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Analysing the Effect of Minimum Wages on the Macroeconomy & Assessing Their Efficacy at Meeting Social Objectives

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Abstract: *The minimum wage is defined as the minimum amount of monetary compensation an employer is required to provide an employee for per period of work. The imposition of a minimum wage has a profound impact on the cost of labour and income levels. Therefore, it has a substantial impact on the macroeconomy of a nation. Using global historical data, existing literature, and economic theory, this paper analyses the impact of the minimum wage on key macroeconomic variables: employment, inflation, and economic growth. Then, this paper goes on to analyse the effectiveness of the minimum wage at meeting the social objectives its proponents claim it can help society meet. After assiduously scrutinizing the economic and social impact of the minimum wage, this paper argues that the impacts of the minimum wage on the macroeconomy and societal objectives are dependent on the economic situation of the nation, channels of adjustment, and productivity levels of key sectors. Lastly, this paper argues that in order for the minimum wage to have the desired effects on the macroeconomy and societal objectives, several, potentially unrealistic, criteria need to be fulfilled.*

1. INTRODUCTION

The International Labour Organisation (ILO) defines the minimum wage as the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by a collective agreement or an individual contract. Today, the ILO reports that over 90% of its member states have implemented some form of a minimum wage. Due to its global importance and substantial impact on labour markets and the macroeconomy, the minimum wage has indubitably been one of the most contentious and analysed areas of economic policymaking.

Its advocates, typically progressive policymakers, routinely advocate increasing or introducing minimum wages in order to meet several social and economic objectives. They postulate that the imposition of minimum wages has positive macroeconomic implications. This is because it results in higher wages which increases incomes, and the increased

income helps stimulate increased expenditure and economic activity which helps increase employment and economic growth. Additionally, they argue the minimum wage is necessary in order to ensure everyone earns at least a certain amount, vulnerable workers are protected from powerful monopsony employers and reduce economic inequality.

2. IMPLICATIONS OF THE MINIMUM WAGE ON MACROECONOMIC OBJECTIVES

The minimum wage establishes a minimum amount employers must pay employees for a per period of work. Resultantly, it has a major influence on costs of production, wages, income levels, and aggregate demand. Therefore, the minimum wage has major implications on the macroeconomy. Hence, it has major ramifications on the nation's ability to meet its macroeconomic objectives.

Employment

Theoretically, the imposition of the minimum wage causes unemployment. According to classical economic theory, assuming labour markets are competitive, the minimum wage will have a disequilibrating impact on labour markets. This is because it will prevent employers from paying employees below certain amounts per period worked (W_{min}). Therefore, it will increase labour costs which cause a contraction in demand. Simultaneously, an increase in the minimum remuneration will incentivize more workers to join the labour force. Hence, a movement along the supply curve will occur, and the quantity supplied will increase. Therefore, the demand for labour will reduce, while the supply increases. This will result in the market moving into a state of disequilibrium because there will be excess labour supply (Nuemark, 2018). Hence, the minimum wage will cause unemployment.

On the other hand, the implication of the minimum wage on unemployment on employment is dependent on the market structure. Recently, it has been argued that employer

concentration has resulted in the creation of monopsony employers. In a monopsony, there is only one consumer of a particular good. Thus, in this case, there is only one employer in the labour market. Although it may seem counterintuitive, in a monopsony the establishment of a minimum wage can reduce the deadweight loss, and increase employment. This is because, in a monopsony, assuming each worker is paid the same amount, the marginal cost of the labour curve has a steeper slope than the supply curve, and the demand curve (or marginal benefit curve) is downward sloping. The imposition of minimum wages increases employment because it makes the marginal cost of labour constant. Hence, instead of increasing the wages for every employee in order to hire another worker, a firm can pay all workers the minimum wage. Therefore, the marginal cost of labour becomes constant and employment increases (Kalenkoski, 2016).

David Newmark and Peter Shirley's meta-analysis revealed that 79.3% of the literature concluded that employment elasticities are negative (Shirley and Nuemark, 2021). Therefore, in other words, the minimum wage causes unemployment. This is because it forces employers to pay employees above certain amounts, and certain employees' productivity may not be enough to justify paying them the minimum wage (Henderson, 2021). Therefore, employers will let go of these employees which will cause unemployment. Moreover, an increase in the minimum wage may also force employers to increase the wages of those earning just above the minimum wage because of the ripple effect and the need to maintain wage differentials (Wicks-Lim, 2006). Therefore, the minimum increases the cost of labor which makes capital relatively cheaper. Hence, factor substitution occurs which causes an increase in unemployment (Woodman, 2014). Therefore, nations with minimum wages have considerably higher rates of unemployment (Hanke, 2014). Furthermore, individuals with lower productivity, for instance, teenagers, are likely to face reduced employment opportunities since these individuals are unlikely to be productive enough to justify paying them the minimum wage. Therefore, these groups are likely to face an increase in unemployment (Sabia, 2014).

Conversely, the imposition of the minimum wage can result in an increase in income for workers which may result in them increasing their expenditure. This increased expenditure will increase aggregate demand and stimulate economic activity which may result in increased output, and labor demand which will counteract the reduction in labor demand caused by the minimum wage (Babalola, 2019). Hence, unemployment is unlikely to occur. Additionally, unemployment will not occur because most of the costs are likely to be diverted towards other channels of adjustment. For instance, an increase in the minimum wage may increase a worker's motivation which may motivate the worker which can result in improved productivity, and it is likely to reduce labor turnover (Owens and Kagel, 2010). Thus, costs will reduce because of which

paying the minimum wage will become feasible. Moreover, organizations may choose to reduce non-wage benefits given to workers, for instance, training opportunities, reduce the wages of workers earning considerably above the minimum wage since this wage compression can help pay the other workers the minimum wage, or they may simply choose to pass on the additional costs to consumers. Hence, even though costs may increase, unemployment is unlikely to occur (Schmitt, 2013). Lastly, for most firms, especially large employers, a modest increase of the minimum wage or the introduction of a reasonable minimum wage will have a small impact on their costs; therefore, they are unlikely to substantially reduce their labor demand (Schmitt, 2013). Therefore, several empirical analyses such as (Card and Krueger, 1993) and meta-analyses such as (Wolfson and Belman, 2016) have reported that minimum wages have no discernable impacts on unemployment.

As the evidence, arguments, and theoretical models discussed have shown, the impact of the minimum wage on employment is highly contentious. However, we can safely draw certain conclusions from the aforementioned arguments and empirical research. Firstly, assuming no increase in skill levels occurs, the imposition of a minimum wage will indubitably cause unemployment since employers will not hire those with productivity lower than the minimum wage. Secondly, the impact of the minimum wage on employment is dependent on the channels of adjustment firms use to adjust to the increased costs. If they choose to reduce non-wage benefits, reduce hours, or pass on the increased costs to customers, unemployment is unlikely to occur. Lastly, the impact of the minimum wage on a particular occupation is dependent on its automatability: non-cognitive jobs which can easily be automated are likely to face increased unemployment.

Inflation

The imposition of a minimum wage will prevent employers from paying employees below a certain amount. Thus, employers will be forced to increase the wages of those working below the minimum wage. Furthermore, they may have to increase the wages of those working above the minimum in order to maintain wage differentials. Therefore, labour costs would increase. This would result in an increase in the cost of production. Firms are likely to pass on these additional costs to consumers in order to maintain their profitability. Moreover, as traditional economic theory suggests, an increase in the costs of production will result in a reduction in the short term aggregate supply. This will result in an increase in the prices of goods and services as well as a decline in real GDP. Ergo, theoretically, the minimum wage will cause cost push inflation (McNelis, 2021).

Empirical research from the University of Zurich found that as soon as minimum wage legislation has been passed a price

response occurs since firms anticipate an increase in costs. They analysed data from 166 local or national minimum wage increases, and corroborated that even though the minimum wage has not yet been implemented the prices of groceries rise twice as fast than normal. Hence, they found that the price response from groceries alone offsets 10% of the real income gains derived from the increased minimum wage (University of Zurich). Typically, firms prefer increasing prices in response to minimum wage hikes as opposed to making workers redundant because that would reduce their ability to produce. Hence, inflation is inevitable since increasing prices is the channel of adjustment most firms favour (Converse et al, 1981).

Conversely, even though classical economic theory suggests the minimum wage should cause wage push inflation, a growing body of researchers are found that the minimum wage has little to no impact on price levels (Card and Krueger, 1994). For instance, empirical research revealed that the 9 minimum wage increases in Vietnam, which increased the real minimum wage by 118%, from 1994 to 2008 has no statistically significant role in increasing inflation in Vietnam (Nguyen, 2011). There are two explanations for the minimum wage not causing inflation. Firstly, in most nations a small percentage of workers are paid the minimum wage; for example only 1.5% of American workers are paid the minimum wage. Therefore, the total increase in costs is insignificant. Secondly, the firms who employ minimum wage workers are usually operating in highly competitive industries. Resultantly, they are likely to accept the lower profit instead of increasing the prices because that could render them uncompetitive and result in them losing market share (Nguyen, 2009). Therefore, inflation is unlikely to occur.

From the arguments and evidence analysed above it is evident that the impact of the minimum wage on inflation is dependent on the channel of adjustment employers choose to factor in the increased costs, the level of competition, and proportion of workers being paid the minimum wage. If a large proportion of workers are paid the minimum wage and markets are uncompetitive, inflation is likely to occur because of the minimum wage.

Economic Growth

The minimum wage ensures workers earn at least a certain amount for per period of work. Hence, it results in increased wages for workers who used to work below the minimum wage. Furthermore, the “ripple effect” will result in increased wages for those working above the minimum wage as well since employers will attempt to maintain wage differentials (Harris and Kearney, 2014). Hence, it will result in higher income levels. This will result in increased expenditure which will cause the aggregate demand to rise. This will result in increased output and economic growth. Furthermore, the

minimum wage may result in those with lower productivity than the minimum wage facing unemployment. However, in the long run, this is stimulate economic growth. Firstly, the tasks previously performed by these individuals may get automated which may increase efficiency and output (Lordan, 2018). Secondly, unemployment may incentivise individuals with low levels of productivity to upskill themselves which would increase their productivity. The increased productivity would increase their job prospects as well as output which would stimulate economic growth (Equitable Growth, 2017).

However, the impact of the minimum wage on economic growth is dependent on its impact on aggregate demand. If the minimum wage results in mass unemployment, it would result in lower income levels and expenditure. Therefore, aggregate demand will reduce which will result in lower output (Sabia, 2015). Furthermore, the minimum wage will increase firms costs of production. This will result in a decline in their profitability which will reduce their incentive to engage in productive activities. Hence, resulting in a reduction in aggregate supply and economic growth. Moreover, as previously explained, the minimum wage can lead to inflation. This inflation will result in a reduction in the international competitiveness of the nations’ exports which will further reduce aggregate demand. Thus, reducing the nations’ total output. Additionally, the minimum wage will increase costs of production which disincentivize firms from investing in the nation, and it will incentivise outward FDI (Fan, Lin, and Tang, 2018). Hence, it will reduce investment which will result in slower economic growth.

Empirical research on the minimum wage and its relation with economic growth from the Employment Policies Institute found that, in the long run, a 10% increase in the minimum wage results in a 3.5% decline in the total output produced by industries which employ low skilled workers; whereas, minimum wage increases have no statistically significant impact on industries employing high skilled workers. This is because low-skilled workers are likely to be unproductive, and their productivity may not justify paying them the minimum wage. Therefore, these industries will contract since they may not be profitable, because of the low productivity, because of the increased labour costs caused by the minimum wage.

Based on the evidence analysed above, it is evident that the minimum wage’s impact on economic growth is ambiguous. However, we can draw the conclusion that the minimum wage’s impact on economic growth is largely a function of its impact on aggregate demand and costs of production. Provided the minimum wage results in a drastic increase in costs of production, and unemployment which translates into lower income and aggregate demand, the minimum wage is likely to have an adverse impact on economic growth. Furthermore, the minimum wage is likely to reduce economic growth in nations

reliant on industries with low productivity levels because they are unlikely to be able to absorb the increased labour costs; therefore, in such nations, the minimum wage is likely to reduce economic growth.

3. ASSESSING THE EFFICACY OF THE MINIMUM WAGE AT MEETING SOCIETAL SOCIAL AND ECONOMIC OBJECTIVES

Policymakers, typically progressives, routinely advocate increasing or introducing minimum wages in order to aid their nation meet certain social and economic objectives. They contend that the imposition of a will helps irradiate poverty and reduce inequality. However, its skeptics argue that the minimum wage is incapable of meeting the objectives its utopian proponents set for it.

Inequality

A common component of the rhetoric employed by policymakers, when promulgating increasing or introducing the minimum wage is its impact on economic inequality. It is argued that since the imposition of a minimum wage prevents workers from being paid below certain amounts, it results in an increase in wages for those working below the minimum wage. This results in an increase in their income levels, and these individuals are usually from lower socioeconomic groups. Hence, the minimum wage results in an increase in income for those from lower socioeconomic groups, and reduces the difference in income between the lower and median decile; hence, it reduces inequality (Engbom and Moser, 2018). Furthermore, the minimum wage engenders a “ripple effect”, as employers increase the wages of those earning above the minimum wage to ensure wage differentials are maintained. Therefore, empirical research suggests that increasing the minimum wage in the United States increases the wages, not only of the 1.1 million workers (or 1.5% of the labor force) who are paid the minimum wage, but of 35 million workers (or 29.4% of the labor force) (Harris and Kearney, 2014). Hence, the minimum wage increases the incomes of those working below, at, or just above the minimum wage. Therefore, empirical evidence finds that it reduces income inequality (Lin and Yun, 2016).

However, the minimum wage increases costs of production for firms. Hence, in order to maintain their profit margins, firms are likely to increase their prices. This cost push inflation is especially evident in groceries, where prices rise twice as fast once the minimum wage hike is announced (University of Zurich). This inflation is detrimental for the poor since the poor spend a larger proportion of their incomes on goods such as groceries. Hence, this inflation has a regressive impact, so it increases inequality (Jordan, 2013). Furthermore, it is argued that the minimum wage is an inefficacious tool to reduce inequality because only 13% of workers who earn the

minimum wage are in poverty. This is because the typical minimum wage worker, as opposed to the consensus gentium, is a second earner who lives with his or her family. Therefore, minimum wage increases do not directly increase the incomes of the poor, hence they are not effective inequality reduction mechanisms (Veldhuis and LeRoy, 2008). Additionally, the minimum wage may result in myopic decision making by those from lower socioeconomic groups. For instance, it may encourage low income youth to abandon their education, and choose to commence since the increased minimum wage may result in them earning an increased amount (Wescher, Hutchinson, and Rannou, 2019);. Even though this may increase their families’ income in the short run, in the long run it will result in lack of skill development in lower-socioeconomic groups, which will translate into fewer employment opportunities and income levels for those from lower income deciles. Therefore, it may result in increased inequality in the long run.

Based on the arguments and evidence that have been analysed, we can conclude that the minimum wage’s impact on economic inequality is a function of its impact on employment opportunities for low skilled workers, automation, and inflation. Moreover, provided the minimum wage encourages low income youth to commence working at the cost of their education, it is likely to cause increased inequality in the long run.

Living wage & poverty reduction

By establishing a minimum remuneration, the minimum wage guarantees that workers earn at least a set amount. This ensures that workers earn enough to purchase basic necessities for their family. Therefore, it helps reduce poverty. Empirical evidence shows that higher minimum wages help meet poverty related objectives because they prevent employers from paying employees inadequate wages; ergo, individuals can purchase necessities and increase their consumption levels which result in improved standards of living (Goul, 2014). Moreover, by ensuring workers are paid at least a certain amount for each hour of work, the minimum wage can improve access to healthcare (Krisbeg, 2015) and education (Smith, 2014) since the increased incomes enable workers and their families to purchase such necessities, and children would not be required to drop out to make ends meet. Therefore, it improves the overall standard of living. Furthermore, the minimum wage increases the minimum opportunity cost of engaging in criminal activities. Additionally, since workers will no longer earn below a set amount, their incentive to engage in illicit activities in order to finance their expenditure will reduce. Thus, the minimum wage helps reduce criminal activity (CEA, 2016), which can prevent individuals from facing crime induced poverty.

Conversely, majority of economic literature on the subject suggests that the minimum wage causes unemployment, especially for those from lower socioeconomic groups and the youth. This is because they are typically unskilled, and their productivity may not be more than the minimum wage. Hence, individuals from these groups are likely to witness reduced economic opportunities, and increased unemployment. For instance, in Denmark, where the minimum wage is only imposed on workers above 18, employment falls by 33% and working hours are reduced by 45%. Therefore, incomes for the most vulnerable groups fall; hence, their standard of living reduces. Furthermore, the minimum wage increases the employment costs in a nation. Consequently, firms' costs of production increase which incentivizes them to reallocate their resources overseas. Empirical evidence from China shows that the minimum wage substantially increased the probability of outward foreign direct investment (FDI) and outsourcing and was responsible for 32.3% of outward FDI from China. This outward investment will only exacerbate unemployment, which will lower economic activity and employment in the nation. This minimum wage derived unemployment has severe negative ramifications. After factoring in the unemployment caused by minimum wages, (Fone, Sabia, and Cesur, 2019) corroborated that criminal activity, especially amongst juveniles, to increase which only exacerbates crime induced poverty.

The impact of the minimum wage on poverty and living standards is dependent on its impact on economic opportunities for the low skilled. Assuming the minimum wage results in a reduction in economic opportunities for the low skilled, it is likely to increase poverty because it results in reduced income levels for the already disadvantaged.

Conclusion & Policy Implications

Minimum wages are indubitably one of the most paramount areas of economic policymaking because of their significant impact on key macroeconomic variables and social objectives. As the evidence and research analysed in this paper show, the minimum wages can effectively meet certain social objectives and macroeconomic objectives provided certain criteria are met. Therefore, before the introducing or increasing minimum wages, a thorough analysis of labour market structures, preferred channels of adjustment, and productivity levels of major industries is required in order to ensure that the imposition of a minimum wage will not disrupt the labour market and economy. Based on the analysis and evidence analysed in this paper, we can conclude that the imposition of a minimum wage has severe ramifications on the macroeconomy, and its ability to meet social objectives is dependent on its impact on macroeconomic variables and decision making in low income households. Firstly, the minimum wage is likely to have adverse impacts on employment because it makes capital relatively cheaper, and it

disincentivizes firms from employing workers whose productivity is lower than the minimum wage. However, there are two circumstances under which the minimum wage will not cause unemployment: firstly, a labour market with a high degree of employer concentration, and secondly, a situation in which firms choose to use alternative channels of adjustment, such as reducing non-wage benefits or increasing prices. Secondly, the impact of the minimum wage on inflation is dependent on the proportion of workers who are paid the minimum wage, or amounts slightly above the minimum wage, the levels of competition faced by firms, and the channels of adjustments firms prefer. Provided a substantial percentage of workers are paid amounts close to the minimum wage, and firms choose to increase prices as opposed to reducing their labour force, the minimum wage is likely to cause inflation. Thirdly, the minimum wage has the potential to induce economic vibrancy and stimulate growth. However, in order for it to do so, the minimum wage should have minimal adverse implications on employment, and it should increase aggregate demand. Moreover, the impact of the minimum wage on economic growth is dependent on the macroeconomy of a nation. If a nation is heavily reliant on unproductive sectors, it is likely to reduce economic growth. Fourthly, the minimum wage is likely to increase inequality because it may reduce economic opportunities for those from lower socioeconomic classes, since they are relatively unskilled. Moreover, it may encourage myopic decision making by those from lower socioeconomic groups which can result in increased inequality in the long run. Finally, the minimum wage may increase inflation which is regressive in nature, so it may increase inequality. The minimum wage is only going to reduce income inequality provided it has no adverse impact on employment opportunities for the unskilled. Lastly, the minimum wage, in most cases, is likely to increase poverty. This is because the increased unemployment and prices are likely to result in a reduction in income for most workers. Therefore, it is likely to have an adverse net impact on poverty. Although, it may result in improved standards of living for those with productivity levels above the minimum wage.

In conclusion, the evidence suggests that the minimum wage's impact on the macroeconomy is dependent on several variables, including the productivity levels of dominant industries, elasticity of labour demand, skill levels of workers, and employers' preferred channels of adjustment. Most literature on the subject and empirical evidence suggest that the imposition of the minimum wage on the macroeconomy and social objectives is variable based on the aforementioned variables. However, it is evident that in most cases, where the criteria necessary for the minimum wage to have a positive impact are not fulfilled, it is likely to have an adverse impact on the macroeconomic variables and the social objectives which have been analysed in this paper.

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