

Reducing Poverty through the Implementation of Minimum Wage

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Article Info

Volume 83

Page Number: 3788 - 3801

Publication Issue:

March - April 2020

Abstract:

In this study, the effects of minimum wage and minimum wage laws on poverty are examined by looking at cross-country evidence. This study performs a Pooled Ordinary Least Square (POLS) regression analysis of the data for the 2001 – 2007 period. The estimation results show that there is insufficient evidence to support the hypothesis that a country with minimum wage rate policy enjoys a significant reduction in poverty rates. However, the results suggest that a higher minimum wage rate reduces the poverty rate of involved countries. The policy implication arises from the results is that the mere presence of minimum wage policy does not have any bearing on poverty. Necessarily, the level of minimum wage rate must be high enough to affect reducing poverty.

Keywords: Poverty, Minimum wage, Cross-section, Pooled Ordinary Least Square

Article History

Article Received: 24 July 2019

Revised: 12 September 2019

Accepted: 15 February 2020

Publication: 23 March 2020

I INTRODUCTION

The wage level in the labour market is determined by the forces of demand and supply of labour. Changes in demand for and supply of labour cause a change in the equilibrium level of wage. At the equilibrium wage level, both employees and employers are assumed to satisfy the market of labour. However, employers sometimes have dominant power to set the wage rate to maximize their profit resulting in uncompetitive wage levels. Since the employee is considered to be treated unfairly in this situation, the minimum wage is needed to ensure that employees are paid according to their contribution. By definition, a minimum wage is the lowest hourly, daily or monthly rate that employers may legally pay to workers. Equivalently, it is the lowest wage rate at which workers may sell their labour. Setting a minimum wage is normally done by the government using a

specific minimum wage policy. In principle, the policy will provide an appropriate level of wage to ensure that both employer and employee benefits. The standard economists argue that a higher minimum wage is problematic because it increases unemployment especially for less-skilled workers (Jones, 1987; Brown, 1988; Kaufman, 1989; Cahuc & Michel, 1996). This means that some of the employees will be worst-off.

Meanwhile, poverty is one of the persistent social problems that exist everywhere. It is recognized as a major problem in developing countries. Using the social and psychological status aspect of poverty, Smith (1776) defined poverty as the inability to purchase necessities required by nature or custom. From the perspective of contemporary economists, Townsend (1979) defined poverty as the lack of the resources necessary to permit participation in the activities, customs, and diets commonly

approved by society. Ravallion and Chen (2008) defined poverty based on the contemporary institution perspective. A person is classified as poor if his consumption or income level is below some minimum level necessary to meet basic needs. Likewise, Joseph Rowntree Foundation (2013) argued that poverty exists because of personal resources are not sufficient to meet minimum needs.

Economists have different views concerning the causes of poverty among individuals. Classical economists argue that individual themselves is mainly responsible for poverty. However, Neoclassical economists contend the problem exists beyond individuals' control, notably caused by market failures. Keynesian economists opine that poverty is considered as involuntary and mainly caused by unemployment. Even though economists have different views on the causes of poverty, they agree on one thing that this problem needs to be solved. Even if the government has a limited role in the labour market, one of the practical tools that can be used to tackle poverty is through minimum wage. Many countries have implemented the minimum wage policy as one of the ways to solve the poverty problem. The minimum wage has been considered as an important element of public policy in reducing poverty by economists. Increasing the minimum wage is generally regarded by the policy makers of many countries as feasible options to decrease poverty and assure with reasonable incomes for low-skilled workers (Gramlich, 1976; Freeman, 1996; Kuttner, 1997). For instance, Freeman (1996) emphasized that the goal of minimum wages legislation is to redistribute earnings to low-skilled workers, thus helping themselves to set free from the poverty. In other words, increasing the minimum wages is supposed to elevate incomes for millions of low-wage workers, thereby leading to the poverty reduction.

Thus far, there is no consensus in the existing

literature from developed countries on whether the minimum wage policies have contributed to lowering poverty in respective countries. However, some relevant questions including its role as a poverty-reduction mechanism need to be asked before implementing the minimum wage policy in a country. As such, examples of question are how does a change in the minimum wage affect the economic well-being? Can minimum wage reduce poverty?

This paper mainly focuses on the empirical observations of how the governments' intervention through the minimum wage policies have effects on the poverty rates across the countries. Although minimum wage exists in many jurisdictions, differences of opinion exist about the benefits and drawbacks of a minimum wage. Typically, minimum wage policies are evaluated in terms of their effects on unemployment in general and specific labour market models (Harris & Todaro, 1970; Gramlich, 1976; Mincer, 1976;

Fields, 1997; Ehrenberg & Smith, 2003) and in empirical studies (Card & Krueger, 1995, 2000; Neumark & Wascher, 2000). By looking at the available literature, it seems that the issue has been relatively ignored compare to other labour issues. Thus, the objective of this paper is to analyse the effects of minimum wage policies on poverty rates across the countries. This will provide new insights into the effective implementation of minimum wage policy as a tool for reducing poverty in a country.

This paper is organized as follows. Section 2 reviews the relevant literature on the effects of minimum wage policies on poverty. Section 3 describes the methodology employed in studying the effect of minimum wage on poverty. Section 4 discusses the empirical results and the final section wrap ups with policy implication and concluding remarks.

II LITERATURE REVIEW

Theoretically, the wage is the cost of hiring a worker. It is the price paid for a type of productive services, labour, purchase in one of the factor markets. In production, the wage is considered as a part of variable cost. Wage is considered as one of the main determinants of the ultimate change in the production costs of firms. The market wage is determined by various mechanisms. One of them is the wage bargaining process between firms and workers. Since wage is freely determined, this mechanism is applied in the private sector. In this process, firms will adjust their wage and employment to their profit-maximizing level. The wage level varies across industries. Different industries offer different wage levels due to variation in wage setting and its determinants. Garbarino (1950) outlined several wage determinants such as a change in industries price, productivity, output, labour costs to total outlays, competitive conditions in the product market, skill and occupational content, and profit policies. According to Diamond (1982), a wage is set at the level that makes the worker indifferent between taking this job and waiting for his next job opportunity. Similarly, the wage level makes the firm indifferent between hiring this worker and waiting for the next available worker. However, the minimum wage has been implemented by some countries to ensure workers receive a fair amount of salary according to their skill and effort. This policy is considered as government intervention in the labour market. In this respect, the minimum wage is normally pre-determined before a new worker is hired. In the free market, however, the government is given a limited role in determining the level of wage.

Meanwhile, poverty is one of the fundamental macroeconomic economic issues. Poverty is caused by insufficient incomes yielded by low-skilled workers. Incomes received by these workers depend on the wage level determined by

the labour market. High wages mean that more incomes to be yielded by workers. Normally, poverty is a social problem faced by low-wage or low-skilled workers. A low-wage worker is termed as one's earning that is less than half of an average private employee's wage (Burkahuser&Finegan, 1989). They stressed that the poverty problems among expanding sizes of family headed by low-wage workers is more acute than those of larger families headed by non-low wage workers.

From a theoretical perspective, the effect of minimum wage on poverty is not obvious. The implementation of minimum wage policy can result in not only increasing the incomes of low-wage workers but also it may contribute to reducing employment. Overall, the opposing effects can either decrease or increase the level of poverty (Kapelyuk, 2015). Thus far, related studies via empirical observations are relatively scarce especially in developing countries. In contrast, there is a much slimmer body of research that has been devoted to developed countries. To date, there are very limited studies that have verified the prevailing relationship exists between minimum wage and poverty. This relationship has been relatively less studied compared to the relationship or effect of minimum wage rate on employment. Yet, it is strongly argued that a federal minimum wage in many countries is necessary to prevent in-work poverty. Equivalently, the supposed effect of wage level on poverty can be specifically applied to explain the effect of minimum wage on poverty. In theory, the relationship between wage and poverty is straightforward since wage is a key determinant for the wealth of a worker. The total income yielded by a worker, thus leading to a conclusion that wealth does depend on the level of wage. For instance, Diamond (1982) expressed the wealth of an employed worker in terms of wage. A worker who receives a higher wage will yield higher income. In short, wage has a positive effect on

poverty.

Some studies found evidences that a hike in minimum wage can reduce poverty. With the use of data from a cross-section of countries, Saget (2001) unveiled that the interplay of the poverty level and the minimum wage level is negative and statistically significant. In a similar vein, Card and Krueger (1995) found some evidence of reductions in poverty as a result of the increment of minimum wage in the case of the United States. Likewise, Morley (1995) disclosed similar evidence that poverty falls with the rise in the minimum wage for Latin America. Also, McLeod and Lustig (1996), who utilized the cross-country data for less developing countries, unfolded that a higher minimum wage is associated with lower poverty even though the higher minimum wage reduces employment. Additionally, Addison and McKinley (1999), who used a state-level panel data over the 1983 – 1996 period, found that the minimum wage shows a significant effect on poverty reduction among the teenagers and junior high school dropouts.

Several studies have analysed the effect of minimum wage on poverty in developing countries. For example, Morely (1995), who employed the data from the Latin American countries, revealed that poverty level decreases with a rise in the minimum wage. In a similar manner, Lustig and McLeod (1996), who used the data from the Latin America and Asian countries, discovered that higher minimum wages contribute to lowering the poverty levels in both regions. Apart from that, Neumark and Wascher (2002), who used a matched sample of individuals from the United States' Current Population Survey, revealed that the minimum wage in the state-level leads to increasing the probability of non-poor families to enter into the poverty due to decreased employment and hours worked. Also, they found that little evidence on a rise in minimum wage contributes to increasing the poverty reduction.

Meanwhile, past authors such as Neumark and Wascher (2000) and Adams and Neumark (2005) found the opposing findings of associated studies. Also, Freeman (1996) enlightened a broad review of evidence on the distributional consequences and conflicting tendencies. Primarily, the goal among many proponents of increased minimum wage is to offer with a "living wage" alongside an option to "make work pay." Despite that, increasing the minimum wage has been opposed by many economists due to embedded detrimental impacts such as losses in employment and reduced general training. More importantly, arguments on losses in employment and other types of loss should be focused among low-skilled workers especially among teenagers and minorities and the low-wage workers (Brown, Gilroy & Kohen; 1982). By and large, there have been more desirable conclusions from associated studies in recent years. For example, Card (1992) and Card and Krueger (1995) found little support on the 1990 – 1991's increased federal minimum wage reduced employment in the United States. Among others, these studies are important as an increase in minimum wage leads to reducing the poverty rates to some extent since few negative employment consequences may take place to potentially raise the minimum wage.

On the contrary, Burkhauser, Couch, and Wittenburg (1996) unveiled that only 19 percent of the increased earnings from the 1990-9191's increased federal minimum wage channelled to the poor or low-income families. One problem is the studies found that the minimum wage has little influence on poverty rates. Generally, these studies assume a base elasticity of employment against minimum wage that can mainly control the likelihood of produced results. In many cases, ripple effects were discarded when a hike in minimum wage induces firms to increase additional wages for the new minimum wage and above income workers due to the reservation on current wage distributions (Card & Krueger,

1995). Such ripple effects can potentially result in reducing the poverty rates. Also, there exist other factors such as firm non-compliance and reallocations between full- and part-time professions that are typically disregarded. Card and Krueger (1995), who used the dataset of 50 states in the United States over the 1989 – 1991 period, studied on the effect of minimum wages on poverty rates via using the differences method. They unveiled that the implementation of minimum wage has a significant but slight effect on the poverty reduction. Also, Gindling and Terrell (2007), who employed an industry-level data over the 2001 – 2004 period in Honduras, unfolded that a hike in minimum wage contributes to the poverty reduction domestically. However, they highlighted that their limitations are stemmed from the shorter duration of used data in their works and the misinterpretation of high-tech industry workers to represent low-wage workers that ended up with biased effects.

Horrigan and Mincy (1993), Even and Macpherson (1996) and the World Bank (2006) found and subsequently argued that the minimum wage policies have no significant effect on poverty rates. Ideally, the policy objectives of

minimum wage are to improve and sustain the welfare of low-income families as well as to reduce poverty. However, the differing results by some authors may provide little guidance to the policy makers of respective countries. Given no consensus on the exact relationship between minimum wage and poverty, this study significantly contributes to the literature by examining the effects of minimum wage and minimum wage policies on poverty rates via looking at cross-country evidence.

III METHODOLOGY

Minimum Wage and Poverty Regression Model

According to previous research, it is necessarily true that an increase in minimum wage leads to the poverty reduction. This means that any increment in wage will cause income to increase, thereby reducing the poverty level. Therefore, a higher wage rate should be implemented to decrease the poverty level. Following the basic poverty-growth model by Ravallion (1995) and with the addition of minimum wage variable and other control variables, the poverty equation is represented by Equation (1).

$$POV_{jt} = \alpha_0 + \alpha_1 MW_{jt} + \alpha_2 GDP_{jt} + \alpha_3 FDI_{jt} + \alpha_4 TRADE_{jt} + \alpha_5 GOV_{jt} + \alpha_6 INF_{jt} + \epsilon_{jt} \quad (1)$$

where

POV_j	=	poverty rate of country j
MW_j	=	dummy variable for the country with minimum wage policy (1 if the country with minimum wage, 0 if otherwise)
GDP_j	=	growth rate of GDP for country j
FDI_j	=	The foreign direct investment-to- GDP ratio for country j
$TRADE_j$	=	the trade-to- GDP ratio for country j
GOV_j	=	The government spending-to- GDP ratio for country j
INF_j	=	inflation rate for country j
α_i	=	coefficients ($i = 1, 2, \dots, 6$)
ϵ_j	=	error term for country j

The index j (1, 2, ..., N) denotes that the country and the index t (1, 2, ..., T) indicates the period.

Poverty (POV) in Equation (1) refers to the poverty rate of a country. The poverty rate is measured by dividing the total number of people who are living on less than the national poverty line and the total population. Although there have been some controversies regarding certain issues in the measurement of poverty, this measure has also been used by many previous studies such as Fields (1989).

The minimum wage (MW) variable is the dummy variable i.e. taking either the value of one if the country has minimum wage policy or zero if it is otherwise. The implementation of minimum wage rate is foreseen to reduce the poverty rates of the countries with minimum wage policy and if this is true, α_1 is expected to yield a negative value. Theoretically, the implementation of minimum wage policy will raise the income levels of the poor group, thus reducing the rate of poverty in a country. Cantillon *et al.* (2003) included minimum wage as one of the main determinants that affects poverty in their analysis.

Poverty is a consequence from the complex economic development and multi-level social processes. Economic development is an important factor that influences the poverty level of a country. Most studies argued that poverty tends to decrease with economic development. For instance, Fields (1989) and Caminada, Goudswaard, and Koster (2011) supported the relationship between poverty and GDP . Normally, economic development is measured by economic growth that indicates the economic achievement of a country. This study uses the growth rate of GDP to measure economic development. Generally, rich economies have a high growth rate of GDP and the nations are expected to have a low poverty rate.

Other variables used as control variables are the

foreign direct investment-to-GDP ratio (FDI), the trade-to-GDP ratio ($TRADE$), the government spending-to-GDP ratio (GOV) and inflation rate (INF) are included to act as a control on the understudied effect of minimum wage on poverty. Variables FDI and $TRADE$ are included as a proxy for globalization. Winter (2004) found that trade liberalization reduces poverty over the long term while Carneiro and Arbache (2003) did not find a significant effect of openness to trade on poverty. Thus, it is expected that a high volume of FDI and $TRADE$ can significantly contribute to reducing the poverty rate of a country.

Furthermore, GOV is also included in the model to consider the role of government in reducing poverty. It is important as government spending can be used for reducing poverty. Some previous studies identified a negative relationship exists between government expenditures and poverty, especially in some developing countries. It means that a higher GOV implies a lower poverty rate. For example, studies such as MacDonald and Majeed (2010) show that the role of government spending plays a significant role in reducing poverty.

Finally, INF is included in the estimation models as it leads to a general increase in the price level in the economy, thereby reducing the real wages and real incomes as highlighted by studies such as Tanzi (1977) and Cardoso (1992). For instance, Chani, *et al.* (2011) and Alem and Söderbom (2012), who utilized a panel dataset on the impact of food inflation in Ethiopia, revealed that the poor is among the hardest-hit groups being inflicted by the recent inflation. Similarly, Fujii (2013) showed the evidence that some of low-income households from the agriculture sector may have escaped from poverty, but the poorest group of all are severely and adversely affected by the food inflation. Therefore, high inflation appears to increase the poverty rate in a country.

Further, to determine the impact of minimum wage rate on poverty, Equation (1) is modified by substituting the dummy for minimum wage policy with the actual minimum wage rate from respective countries via using Equation (2).

$$POV_{jt} = \beta_0 + \beta_1 MWR_{jt} + \beta_2 GDP_{jt} + \beta_3 FDI_{jt} + \beta_4 TRADE_{jt} + \beta_5 GOV_{jt} + \beta_6 INF_{jt} + \varepsilon_{jt}, \quad j = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (2)$$

where *MWR* represents the actual minimum wage rate in USD for the country with minimum wage policy and β_i are coefficients where $i = 1, 2, \dots, 6$. In this case, β_i will yield a negative result if higher wage rates help to increase the income level of the poor. However, a positive impact may be expected if there is unsuccessful implementation of minimum wage policy. Hence, the economic theory predicts that the implementation of minimum wage would potentially result in unemployment among low-skilled workers. It is asserted that the demand for workers will be reduced but the supply may increase instead should the government were to increase the minimum wage to be higher than the equilibrium wage (Stiglitz & Walsh, 2006). As a result, there will be a creation on the excess supply of labour. Given those who are fortunate enough to get a job, they will be advantageous by yielding higher incomes. However, others who are unfortunate enough to secure a job will be involuntarily put in a disadvantaged position at a higher minimum wage. Thus, the implementation of minimum wage does not constitute as a feasible instrument to sustainably help the poor group.

The empirical question related with higher mandated wages remains with the prevailing magnitude on whether the effect of poverty-reducing income is either can be deeper or lesser than the effect of poverty-increasing impact from reduced employment among low-wage workers.

Although the economic theory states that the conclusion is not crystal clear, the proponents of minimum wage law believe that the income effect is more impactful than the effect of unemployment. Surprisingly, the literature about minimum wage which represents a contributor of the poverty effects is modest relative to that of the employment effects. However, many of empirical observations indicate that the effects of minimum wages on poverty rates to vary i.e. spanning from modest negative to modest positive consequences. For example, Neumark and Wascher (2000), on balance, disclosed that minimum wages marginally contribute to increasing the rates of poverty: In fact, a growing number of non-poor families who face a poverty trap is considerably larger than those of poor families who successfully manage to escape a poverty entanglement even though the difference is statistically insignificant. Thus far, the empirical evidences indicate that some families favourably gain whereas the other families miserably lose in the wake of increasing minimum wages. Among others, Addison and McKinley (1999) unfolded that generally weak, statistically insignificant and negative relationships exist between poverty and minimum wage levels. Besides that, Card and Krueger (2000), who rejected the proposition that minimum wages virtually have no employment effects, detected very modest and statistically significant relationships exist between minimum wages and the rates of poverty.

IV DATA AND SAMPLING METHOD

Due to the difficulty of getting a complete data set for an empirical analysis, data for the selected countries over the 2001 – 2007 period were utilized in this study. In specific, data on minimum wage, poverty rate, *GDP*, *TRADE*, *GOV* and *INF* are obtained from the World Development Report of the World Bank. Another data is on *FDI* that is gathered from the Thomson Datastream.

The sample consists of 64 countries for estimating Equation (1). Overall, there are 51 countries with minimum wage and 13 countries with non-minimum wage. Meanwhile, the dataset of 44 countries with minimum wage policy only for estimating Equation (2). The chosen number of samples is based on the availability of information on minimum wage policy and poverty rate.

Estimation Method

Due to the unavailability of data sources, both Equation (1) and Equation (2) are estimated via using a pooled ordinary least square (POLS) regression analysis. According to Moulton (1986), the standard ordinary least squares (OLS) regression will yield incorrect standard errors. Since the standard errors are corrected for clustering in the pooled models, POLS is suitable for evaluating the impact of minimum wage policy on poverty. Under the POLS method, the data for different countries are pooled together with no provision of individual differences that may lead to resulting in different coefficients. The equations are estimated via using the least squares for the standard condition of POLS. In this regard, the method holds the assumptions of the error terms are zero mean ($\varepsilon_{it} = 0$), constant variance or homoscedasticity ($var(\varepsilon_{it} = \sigma_{\varepsilon}^2$)), uncorrelated error ($cov(\varepsilon_{it}, \varepsilon_{js}) = 0$) and error uncorrelated with independent variables.

The inclusion of a heterogeneous country is not allowed for the analysis. Thus, the coefficients in Equation (1) and Equation (2) are assumed to be constant for all countries in all period and have their desirable classical properties, which are required to be consistent and for the t and F statistics to be valid for the hypothesis testing purposes.

Additionally, the specification of Cluster-robust standard errors was applied in the estimation of the equations via using the POLS method. With that, it eliminates the problem caused by the violation of assumptions in the standard condition and unobserved heterogeneity that potentially cause a bias of estimated coefficients. Besides that, it is argued that the POLS with a clustered-robust standard error can solve the presence of common group error terms that may cause a bias of estimated standard errors (Montalvo, 2011). Also, Montalvo (2011) claimed that the POLS estimator leads to producing same results as similar to the fixed-effects estimator with a robust standard error.

Using the POLS with the specification of Cluster-robust standard errors, the assumption of zero error correlation overtime for the same individual and homoscedasticity is relaxed. Then, both assumptions now are represented by $cov(\varepsilon_{it}, \varepsilon_{is}) = \Psi_{ts}$ and $cov(\varepsilon_{it}, \varepsilon_{it}) = var(\varepsilon_{it}) = \Psi_{tt}$, respectively. The symbol of Ψ denotes the variances and covariances. However, the errors for different countries are assumed to be uncorrelated, $cov(\varepsilon_{it}, \varepsilon_{js}) = 0$ for $i \neq j$. The time-series observations on countries are the cluster.

V DISCUSSION OF RESULTS

Table 1 displays the summary of descriptive statistics on used variables in the estimation models. There is a total of 43 observations with the following variables of interest; poverty rate (i.e. dependent variable), minimum wage, unemployment benefits, the *FDI-to-GDP* ratio, money supply, the *trade-to-GDP* ratio, the *government spending-to-GDP* ratio and inflation rate that correspond to each country in the sample.

Table 1 Descriptive Statistics for Poverty Equation Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>POV</i>	43	38.949	17.191	7.600	80.000
<i>MW</i>	43	110.715	148.233	0.002	893.000
<i>GDP</i>	43	21.283	5.569	9.716	40.250
<i>FDI</i>	43	3.339	4.376	-0.610	26.903
<i>TRADE</i>	43	68.554	31.263	21.739	146.354
<i>GOV</i>	43	13.397	4.193	6.641	22.905
<i>INF</i>	43	9.726	14.973	-1.096	79.535

Several notable observations can be deduced from Table 1. One observation is that the broad range in values for maximum and minimum intervals as well as standard deviation of minimum wage. Hence, this suggests that there is no country that differs much from the rest. Another interesting observation is the values of minimum and maximum for all variables as compared to the low standard deviation for the data. Thus, this implies that there is a significant disparity in all variables whereby their maximum values are seen to be greater than two standard deviations from their means of distributions.

Also, the descriptive statistics suggest that the

poverty rates of the countries is about 38.95 percent on average in 2001 with a standard deviation of 17.19 percent. This indicates that a wide dispersion in the poverty rates across the chosen countries. While the minimum wage rates are found to reach as high as USD893.00, the rates registered at about USD110.72 on average in 2001.

Furthermore, the correlation matrix as shown in Table 2 exhibits that the estimation data do not suffer from the multicollinearity problems in which the estimated coefficient of correlation does not exceed 70 percent.

Table 2
Correlation Matrix

Variable	<i>MW</i>	<i>GDP</i>	<i>FDI</i>	<i>TRADE</i>	<i>GOV</i>	<i>INF</i>
<i>MW</i>	1.000					
<i>GDP</i>	0.128	1.000				
<i>FDI</i>	-0.033	0.516***	1.000			
<i>TRADE</i>	-0.023	0.075	0.027	1.000		
<i>GOV</i>	-0.357**	-0.269*	-0.128	0.159	1.000	
<i>INF</i>	0.149	0.012	-0.019	0.333**	-0.049	1.000

Notes: *, ** and *** denote a statistically significant variable at the 10 percent, five percent and one percent significance levels, respectively

Table 3 depicts the estimation results of POLS model. From the POLS model, the estimated coefficient of MW is statistically insignificant at the highest acceptance of 10 percent significance level. Hence, there is insufficient evidence to support the hypothesis that a country with a

minimum wage policy enjoys a significant reduction in the poverty rates. This finding seems consistent with the findings of Carneiro and Arbache (2003), World Bank (2006) and Gindling and Terrell (2007). Also, such finding implies that the mere presence of minimum wage policy itself

does not necessarily significant that contributes to reducing the poverty rates.

Table 3 Estimation Results for Differential Impact of Country with Minimum Wage Policy

Variable	Coefficient	Standard Error	<i>t</i> -statistics	<i>p</i> -value
<i>MW</i>	-1.123	7.563	0.148	0.882
<i>GDP</i>	-1.066	0.499	2.136	0.033**
<i>FDI</i>	1.567	0.660	2.374	0.018**
<i>TRADE</i>	-0.018	0.097	0.186	0.853
<i>GOV</i>	-1.493	0.585	2.552	0.011**
<i>INF</i>	-0.071	0.186	0.382	0.703
<i>CONSTANT</i>	104.662	28.904	3.621	0.000***
R^2	0.280		<i>F</i> -test	2.340**
Adjusted R^2	0.160			

Notes: ** and *** denote a statistically significant variable at the five percent and one percent significance levels, respectively

Apart from that, the estimated coefficients of *GDP* and *GOV* are negative and statistically significant at the five percent significance level. Just like the *GDP* and *GOV* coefficients, the estimated coefficient of *FDI* is positive and statistically significant at the same level of significance. Also, the estimated coefficient of *INF* is negatively related to the poverty rates and statistically insignificant at the highest acceptance of 10 percent significance level.

Due to the insignificant effect of minimum wage on poverty, the dummy variable of minimum wage in Equation (1) was replaced with minimum wage rate (MWR) in the analysis. Thus, the impact of the minimum wage rate on the poverty rates in countries which implemented the minimum wage policies was estimated using Equation (2). Hence, the estimation result of another POLS model is shown in Table 4. Interestingly, the produced results in Table 4 considerably vary as compared to the previous estimation in Table 3. Among others, the coefficient of *MWR* is statistically significant at the 10 percent significance level. This finding

suggests that higher minimum wage rates contributed to reducing the poverty rates of involved countries. Such finding implies that the successful implementation of minimum wage rates leads to increasing the incomes of poor group, thereby reducing the poverty rates across the countries (Gindling, 2014). Besides that, Argawal (2008) also found that an increase in real wages renders to reducing the rate of poverty in a developing country such as Kazakhstan. Also, Gindling and Terrell (2007) discovered that the minimum wage rates successfully reduced the poverty rate in Honduras. The finding is aligned with Quan and Li (2011) who studied on the similar effects in the province of Shanghai. In term of its implementation, minimum wage is regarded by many politicians as an effective instrument to alleviate the poverty issue in a country (Sabia&Burkhauser, 2010), Other studies such as Card and Krueger (1995), Gindling and Terrell (2010) and Alaniz, Gindling and Terrell (2011) positively claimed that the implementation of minimum wage policy is expected to have a significant effect on the reduction of poverty in a country.

Table 4 Estimation Results for Impact of Minimum Wage Rate

Variable	Coefficient	Standard Error	<i>t</i> -statistics	<i>p</i> -value
<i>MWR</i>	-0.032	0.018	5.202	0.000***
<i>GDP</i>	-0.450	0.569	0.020	0.984
<i>FDI</i>	1.252	0.712	1.758	0.079*
<i>TRADE</i>	-0.042	0.093	0.452	0.652
<i>GOV</i>	-1.163	0.617	0.351	0.726
<i>INF</i>	-0.061	0.174	0.351	0.726
<i>CONSTANT</i>	63.841	28.070	2.274	0.024**
R ²	0.312		<i>F</i> -test	2.270*
Adjusted R ²	0.174			

Notes: *, ** and *** denote a statistically significant variable at the 10 percent and 5 percent significance levels, respectively.

Based on the result, to set minimum wage at an appropriate level will help low-skilled workers to yield adequate wages. Because of rising production costs, the price of goods will concurrently increase, thus leading to an inevitable rise in the cost of living. However, the government has the right to interfere in such cases by imposing a limit on the implementation of minimum wage especially when dealing with the inexperienced or low-skilled workers.

VI CONCLUSION

This paper attempts to analyse the effects of minimum wage and minimum wage laws on poverty rates by looking at cross-country evidence. The results show that there is insufficient evidence to support the hypothesis that a country with a minimum wage policy enjoys a significant reduction in poverty rates. However, the results also suggest that a higher minimum wage rate reduces the poverty rates of involved countries. This implies that the successful implementation of minimum wage leads to increasing the incomes of poor group, thus reducing the poverty rate in a country. Additionally, the policy implication arises from the findings of this study is that the mere presence

of minimum wage policy does not have any bearing on poverty. More importantly, the levels of minimum wage rates must be high enough to affect reducing poverty rates across respective countries. Other than the minimum wage policy, the country's policy makers should establish cohesive and coherent social policies in the forms of financial supports for the poor group, anti-discriminatory laws, community development and other stimulus packages which can offset the adverse effect of market failure that potentially results in poverty.

VII ACKNOWLEDGMENT

The authors wish to thank the Ministry of Education Malaysia for funding this study under the Fundamental Research Grant Scheme (S/O Code 12183). The views expressed in this study are those of the authors. Necessarily, the views of authors do not reflect the views or policies of the ministry or the project team. Any error is the sole responsibility of the authors.

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