with an average of 75.62 percent. From the total population aged 15 years and over who enter the labor force or labor force participation rate reaches 70 percent or an average of 68.45 percent, where the achievement in 2014 (69.68 percent) is higher than in 2017 (amounting to 69.11 percent). Although the labor force has increased in 2017 compared to 2014, but the number of labor force in the period 2015 to 2016 is relatively lower than in 2014 and 2017. From the unemployment rate, there is a downward trend over the period 2014 to 2017, at 1.1 percent amongst this period.

This table (Table 1) also shows that the creation of formal employment is still not sufficient to increase population population aged 15 and above. Throughout the period, there is still a difference of 244 thousand formal employment needs to be created. Although the creation of formal employment in 2017 is highest, but in 2014, the creation of formal employment tends to be no better than in other periods. The good news is that the number of unemployed workforce tends to decrease, if in 2014 it is 996 thousand then in 2017 to be 823 thousand. It supported by the declining of the unemployment rate, where in 2014 at 5.68 percent and in 2017 at 4.57 percent. Meanwhile, when compared between 2014 and 2017, the population category of 15 years and above, including non-labor force is still smaller than the labor force category.

Table 1. Main labor market indicator in Central Java province

Key Indicator	2014	2015	2016	2017
Total Population	33,522,663	33,774,141	34,019,095	34,257,865
Population aged 15 years and overs	25,181,967	25,492,463	25,782,899	26,062,003
Economically active	17,547,026	17,298,925	17,312,466	18,010,612
Employed	16,550,682	16,435,142	16,511,136	17,186,674
Unemployed	996,344	863,783	801,330	823,938
Not economically active	7,634,941	8,193,538	8,470,433	8,051,391
Employment to population ratio (%)	65.72	64.47	64.04	65.95
Labor force participation rate (%)	69.68	67.86	67.15	69.11
Unemployment rate (%)	5.68	4.99	4.63	4.57

Source : Central Java In Figure (various edition), Badan Pusat Statistik (BPS), calculated by authors

The outcomes of employment still tend to fluctuate amongst period of each year, while the good signs that the unemployment rate tend to decrease amongst period. In addition, table 2 we can explain that employment increased by 635 thousand people between 2014 and 2017, and unemployment decreased by 172 thousand workers. Because there is not much fluctuation in employment outcomes, so there is not much variation in the employment rate also. This condition represent that for the working age population, Central Java Province give an unemployment benefits, so the consequence is not many workers want to shift between short – term work opportunities and then escape the labor force. The table illustrates that in 2014 the employment to population ratio and labor force participation rate were calculated at 65.72% and 69.68% respectively. In 2017, the labor force participation rate had decreased of 69.11% and the employment to population ratio tend to increased at 65.95%. In Central Java, it could not happened the seasonal factors and economic performance may influence labor market outcomes throughout the year, there is not much variation in the employment to population ratio and the labor force participation rate amongst this period. We can show that the combination of jobless growth and low number of worker exiting the labor market amongst the period indicates that the growth process is both generating more jobs and is support to lower turnover in the labor market.

Table 2 presents selected indicators for different groups of workers, particularly male and female, youth and older workers, and urban - rural dwellers. This table have disparate labor market outcomes. From this table, in year 2017, it shows that the labor force participation rate of female was estimated 56.26% while the labor force participation rate of male calculated as 82.46% in the same period. If it compared with year 2014, the labor force participation of female and male estimated 56.93% and 82.93%. Another sides, the employment to population ratio depend on age group shows that the youth employment tend to increase amongst period, it's followed with the employment of aged 25 years and over. In 2014, the youth employment and the the employment of aged 25 years and over calculated by 7.98% and 57.75%; then in 2017, both of indicators estimated 9.04% and 60.07%.

From same table, in 2014, 26.27 percent of the male employed population worked less than normal working hours, while 41.41 percent of the female employed population worked less than normal working hours in the same period. Eventhough both of indicators tend to increase in 2015, but they start decrease in 2016. Both of indicators have the same pattern, increase in 2015 then decrease in 2016 and in 2017. So, in 2017, the male and female who employed population worked less than normal working hours estimated 18.81 percent and 34.16 percent.

If we compared based on region (urban rural), 20.21 percent of the population in urban who work less than normal working hours in 2017, while in rural we get 29.96 percent in the same period. Both

of indicators have tend to decrease compared with year 2014. Each of indicator was calculated by 21.26 percent for urban and 36.43 percent for rural.

Table 2. Selected key labor market indicator in Central Java province

Key Indicator	2014	2015	2016	2017
Labor force participation rate (%)				
Male	82.93	85.78	80.87	82.46
Female	56.93	51.91	53.94	56.26
Employment to population ratio depend on age group (%)				
15 - 24 years	7.98	8.03	8.60	9.04
25 +	57.75	56.44	55.44	60.07
Employed people with less than normal working hours (%)				
Male	26.27	36.11	32.59	18.81
Female	41.41	52.59	51.97	34.16
Gender Wage Gap	0.292	0.211	0.287	0.267
Employed people with less than normal working hours (%)				
Urban	21.26	20.88	20.44	20.21
Rural	36.43	33.46	30.25	29.96
Source : Central Java In Figure (various edition), Badan Pusat Statistik (BPS), calculated by authors				

This table also indicate that the outcomes tend to concentrated among the employment of aged 25 years over and female in rural areas. Trends related to the high rate of people working less than normal working hours for female and lived in rural areas, and the low labor force participation of women. But, we have the trend related to the reduction of gender wage gap and the high employment of aged 25 years and over. These could be an employment challenge and a good endowment for labor market in Central Java Province.

For gender wage gap indicators, in Central Java Province, there has been a reduction in the level of gender wage gap by 0.292 in 2014 to 0.267 in 2017. One of the causes of the gender wage gap is the different levels of education of men and women [9-11]. According to BPS publications based on Sakernas data of 2017, women aged 15 and older who work have more number of certificate than men for the same group. Although most still have a primary school certificate down and do not have a certificate. The low level of certificate held by women workers is one of the factors that women do not have the same opportunities as men in the labor market [11].

Table 3 presents an overview of trends in employment growth and employment elasticities by sector between 2014 and 2017. We can be observed that GDRP growth performance grew slow and even tended to be constant over the period, but employment outcomes still grow. For GRDP growth, there are the same growth of GRDP as 5,27 percent in 2014 and 2017. The outcome of employment growth increase from 0,49 percent in 2014 to 4,09 percent in 2017. It's followed with employment elasticities tend to grow from 0,09 percent in 2014 to 0,78 percent in 2017. Subsequently, the employment elasticity of growth declined in agricultural sector, where it estimated -0,01 percent in 2014 and -9,1 percent in 2017. In 2017, the negative sign of employment elasticity only have agricultural sector compared with other sector in the same period.

This table also show that the service sector and the financial sector accelerate employment growth and an improve the employment elasticity. Employment outcomes in service sector and financial sector have been higher employment outcome compared other sectors in Central Java Province. The financial sector ranked first place and the services sector ranked second place for both employment outcomes such as employment growth and employment elasticities. The other sector which have included a good performance such as trade sector, the transportation warehousing and communication

sector, and manufacturing industry sector. These condition indicates a sign that the need for technological innovation and economic scale improvement in this sector. The consequences that the decreasing of the demand of unskilled labor within these sectors, especially demand for unpaid family workers, and the increasing demand for workers with higher level of education attainment.

Table 3. Employment growth and employment elasticity in Central Java province

Main Industry	Employment Growth			
	2014	2015	2016	2017
Agriculture	0.01	-8.97	7.61	-14.68
Manufacturing Industry	2.21	2.98	-0.49	9.58
Construction	31.33	20.49	-6.43	4.37
Trade	0.58	2.38	-2.44	11.18
Transportation, Warehousing, and Communication	-4.90	-6.76	0.38	11.51
Financial	2.39	6.66	-12.33	39.05
Services	-12.60	-5.42	-1.79	21.68
Others (Included Mining & Refinery; Electricity, Gas, and Water)	29.59	37.56	1.41	4.91
Total	0.49	-0.70	0.46	4.09
Main Industry	Employment Elasticity (%)			
	2014	2015	2016	2017
Agriculture	-0.01	-1.60	3.57	-9.10
Manufacturing Industry	0.33	0.62	-0.12	2.25
Construction	7.16	3.41	-0.99	0.61
Trade	0.11	0.52	-0.42	1.81
Transportation, Warehousing, and Communication	-0.43	-0.77	0.06	1.13
Financial	0.43	0.84	-1.52	6.47
Services	-1.94	-0.91	-0.28	3.49
Others (Included Mining & Refinery; Electricity, Gas, and Water)	4.52	8.61	0.08	0.94
Total	0.09	-0.13	0.09	0.78

Source : Central Java In Figure (various edition), Badan Pusat Statistik (BPS), calculated by authors

For construction sector, the employment growth in paced construction sector growth, then it result the same gains in employment elasticity. In this sector, many workers are on casual contracts, usually they have an education attainment of junior high school or less, receive comparatively low levels of remuneration. This condition contrast with other sectors except agricultural. Especially for financial sector, services sector, and manufacturing industry sector have strong the economic and the employment growth, resulting in gains in the employment elasticity. It's close with the examination of the sector demanded for highly skilled workers tend to increase, while demand for unskilled workers reduced. Most employer in the finance and service sector work on employee contracts in skilled or semi – skilled positions and receive comparatively high levels of remuneration. In addition, the increasing of the employment elasticity within the sector coincides with the increasing of demand for workers with greater capacity, then it increase the productivity within the sector and it expand more quality jobs [12].

4. Conclusion

The Province of Central Java also experienced a tendency to shift labor as a result of changes in economic structure. Given the transformation of economic structure will lead to a reduction in the role of the primary sector, it tends to require a small amount of uneducated labor. Since the leading of the role in the secondary and tertiary sectors, which tends to require a lot of educated labor.

This condition is not surprising, if many workers face difficulties in getting some decent work. There are several possibilities which may be the cause, (i) Employment creation is not proportional to the number of new labor forces; (ii) The rigid work regulations impede employment creation and entrepreneurship; (iii) The existence of barriers for entrepreneurs to gain access on microfinance and entrepreneurial skills; (iv) The existence of a mismatch in which the worker does not find a job appropriate to his field of study; and (v) Workers do not have access to information on the labor market.

Although the process of transforming labor from the primary to the secondary and tertiary sectors is inevitable, the local government should increase labor-based investments that can open employment more widely. Local governments need to review legislation especially for informal workers, in addition to trying to improve entrepreneurial spirit through ease in obtaining soft loans, easing bureaucracy, and promoting job training in every regencies or cities. In addition, local governments still have to maintain the continuity of the momentum of economic growth and the labor market, with a focus on strengthening the job creation needed. The projected workforce population continues to grow with the dominance of the millennial generation above and the high penetration of the digital economy, so it needs to be a major component in the employment development strategy in Central Java Province.

References

- [1] Statistics C B 2018 *The Situation of Labor Force in Central Java Province (August 2017)* (Central Java : Central Bureau of Statistics)
- [2] Statistics C B 2014 *Central Java in Figures 2013* (Central Java : Central Bureau of Statistics)
- [3] Statistics C B 2015 *Central Java in Figures 2014* (Central Java : Central Bureau of Statistics)
- [4] Statistics C B 2016 *Central Java in Figures 2015* (Central Java : Central Bureau of Statistics)
- [5] Statistics C B 2017 *Central Java in Figures 2016* (Central Java : Central Bureau of Statistics)
- [6] Statistics C B 2018 *Central Java in Figures 2017* (Central Java : Central Bureau of Statistics)
- [7] Adioetomo S M and Samosir O B 2010 *The Basic of Demography (In Indonesia : Dasar – Dasar Demografi)* (Jakarta : Salemba Empat Publisher and Demographic Institute)
- [8] International Labour Organization 2012 *Decent Work Indicators : Concept and Definitions* (Geneva : ILO)
- [9] Statistics C B 2015 *The Manpower Profile in Central Java Province (Sakernas Results 2014)* (Central Java : Central Bureau of Statistics)
- [10] Statistics C B 2016 *The Manpower Profile in Central Java Province (Sakernas Results 2015)* (Central Java : Central Bureau of Statistics)
- [11] Statistics C B 2018 *The Manpower Profile in Central Java Province (Sakernas Results 2017)* (Central Java : Central Bureau of Statistics)
- [12] Allen E 2012 *Labour and Social Trends in Indonesia 2012 : Working for Sustainable and Equitable Economy* (Jakarta : ILO)