

## **The impact of Minimum Wage on Employment in Malaysia**

Nurnaddia Nordin<sup>1</sup>, Nurhaiza Nordin<sup>1</sup>, Nurza Mohamed Yusoff<sup>2</sup>

<sup>1</sup> Faculty of Entrepreneurship and Business, Universiti Malaysia Kelantan, Malaysia.

naddia.n@umk.edu.my ; haiza@umk.edu.my

<sup>2</sup> Faculty of Management and Muamalah, Kolej Universiti Islam Antarabangsa Selangor, Malaysia. [nurza@kuis.edu.my](mailto:nurza@kuis.edu.my)

### **Abstract**

Malaysia has introduced a minimum wage for the first time in a move to support low income households on 1st May 2012 and was gazetted on July 16, 2012. The implementation of this Minimum Wages Order 2012 to be effective from Jan 1, 2013 (Peninsular Malaysia, RM900 and states of Sabah and Sarawak and federal territory of Labuan RM800). In 2016, Malaysia has announced a new minimum wage rate for all employers in the private sector, regardless of the number of employees they have, except domestic helpers (RM1000 in the Peninsular Malaysia, and RM920 in Sabah, Sarawak and Labuan). Again, in 2018 the government has proposed new rates for minimum wage effective on Jan 1, 2019 (RM1100 for nationwide). This study is strongly driven by recent literature which reveals ambiguous findings on the impact of minimum wage on employment. It test whether, an implementation of minimum wage may benefit an employment in Malaysia. An Ordinary Least Square estimation method was employed with data from 1980 to 2017 is analyzed and minimum wage was estimated as an indicator variable. The result suggests that minimum wage significantly influence employment in Malaysia.

Keywords: Minimum wages, employment

JEL classification: J21, J48

### **1.0 Introduction**

In Article 7 of the International Labour Organization (ILO) Convention no 131 on minimum wage fixing (1970) and its accompanying recommendation no 135, specify that the minimum wage should not be fixed at a lower rate than one which would ensure the subsistence of the worker and his or her family. Before the implementation of the national minimum wage, Malaysia did not approve to this convention for Malaysian future economic growth (Mahyut, 2013). Till in 2009, Ministry of Human Resources through the National Employment Studies found that about 33.8% of private sectors workers (about 1.3 million workers) were paid below RM700 per month and surprisingly it was below the poverty line which is RM800 per month.

Additionally, a study by the World Bank found that for the past decades, wages have been lagging behind productivity growth, rising only about 2.6% versus productivity growth of 6.7% in the same period. Thus, when the productivity gain and cost of living is increasing over the year, the wages are not suit with the rising of economic cost. This shows that there is distortion in the labour market where wages are determined by market forces fails to increase salaries in line with the rising of

cost of living. In accordance, the Government has decided to take intervention measures by introducing a national minimum wage.

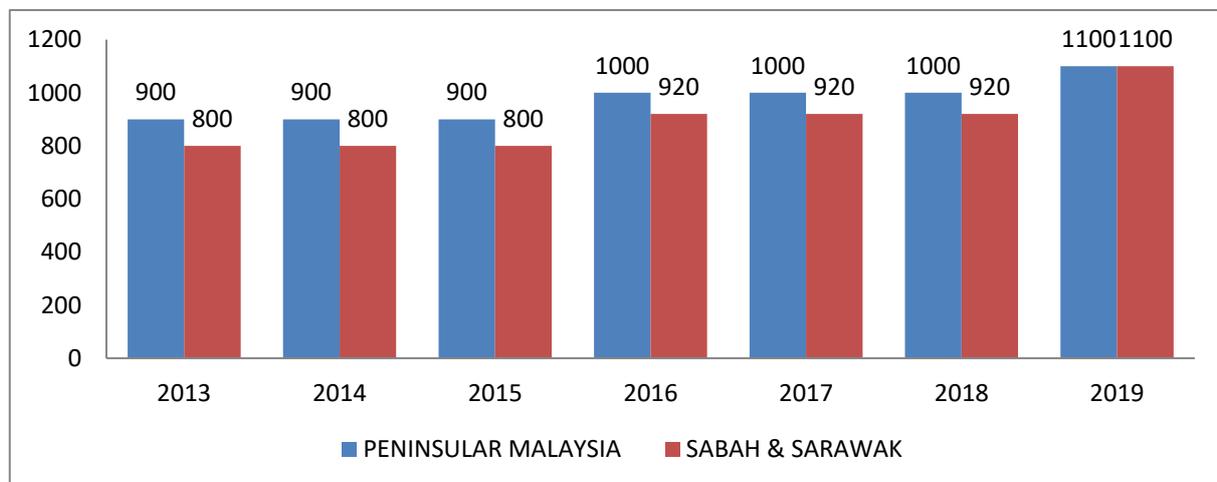
Malaysia has introduced a minimum wage for the first time in a move to support low income households on 1st May 2012 and was gazetted on July 16, 2012. The implementation of this Minimum Wages Order 2012 to be effective from Jan 1, 2013 for employers with six employees and above and for employers with five employees and fewer. The minimum wage standard was established only for private sector workers in West Malaysia (Peninsular Malaysia) will receive a minimum salary of RM900 equivalence to \$297 or £183 a month and workers in the East Malaysia (states of Sabah and Sarawak and federal territory of Labuan) will get RM800. The main justification for the legislation of minimum wage is to help the lowest-paid can meet the rising cost of living and they now be guaranteed an income that lifts them out of poverty. In addition, the minimum wage legislation can also promote a more efficient allocation of human capital through productivity, which supports the current governmental objective of attaining high-income country status by 2020 (Saari et al. 2016).

In 2016, Malaysia has announced a new minimum wage rate for all employers in the private sector, regardless of the number of employees they have, except domestic helpers (maids). The Minimum Wage Order 2016 was gazetted on 29 April 2016 in accordance with Subsection 23 (1) of the National Wages Consultative Council Act 2011 and will come into effect on July 1, 2016. As for the daily minimum wage rate, it is subject to a maximum of 48 hours per week, which means in the peninsula, for a six-day working week (48 hours), the daily minimum wage rate is RM38.46, five days per weeks at RM46.15, and four days per weeks at RM57.69. In Sabah, Sarawak and Labuan, for a six-day working week the daily minimum wage rate is RM35.38, five days per weeks at RM42.46, and four days per week at RM53.08. In relation to an employee who is not paid basic wages but is paid wages based only on piece rate, tonnage, task, trip or commission, the rate of monthly wages payable to the employee shall not be less than RM1,000 in the Peninsular Malaysia, and RM920 in Sabah, Sarawak and Labuan.

The new minimum wage rate is issued in 2016 after taking into account all recommendations submitted by the National Wages Consultative Council (NWCC) and not to forget by considering the interests of both employers and employees. After all, the government look forward to the country's economy improvement and can boost the income of Malaysians in achieving the status of a high-income nation by 2020.

Again, in 2018 the government has proposed new rates for minimum wage while tabling the 2019 budget after new government changed for Malaysians. The minimum wage be raised up to RM1100 for nationwide and will be effective on Jan 1, 2019. This increasing salary are balanced with the rising cost of living nowadays and also benefited to unskilled people among school-leavers and increase the marketability of graduates to enter the industry. As conclusion, below is the table shows the flow of minimum wage since 2013 in Malaysia.

Figure: Minimum Wage in Malaysia 2013-2019



Source: Ministry of Human Resources

Although there has been a great broadening of researches on the effects of the minimum wage in OECD countries, this has not been as marked in studies of developing countries (Belman and Wolfson, 2016). With notable exceptions, research on these countries has been focused on employment issues. Most of the studies on the effect of minimum wages on employment also have been conducted in the US. However, there are still unclear answers on the employment effect. Based on past literature, there are ambiguous effects of minimum wage on employment.

## 2.0 Literature Review

The question of how a minimum wage affects employment remains one of the most widely studied and most controversial topics in labour economics. The debatable started when there is existing apparent consensus based on essentially time series evidence and surveyed articles by previous papers from 1970-1981 (Brown 1982). Brown purposely to determine what generalizations of minimum wage literature support as well as to diagnose causes of the most important disagreement. In overall, Brown conclude from the time series research paper typically found that a 10 percent increase in the minimum wage reduces teenage employment by 1 to 3 percent for the period up to 1979. By using the observation method of relation between minimum wage and employment from last decade studies, Brown tend to estimate the range value found in the time series research. The study also found a consistent feature of negative employment effects in the studies of low-wage manufacturing and agriculture, but finding quite mixed in other industries. Brown also discussed the traditional theoretical economic in his paper and conclude that the theoretical developments of the last decade have had relatively little effect on the estimation of minimum wage effects with few exception. It was a limitation to distinguish the time series paper alone. Lastly, this paper represents a substantial revision to other researcher to identify the directions for further studies.

However, the paper of Card and Krueger in 1990s becomes widespread and debatable among the economist until now regarding the effects on employment. The study by Card and Krueger of the

effect of a rise minimum wage in New Jersey fast-food restaurants had marked impact on the economics profession (Bazen, 2005). They found that the increase in minimum wage legislation exactly hiked on employment. This result conflicts most of the earlier studies which indicate negative impact on employment. As mention, the result of the study by Card and Krueger (1994) not only found no significant effects but also analyzing the operation of the labour market with new approach and abandoning of the competitive model. Their study undertook a telephone questionnaire survey of the effects on employment, wages and other variables in a sample of fast foods restaurants in the state of New Jersey and followed by the state of Pennsylvania between the first and fourth quarters of 1992. Thus, a continuous study among researchers regarding this issues either to come up with explanation for this evidence or find fault with their research.

Most recent US evidence indicates a small negative impact of minimum wage changes on employment when Neumark and Wascher (2000) reanalyze the study of Card and Krueger by using payroll data. Their study shows a small decrease on employment in both state of New Jersey and Pennsylvania. Correspondingly, Bukhauser et, al. (2000) reexamine the debatable of US studies on the effects of minimum wage on employment indicate the results of significant and modest negative effects of minimum wage on teenage employment.

Bazen (2007) paper stated the possibility of positive employment effects was still evoked but the result was less clear-cut as regard to paper of Card and Krueger. The results were limited to certain sector (food and restaurants sector) and only focus on teenage employment. In addition, their results apply only to state level minimum wage increases and not federal hikes. Therefore, they were supposedly not to generalise into the aggregate level. Moreover, many economist peruse the existing literature may find difficult to decide what the evidence on minimum wage now says. As the finding from the newer research on minimum wage are summarized differently in different places, environment, social, and geometrical factors. (Stewart, 2004). In a nutshell, this contradict finding represents an interesting further research among the economist in the history of empirical research in labour economics.

A recent study was conducted by Kabeya et, al. (2015) on the impact of minimum wage on employment and working hours in the Western Europe, looking at France, United Kingdom and the Netherland. Their finding showed that three countries have negative effect on employment and UK has a notable effect compared to other two countries. Thus, the result on employment was in line with neoclassical theory. However, the effect on working hours, on the other hand, were observed to increase in response of minimum wage increase, of which France was noted to be mostly affected. Those results were revealed by using OLS model to estimate the dataset from 1980-2013. Similarly, this method exhibited heteroskedasticity and autocorrelation characters but the method of "White heteroskedasticity-consistent standard errors and covariance" and Cochrane-Orcut procedures were used to correct such incidents so as to make the model conform with OLS requirement.

Another researcher, Wang et. al, (2018) explores the relationship between minimum wages and employment across states in the US restaurant industry using new econometric C-Lasso methodology to provide a data-determined approach to the classification of states into common groupings. All the estimated groups' structure has different geographical patterns. This diversity may generate unobserved heterogeneity factor. As David et al. (2016) state, minimum wages have different degrees of "bindingness" across different states and their effects on employment can induce heterogeneous responses. Thus, this paper adopts a panel structure model to account for such heterogeneity in the effects of minimum wage on employment. The study revealed two primary results; firstly, the effect of the minimum wage is positive in some groups and negative in others; and secondly the author highlight geographical factors are evident in the data that give distinction response behaviour between the southeast and northwest regions of the US. These results provide some new perspectives about potential impacts on employment and reveal more interesting scope of further study.

Another study on minimum wage and employment in China as developed countries and strong economy by Fang and Lin (2013). China issued its new minimum wage regulations in 2004. The empirical study look into a few cross section effects which are employment effects of min wage across three geographical regions, gender and age cohort, and skill level. The study concludes that in the more developed and prosperous East China with large population has a statistically negative impact on employment for young adults, particularly female (age 15-29) are the most affected with statistically negative when the minimum wage is increasing. The results show the same in the developing central region with strong negative employment effect on young adults, at-risk group and the entire working population. However in the less developed West China, indicate no effect of the min wage on employment.

In Poland, the same finding show an adverse impact on employment during 1999-2010 by econometric model with the unemployment rate as the dependent variable. The main group which affected by minimum wage are young workers especially during the period of substantial increase of the minimum wage (2005-2010). Minimum wage in Poland is set uniformly across the regions but Poland is a country with considerable regional wage inequalities and also with substantial diversification of unemployment rate across regions and employees groups (especially, with respect to age, skills, etc.). These characteristics of labour market provide some rationale for considering setting of minimum wage at regional basis. (Majchrowsk, 2012). Those factors make some limitations into the study and have been suggested as for the potential policy recommendation. Since the finding show the effect of minimum wage on employment is more harmful in the poorer regions, there is some room for consideration the regional differentiation of minimum wage level which follows to local labour market conditions.

The other developed country such Japan also attracted with the same reason (Card and Krueger 1995) to do research on minimum wage because of the low-wage labor market and high level of poverty in Japan(Abe,2011). In his study explain the problem facing in Japan as the globalization

affect the Japanese labor market to a greater degree than before. Some of Japanese firms are likely to migrate outside Japan due to owing to high corporate tax rates and strong Yen. Thus, job loss seems more serious since jobs seem to be migrating from Japan to overseas location. Reflecting this type of mismatch such the concern of globalization issues, certain service sector industries (low-wage sector) facing labor shortage in the long term and minimum wage worker not necessarily member of poor household, thus the minimum wage not effectively resolve.

The minimum wage literature in developing countries contains limited evidence in the last decade, as noted by Harmesh (2002), Harisson and Leamer (1997) and Gidling and Terrell (2004) among others. Study on minimum wage among economists is emergent to present new empirical evidence. In developing countries a large proportion of workers is outside the umbrella of minimum wage legislation, Lemos(2006). Thus, it becomes interesting research to explore the results. The result of study in Vietnam shows adversely impact of minimum wage on employment, wages and welfare ( Del Carprio et al.2013). The study finds that minimum wage rises reduce the total number of wage workers especially in domestic firm and increase of self-employment. The number of wage workers declines because many workers with informal contracts lose their jobs. The profile of workers who earn below the minimum wages find that they tend to be young, relatively uneducated and of ethnic minorities.

Consequently, Leckcivilize (2015) objectively to assess the role of minimum wage policy in narrowing the wage gap of low-paid. However, the result suggests that the minimum wage does not significantly affect overall wage distribution and the minimum wage also does not help compressing the lower part of wage distribution towards the median. As for policy implication, the weak law enforcement seems to partly sustain sub-minimum pay among small firms in the covered sector causing the ineffective minimum wage policy observed.

The study in Indonesia wage is in differ scope with the impact of change in minimum wage on hours worked of paid employment, a category of employment legally covered by the minimum wage policy in Indonesia, using the Indonesian Labor force Survey Sakernas from 1996-2003. As in Indonesia, the official standard working hours for workers, based on government regulations, are 40 hours per week which slightly lower than other developing countries etc. 44 hours per week in South Korea, Chile and Mexico are 48 hours per week while it is the same with Malaysia. Generally, the study found that an increase in minimum wage is positively related with the hours worked across gender and residences. Compared to male workers, the effects of the minimum wage on hours worked are much stronger for female workers. This evidence supports the previous finding that female workers are more likely to be affected by minimum wage. The reason is the fact that female workers particularly in urban area are employed in industries with low-wage workers such as manufacturing.

Other than effect on employment, common observations by many studies have concluded that FDI inflows cause growth within the given country, in which it may be transferred through economic

changes in human capital, skills, employment, export trade, and import trade. FDI flows can also have transfers through institutional changes, market integration, innovations of technology transfer, and spatial agglomerations. (Fuangfoo, 2016). Yusoff et al. (2019) study about the impact of regulation labour market, and their findings indicated that labour market regulation is one of the important factors that promote FDI-growth relationship. This has been supported in the other study by Nordin et al, (2019) that they examine the role of labour market flexibility as an absorptive capacity. The finding shows that countries with very high level of labor market flexibility will play an important role in moderating the impact of FDI on economic growth.

Looking into the research from developing countries, a study of Fuangfoo, 2016, take into account the indicator of FDI for the impact of minimum wages in Thailand. The result from the study found that minimum wage and inflation positively affect FDI inflows

In conclusion, most of study which related to developed countries found a negative effect or no effects on their economic growth by introduction of minimum wage. Majchrowska et al. (2012) make some general conclusions from the large body of empirical studies on employment effect of minimum wage. First, the majority of authors find adverse impact of the minimum wage legislation. E. g. according to Neumark and Wascher (2007) two thirds of 102 studies surveyed resulted in negative employment effect and only eight studies found positive. Second, If significant impact of minimum wage on employment was found, then respective elasticities were dispersed along wide range of estimates (-0.1 to -0.3 range) as suggested by Neumark and Washer (2007), following Brown et al. (1982) survey study. Third, the adverse labour market effects of minimum wage legislation concentrate in particular segments, mostly low-skilled and young workers.

### 3.0 Research methodology

To examine the impact of minimum wage towards the development of Malaysia economy, this study follows frameworks in literatures by Hansen et al. (2014), Studenmund (2006), Heij and de Boer (2004) and Jacoby (2005). Ordinary least square estimation method used to estimate the regression analysis.

For a given data set of  $n$  observations:

$$\{y_i, x_{i1}, \dots, x_{ik}\}_{i=1}^n \quad (1)$$

The linear regression model takes the following form:

$$y_i = \sum_{j=1}^k x_{ij}\beta_j + e_i \quad i = 1, \dots, n \quad (2)$$

The above model, describe the assumed linear relationship between  $y_i$  is dependent variable or response variable and  $x_{i1}, \dots, x_{ik}$  are independent variables or covariates. In order to estimate  $\hat{\beta}_1 \dots \hat{\beta}_k$  corresponding to the parameters  $\beta_1, \dots \beta_k$  are obtained by the ordinary least

square method. In most cases there is an affine relationship between  $x$  and  $y$  (with one of covariates is a constant). By letting the first  $x_i$  be  $x_0 = 1$  the intercept  $\beta_0$  will determine the size of this constant. Equation (1) can be written as follow:

$$Y = X\beta + e \quad (3)$$

### Model specification

The best linear estimation for regression analysis is Ordinary Least Square (OLS). In order to answer the objectives of the study, the following model are developed:

$$EMPLY_t = \alpha_t + \beta_1 MW_t + \beta_2 LFP_t + \beta_3 UN_t + \beta_4 INF_t + \beta_5 SCEN_t + \epsilon_t \quad (4)$$

where  $EMPLY$  is employment to population ratio based on 15+ that modeled ILO estimate,  $MW$  is minimum wage,  $LFP$  is labour force participation rate,  $UN$  is unemployment,  $INF$  is inflation rate,  $\epsilon_t$  is the usual error term and  $t$  is time index. Implementation of minimum wage in Malaysia is enforced in 2013 with RM900 and in 2018, government decided to increase by RM1100. Thus the existence data for minimum wage only 5 years. However, based on the OLS properties to be estimated at least there are 25 data observations of each variables. Thus, this study used an indicator variable for minimum wage. Starting 2013, the value of minimum wage is 1 and before 2013 minimum wage is denoted as 0.

$$Minimum\ wage = \begin{cases} 1 & \text{year implementation minimum wage} \\ 0 & \text{year before implementation minimum wage} \end{cases} \quad (5)$$

### Data Descriptions

The data set consists of observations for Malaysia over the 1980 - 2017 periods. The dependent variable is employment. Employment defined by percentage employment to population ratio for the workers age 15 years and above that modeled by International Labour Organization (ILO) estimate, Unemployment refers to the share of the labor force that is without work but available for and seeking employment. Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period. Inflation was measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency. Finally minimum wages, the value are 0 and 1 with year implemented a minimum wage regulation denoted as 1 and 0 as year before implemented of minimum wage. Table 1 provides a summary of all data.

**Table 1: Summary of Data**

Variable	Measurement	Source of data
----------	-------------	----------------

Employment	Employment to population ratio 15+ (%) (modeled ILO estimate)	World Development Indicator (WDI)
Minimum Wage	Implementation of minimum wage	Minimum Wage Order 2012
Unemployment	Labor force that is without work but available for and seeking employment	WDI
Labor force based on economic sectors	Total labour force in selected economic sector	Department of Statistics Malaysia (DOSM)
School enrollment	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.	WDI
Inflation	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency.	WDI

#### 4.0 Results and Discussion

This section discusses estimation results which examine the impact of minimum wage on employment in Malaysia. The analysis based on 1980-2017 periods. The results are presented in the following tables. As a start, table 2 and table 3 provide summary statistics and correlation analysis, respectively. The result shows that the mean value for employment is 1.7973 with a standard deviation of 0.0103. The maximum employment was recorded by 1.7821. Meanwhile, the mean value for labour force participation rate 1.8121 with a standard deviation of 0.0162. The mean of minimum wage is 0.1315 with a standard deviation of 0.3425, and it ranges from 0.0000 (year that not implemented minimum wage) to 1.0000 (year that implemented minimum wage). Meanwhile, the mean value of school enrollment is 1.0252 with the value of standard deviation 0.0188. In the case of unemployment, the mean and standard deviation are 0.5755 and 0.1264, respectively. It ranges from 0.3891 (in 1997) to 0.9185 (in 1986). Lastly, inflation indicator shows a mean value of 0.6219 and a standard deviation of 0.2755. The value ranges from 0.00002 (in 2012) to 1.3394 (in 1999).

#### Table 2: Descriptive Statistics

	Mean	Standard Deviation	Maximum	Minimum
EM	1.7973	0.0103	1.8180	1.7821
LFPR	1.8121	0.0162	1.8321	1.7403
INF	0.6219	0.2755	1.3394	0.00002
SCEN	1.0252	0.0188	1.0552	0.9789
MW	0.1315	0.3425	1.000	0.0000
UN	0.5755	0.1264	0.9185	0.3891

Note: EM is total employment rate; LFPR is labour force participation rate; MW is minimum wage; SCEN is school enrollment; UN is unemployment rate; INF is inflation rate.

Table 3 provides the results of correlation analysis for all variables used in this analysis. Three variables indicate positive correlations with employment which are labour force participation rate, school enrollment and minimum wage. The other two variables (i.e. inflation and unemployment) indicate negative correlations with employment.

**Table 3: Correlation matrix**

	EM	LFPR	INF	SCEN	MW	UN
EM	1					
LFPR	0.4946	1				
INF	-0.5388	-0.2688	1			
SCEN	0.2029	0.0881	0.0409	1		
MW	0.7319	0.44794	-0.3797	0.2016	1	
UN	-0.2987	0.1426	0.18184	-0.4878	-0.2132	1

Note: EM is total employment rate; LFPR is labour force participation rate; MW is minimum wage; SCEN is school enrollment; UN is unemployment rate; INF is inflation rate.

### Linear and Interaction Specification

The first step of our analysis is to estimate a minimum wage as indicator variable as shown in equation (7). Results are reported in table 4. Based on reported results, the constant term 1.7944 is the mean of years that before minimum wage were implemented. The coefficient of for year of implementation minimum wage is 0.0220 and significant at 1 percent significant level. There is sufficient evidence to conclude that there is a statistically significant difference in the mean employment and minimum wage (before and after implementation). This indicated that, minimum wage is important indicators to influence the total employment rate. Thus there is significant using indicator (0,1) represent minimum wage to answer the objectives of this study.

**Table 4: Estimation of minimum wage as indicator variable in model**

	Coefficient	Standard error	t-statistics
MW	0.0220***	0.0034	6.4447
Constant	1.7944***	0.0012	1.4430
R squared	0.5356		
p-value	0.0000		
F-statistics	41.5349		
S.E of regression	0.0071		
Akaike info criterion	-6.9939		
Number of observation	38		

Note: The dependent variable is employment and the dependent variables are LFPR is labour force participation rate; MW is minimum wage; SCEN is school enrollment; UN is unemployment rate; INF is inflation rate.

Table 5 reported the results for estimated model with minimum wage, labour force participation rate, school enrollment and unemployment as an independent variables and employment as dependent variable. Based on the reported results, labour force participation indicates positive and significant influence on employment in Malaysia. However, inflation rate indicate negative and insignificant influence on employment in Malaysia that indicated inflation rate does not influence the number of total employment in Malaysia. Estimation results of school enrollment also show negative coefficient and does not significant at any significant level. The result indicated that the level of education did not influence employment rate in Malaysia. Unemployment also indicates negative sign and significant at 10 percent significant level, however negative sign here is consistent with the empirical literature. This indicated that, there are negative relationship between unemployment and employment. When unemployment reduces, total employment will be increase. The main focused from this analyze is minimum wage. Table 5 shows that minimum wage is positive and significant influence employment in Malaysia. An implementation of minimum wage will increase the employment rate Malaysia and reduce the number of unemployed in Malaysia. This finding is consistence with Addison and Ozturk (2011) that minimum wage increases are more associated with (reduced) participation rates than with elevated joblessness and Bazen (2005) that indicated that increase in the minimum wage hiked the rate of employment.

**Table 5: Linear estimation model**

	Coefficient	Standard error	t-statistics
LFPR	0.1776**	0.0817	2.1726
INF	-9.5E-05	0.0003	-0.2979
SCEN	-0.0302	0.0701	-0.3404
MW	0.0167***	0.0039	4.2189
UN	-0.0019*	0.0010	-1.8574
Constant	1.5119***	0.1546	9.7778
R squared	0.6157		
p-value	0.0000		

F-statistics	10.2546
S.E of regression	0.0068
Number of observation	38

Note: The dependent variable is employment and the dependent variables are LFPR is labour force participation rate; MW is minimum wage; SCEN is school enrollment; UN is unemployment rate; INF is inflation rate.

Based on the above discussion, the result of this study indicates that minimum wage is one of the indicators that encourage the employment. However these results are contrast with the empirical study (i.e Fang and Lin (2013), Ximena et al. (2013) and Kabeya et al. (2015)). Ximena et al. (2013) stated that as a minimum wage rise, minimum wage rises reduce the number of wage workers and increase self-employment. The number of wage workers declines because many workers with informal contracts lose their jobs, but only a fraction of them is absorbed by the creation of formal jobs (i.e. those with formal contracts) or self-employment and Kabeya et al. (2015) also stated negative effect of minimum wage towards employment. Thus, the finding of this study indicate the new contribution to the empirical study that minimum wage is significant influence employment in Malaysia.

## 5.0 Conclusion

Economic growth and productivity improvement are among the most important issue in the field of economics. This issue has been examined extensively using many different methodologies. Over the years, economists have been looking into factors that influence growth and inquire on policies which are required for the nations to maintain and promote sustained output growth. The literature on this issue is filled with many controversies in both theoretical and empirical due to several studies revealed that there are more than sixty different variables which are able to improve our understanding of variations in long-term growth performance across countries (Durlauf et al., 2005; Sala-i-Martin, 1997). Among these factors, minimum wage appeared to be important for output growth and productivity improvement (i.e increase the employment rate).

The theory suggests that minimum wage bring tremendous benefit for many countries. However, empirical evidence suggests that not all countries have benefited from the minimum wage law. In fact that, the literature reveals that the effect of minimum wage on employment is ambiguous (Wang et al. 2018; David et al. 2016, Kabeya et al 2015 and Fang and Lin 2013), minimum wage appears to exert positive effect on employment (Bazen, 2007) but in some other cases, there were no impacts (Card and Krueger, 1994) or even negative impact (Bukhauser et al. 2000). Departing from this argument, this study has conducted empirical analyses regarding the issues on Malaysia. Specifically, issue addressed in this study is the effect of minimum wage on employment in Malaysia. The findings of this study shed new light on these important issues.

This study takes a step further by examining the effect of minimum wage on employment in Malaysia. Linear estimation model was employed to data collected for the 1980-2017 period. The

main finding indicates that minimum wage is among the important variable that influence the total employment rate in Malaysia. Specifically, it shows that when government start implement minimum wage in 2013, it encourage more people to enter the labour market. This finding is consistent with the growing view that with a minimum wage, people feel more secure to enter the labour market.

## 6.0 References

- Abe, Y. (2011). Minimum wages and employment in Japan. *Minimum Wage in Japan*, 8(2), 42.
- Addison, J. T., & Ozturk, O. D. (2011). *Minimum Wages, Labor Market Institutions, and Female Employment* (No. 278). Institute for Advanced Studies.
- Bazen, S. (2007). Do Minimum Wages Have a Negative Impact on Employment in the United States?. *Économie publique/Public economics*, (17).
- Bazen, S. (2007). Do Minimum Wages Have a Negative Impact on Employment in the United States?. *Économie publique/Public economics*, (17).
- Bazen, S., Lucifora, C., & Salverda, W. (Eds.). (2005). *Job quality and employer behaviour*. Springer.
- Belman, D., & Wolfson, P. (2016). What does the minimum wage do in developing countries?: A review of studies and methodologies (No. 994893283402676). International Labour Organization.
- Brown, C. Gilroy, C. and Kohen, A. (1982). The effect of the minimum wage on employment and unemployment: a survey. *Journal of Economic Literature*, 20 (2),487-528.
- Burkhauser, Richard, Kenneth Couch and David Wittenberg. 2000. "A Reassessment of the New Economics of the Minimum Wage Literature with Monthly Data from the Current Population Survey." *Journal of Labor Economics*, Vol. 18, No. 4.
- Card, D., & Krueger, A. (1990). Does school quality matter? Returns to education and the characteristics of public schools in the United States (No. w3358). National Bureau of Economic Research.
- Card, D., & Krueger, A. B. (1995). Time-series minimum-wage studies: a meta-analysis. *The American Economic Review*, 85(2), 238-243.
- Card, D., Krueger, A.B. (1994), Minimum wages and employment: A case study of the fast food industry in New Jersey and Pennsylvania. *American Economic Review*, 84(4), 772-793.

- Cuong, N. V. (2011). Do minimum wage increases cause inflation? Evidence from Vietnam. *ASEAN Economic Bulletin*, 337-359.
- David, H., Manning, A., & Smith, C. L. (2016). The contribution of the minimum wage to US wage inequality over three decades: a reassessment. *American Economic Journal: Applied Economics*, 8(1), 58-99.
- Del Carpio, X., Nguyen, C., Nguyen, H., & Wang, C. (2013). The Impact of Minimum Wages on Employment, Wages and Welfare: The Case of Vietnam.
- Durlauf, S. N., Johnson, P. A., & Temple, J. R. (2005). Growth econometrics. *Handbook of economic growth*, 1, 555-677.
- Fang, T., & Lin, C. (2015). Minimum wages and employment in China. *IZA Journal of Labor Policy*, 4(1), 22.
- Fuangfoo, A. M. (2016). Thailand ' s Minimum Wage Increase of 2013 : Impacts on Foreign Direct Investment. (May), 1–19.
- Gindling TH, Terrell K. (2010). —Minimum Wages, Globalization and Poverty in Honduras. *World Development*; 38(6); 908-918
- Hansen, H., Rand, J., & Torm, N. (2014). The Impact of Minimum Wage Adjustments on Vietnamese Workers' Hourly Wages. In 4th Regulating for Decent Work Conference, 8–10th July 2015.
- Harrison, A., & Leamer, E. (1997). Labor markets in developing countries: An agenda for research. *Journal of Labor Economics*, 15(S3), S1-S9.
- Heij, C., Heij, C., de Boer, P., Franses, P. H., Kloek, T., & van Dijk, H. K. (2004). *Econometric methods with applications in business and economics*. Oxford University Press.
- Kabeya, P. K., Opio, S., Lufuke, Mosses (2015). The Effect of Minimum Wage on Employment and Working Hours in the Western Europe: A Case of the UK, France and Netherland. *British Journal of Economics, Finance and Management Sciences*, January, 2015, Vol 10(1)
- Leckcivilize, A. (2015). Does the minimum wage reduce wage inequality? Evidence from Thailand. *IZA Journal of Labor & Development*, 4(1), 21.
- Lemos, S. (2006). Anticipated effects of the minimum wage on prices. *Applied Economics*, 38(3), 325-337.
- Mahyut, S. M. (2013), 'Minimum Wage in Malaysia: The Challenge On The Implementation Of The Law', *International Journal of Business, Economics and Law*, Vol. 3(3).

- Majchrowska, A. & Zolkiewski Z. (2012) The impact of minimum wage on employment in Poland, *Investigaciones Regionales*, 24
- Neumark, D., & Wascher, W. (2000). Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania: Comment. *American Economic Review*, 90(5), 1362-1396.
- Neumark, D., & Wascher, W. L. (2007). Minimum wages and employment. *Foundations and Trends® in Microeconomics*, 3(1-2), 1-182.
- Nordin N. N , Nordin.N. H, Mawar M.Y 3 Zainudin . N (2019) . Growth effect of foreign direct investment: The role of labor market flexibility. *Economic Journal of Emerging Markets*, 11(1)
- Saari, M. Y., Rahman, M. A. A., Hassan, A., & Habibullah, M. S. (2016). Estimating the impact of minimum wages on poverty across ethnic groups in Malaysia. *Economic Modelling*, 54, 490-502.
- Sala-i-Martin, X. X. (1997). I just ran four million regressions (No. w6252). National Bureau of Economic Research.
- Stewart, M. B. (2004). The Employmen Effects of the National Minimum Wage, *The Economic Journal*, 114, 110-116.
- Studenmund, A., & Cassidy, H. J. (2006). *Econometrics: A practical guide*. Reading: Addison-Wesley.
- Wang, W., Phillips, P. C., & Su, L. (2018). The heterogeneous effects of the minimum wage on employment across states.. *Journal of Econometrics*, Vol 206(2).
- Wang, W., Phillips, P. C., & Su, L. (2019). The heterogeneous effects of the minimum wage on employment across states. *Economics Letters*, 174, 179-185.
- Yusoff N. M , Nordin N. N , Nordin.N. H (2019). Foreign Direct Investment, Economic Growth and Labour Market Regulation: Empirical Evidence from Malaysia. *Journal of Management & Muamalah*, 9(1).