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THE IMPACT OF MINIMUM WAGE ON THE INCOME MOBILITY OF POOR HOUSEHOLDS IN ARMENIA

by

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Author's Declaration Form

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ABSTRACT

This thesis delves into the examination of how the implementation of minimum wage policies affects the income mobility of poor households in Armenia. By means of a thorough investigation, which entails a review of existing literature, particular methodological approaches and regression analysis, this research furnishes significant perspectives on the efficacy of minimum wage legislation and its effects on mitigating poverty.

The research encompasses an extensive examination of the current literature pertaining to the relationship between minimum wage and income mobility, the debates on the effeciency of minimum wage policies, and the methodological approaches to evaluate the impact of minimum wages.

The analysis employs an OLS methodology to investigate the correlation between increments in minimum wage and income mobility of poor households. The findings indicate a positive and statistically significant causal inference. Thus, raising the minimum wage in 2020 has significantly impacted the income of poor households in Armenia, surpassing the thresholds set by food and lower poverty lines.

The findings of the research hold implications for policymakers. The findings indicate that one feasible approach to enhancing the living standards of poor households and advancing income mobility in Armenia is through an increase in the minimum wage. Notwithstanding, the study recognizes the constraints of this analysis and proposes prospects for further examination.

In summary, this thesis enriches comprehension regarding minimum wage policies' impact on income mobility in Armenia and imparts valuable discernment to policymakers who aspire to institute prudent and efficient regulations for minimum wages that tackle poverty and bolster comprehensive economic growth.

TABLE OF CONTENTS

ABBREVIATIONS

AMD	Armenian Dram
EU	European Union
GDP	Gross Domestic Product
ILO	International Labor Organization
OECD	Organisation for Economic Co-operation and Development
RA	Republic of Armenia
UK	United Kingdom
UN	United Nations
WHO	World Health Organization

TABLE OF FIGURES

1. INTRODUCTION

Considerable deliberation and contention have ensued among policymakers, economists, and social advocates with regard to the impact that minimum wage has on the income of individuals residing in destitute circumstances. Despite some apprehensions that augmenting the minimal wage may adversely affect commercial enterprises and job opportunities, others contend that it is essential to ensure that poor households can secure a sufficient livelihood. Nonetheless, it remains to be determined whether such actions benefit or harm the poor. Current scientific research indicates a relationship between the decrease in poverty rates and an increase in minimum wages. This association underscores strategies for improving economic equity. Thus, it is imperative to scrutinize how an increase in minimum wage can not only improve the financial stability of the poor but also enhance the overall economic well-being of communities.

As nations gradually emerge from the grasp of COVID-19, it is no secret that poverty is still a widespread issue. The pandemic has wreaked havoc on both our well-being and economy while also exacerbating already-existing social injustices. Many economies were incapable of curbing the adverse effects of the pandemic crisis. The global GDP underwent a drastic drop of 2.2 percent owing to the outbreak of the pandemic (OECD, 2022). One of the key factors was the decrease in workforce efficiency, resulting in a 4.6 percent reduction in global real GDP. Countless people lost their jobs or endured significant income reduction due to the pandemic's global impact, resulting in heightened levels of poverty worldwide. Tackling this challenge entails providing both short-term aid efforts and long-standing solutions deeply ingrained in powerful policies enacted with the end goal of eradicating its underlying causes. Post-pandemic restoration must prioritize pouring resources into socially-oriented programs aimed at creating job prospects for low-income households.

According to the International Labor Organization (ILO) estimates (2019), in 2018, 13 percent of the global labor lived in moderate poverty, and 8 percent lived in extreme poverty. The numbers show that even with a job, workers are not guaranteed from being poor due to the inadequacy of earnings. In the meantime, the trend of plunging working poor numbers ceased, and the share of workers, living in extreme poverty mounted up for the first time in two decades increasing from 6.7 percent in 2019 to 7.2 percent in 2020 (ILO 2022), pushing an additional 8 million workers into poverty (UN, 2022).

Another alarming tendency refers to so-called "downward" mobility observable not only in middle-income countries but also in high-income. For instance, during the period from 2014 to 2018, a significant percentage of individuals between the ages of 30 and 59 in the United Kingdom experienced a decline in their social status. Specifically, while 21 percent of men underwent downward mobility, this figure increased marginally for women, reaching up to 24 percent. It is noteworthy that these proportions place the UK in close proximity to the global median rate of downward mobility, which stands at 28 percent. 80 percent of those experiencing downward mobility remain downwardly mobile (in an occupational class lower than their parents) 5 years later (Social Mobility Commission, 2020). As per the report of the OECD (2018), almost 50 percent of individuals with low-earning parents have constrained upward earnings mobility within their nearby earning group. Hence, on an average basis, it would take about four to five generations for children belonging to the bottom earning decile to attain mean earnings level.

The aforementioned challenges present unparalleled hindrances for nations, whether developing or advanced, in their pursuit of achieving economic success. It is imperative that governments contemplate implementing initiatives to mitigate poverty and facilitate the income mobility of poor households. Income mobility can be impacted by alterations in the minimum wage through various means. If the minimum wage is increased gradually, it can ensure that

low-wage employees who remain employed will see their wages increase over time if they don't quit their jobs due to the higher minimum wage (Zimmerman, 2008). However, the crucial matter at hand is determining how to establish a prudent minimum wage threshold by taking into account previous raises and evaluating the consequences of such increments.

To address the question on how to establish a prudent minimum wage threshold, first we require to measure the impact of minimum wage hikes on income mobility. Consenquently, the main object of my thesis is to examine the impact of raising the minimum wage on income mobility of poor households. We expect three main outcomes from the impact evaluation:

- raising the minimum wage improves income mobility;
- raising the minimum wage has no significant impact;
- raising the minimum wage negatively affects income mobility.

In order to fully understand the discussions among labor economists regarding minimum wage, poverty and income mobility, I have conducted a comprehensive analysis of existing literature. The available literature regarding minimum wage policies presents inconclusive results as certain studies indicate favorable effects on poverty reduction and income mobility, whereas others emphasize the probable counterproductive outcomes such as unfavorable labor market consequences and job losses, particularly for those, who this policy is designed for. This literature review helped identify the research gaps and guided the formulation of research questions and objectives, as well as methodology on how to evaluate the impact of minimum wage on income mobility.

To evaluate the relationship between minimum wage changes and income mobility, I employed an OLS analysis with matching techniques and utilized a rich dataset based on the household's integrated living conditions surveys which contains information on household income, employment status and poverty rates, and other relevant socio-economic variables. By

employing a matching approach, the study aimed to control for potential confounding factors and provide a robust estimation of the impact of minimum wage changes on income mobility.

Furthemore, the study delved into the present regulation of minimum wage and its effectiveness within Armenia, specifically concerning the relationship between the minimum wage and average and median wages. In addition, we probed into how minimum wage policies impact unemployment rates in Armenia, thereby presenting valuable observations on labor market trends.

The outcomes of this study hold significance for policymakers and prospective research undertakings. Although the examination uncovered positive and statistically significant causal inference between the minimum wage hikes and income mobility of poor households, it is imperative to recognize the limitations of the regression analysis, such as inconsistencies in datasets, and to conduct further exploration to evaluate the long-term effects and sustainability of minimum wage policy in Armenia.

Nonetheless, this research offers relevant insights for policymakers seeking to implement prudent minimum wage policies based on rigorous impact evaluations. The results of the regression and descriptive statistic analyzes emphasize the possibility of enhancing the standard of living for the poor and advancing income mobility through the implementation of a higher minimum wage. By providing empirical evidence and shedding light on the relationship between minimum wage changes and income mobility, this study offers valuable insights for policymakers, researchers, and advocates striving to address income inequality and poverty in Armenia.

2. LITERATURE REVIEW

2.1 Overview

Economic disparities and income mobility have received considerable attention in academic and policy circles. A significant percentage of the population in many countries still encounters the problems of low salaries, restricted opportunities for progress, and poverty. Minimum wage is one of those policy measures that has been introduced to address these concerns by establishing a legal floor on salaries for employees (ILO, 2015). However, the impact of minimum wage regulations on income mobility of the poor households still induces controversy and heated discussions. The main policy goal behind introducing the minimum wage is to improve the living conditions of low-paid employees and reduce income inequality (ILO, 2015).

Minimum wage policies are adopted by governments, taking into account specific factors such as affordability, public welfare policies, labor market conditions, inflation rates, and economic trends. The rationales for introducing or raising minimum wages revolve around promoting justice and reducing inequalities, addressing poverty, addressing power imbalances in labor relations, and fostering work incentives (ILO, 2017).

Countries often adopt paid minimum wage policies with the aim of enhancing the well-being of low-wage workers. However, according to a World Bank publication, these policies do not consistently yield the desired outcomes (Cunningham, 2007). Theoretical and empirical analyses exploring the effects of the minimum wage have generated contradictory findings, which depend on various factors such as the country under study, whether it is a middle-income or advanced economy, the source of minimum wage variation, and the analytical methods employed (Boeri, Helppie, and Macis, 2008).

By examining and understanding the relationship between minimum wage policies and income mobility, policy makers and researchers can provide the basis for more targeted and smarter minimum wage policies and thus promote inclusive economic growth and poverty reduction. The literature available can furnish our research with valuable insights into the mechanisms by which minimum wage policies impact the income mobility of low-income workers. Analyzing such literature will aid in identifying the core factors that shape this effect. A thorough examination of existing research, including its strengths and limitations, will assist us in comprehending the complicated relationship between minimum wage policies and income mobility.

In subsequent sections, we aim to develop a theoretical understanding of minimum wage policies and income mobility, examine empirical evidence that has studied the consequences of increasing minimum wages on income mobility outcomes, explore methodological approaches employed to assess this association.

2.2 Key concepts and definitions

Minimum wage: The significance of minimum wage in present economic landscape cannot be overstated. Ensuring fair compensation for workers is a pivotal component of promoting social justice and establishing stable financial systems. For many years, the notion of minimum wage has been heavily debated. As asserted by Thomas C. Leonard in his article (2000), advocating for a baseline standard of living for workers is the foundation behind minimum wage legislation. According to Boeri et al. (2008), the minimum wage is the legally mandated lowest wage that employers must pay to their workers, established by the government to ensure fair compensation

***Income mobility*:** The concept of income mobility has been a crucial aspect of economic research for many years, providing insights into how people can ascend or descend the income ladder over time. This makes it an essential idea to comprehend and address economic inequality. Fields and Ok (1999) suggest that this concept enables us to examine people's ability to scale the income ladder and comprehend economic injustice. According to analysts specializing in the field of mobility, a key characteristic of "income mobility" centers around the amount of income received by individuals at multiple points in time (Fields, 2008). The fundamental idea behind income mobility theory is that an individual's earnings are not fixed; they may vary based on different factors such as their level of education, availability of job prospects, and market fluctuations. Thus, it offers a framework for analyzing patterns of upward and downward social progress across various socio-economic groups. Deutscher and Mazumder (2021) argue that promoting income mobility policies can provide individuals with necessary tools to enhance their skills, acquire new knowledge, resulting in better job opportunities. Such measures become particularly relevant since high-income earners invest more in education than low-wage workers leading to disparities among different social classes regarding human capital accumulation. Thus, governments investing public resources into educational programs for disadvantaged groups will not only promote equality of opportunity but also boost overall workforce productivity. Deutscher and Mazumder (2021) further emphasize the close correlation between income mobility measures across various categories; therefore, efforts towards increasing intergenerational mobility would positively impact intra-generational or absolute mobility outcomes as well. Policymakers must consider this relationship when designing policy interventions aimed at tackling inequality through income redistribution mechanisms. Ultimately, it becomes clear that policies targeting income mobility are essential tools for achieving greater equality of opportunity while ensuring sustainable economic growth over time

Poor: The predicaments faced by the poor are abundant and intricate, necessitating a multifaceted strategy to alleviate the issue of poverty. An integral measure is increasing the minimum wage that should be indexed to inflation and escalating living expenses. Offering fair compensation to laborers authorizes them to afford basic necessities like housing, food, and healthcare without depending on governmental aid programs. Those who live in households with a per capita income under US$1.90 PPP per day are considered extremely poor, while those whose household daily per capita income is between US$1.90-3.10 PPP per day are moderately poor. Individuals living on more than US$3.10 PPP per day are not classified as poor (ILO, 2019).

2.3 Theoretical foundations and models related to minimum wage and income mobility

There are several models that are by and large related to minimum wage. The first model is called **monopsonic** which posits that under certain circumstances employers have market power and can therefore pay workers less than the market-clearing wage (Bachmann and Frings, 2016). In this case, welfare economists view minimum wage as a tool to boost wages and foster income mobility by reducing the bargaining power of employers (Malloy, 2016).

As shown in Figure 1 (Robinson 1969, p. 220, as cited in Boal and Ransom, 1997, p. 88), when the minimum wage is lower than the monopsony wage (Wm), it does not have any impact. However, once the minimum wage surpasses Wm, a bend in the perceived supply curve of the monopsonist appears. Profit-maximization employment and wages are determined by

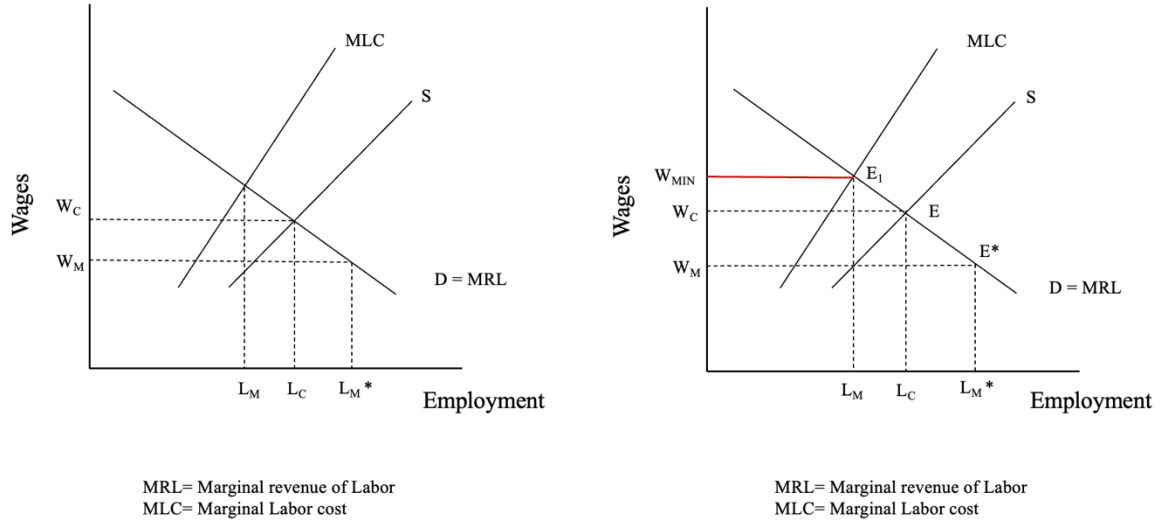

Figure 1: Wage and Employment Determination under Monopsony and Minimum Wage

this kink on the supply curve until it reaches the competitive wage (W_C). As the minimum wage continues to increase above W_C, a horizontal perceived supply curve is created for the monopsonist over that relevant range, and optimal employment can be found from the MRL curve. Therefore, there are three main regimes to determine employment in response to minimum wage hikes: "…first a nonbinding regime, then a supply-determined regime, and finally a demand-determined regime. These regime shifts create a nonmonotonic relationship between the minimum wage and employment." (Boal and Ransom, 1997, p. 88).

The efficiency wage model: The efficiency wage theory suggests that offering workers a salary above the market-clearing rate can actually boost productivity and reduce employee turnover. It may seem counterintuitive since employers typically associate higher wages with increased costs. However, research has shown that incentivizing employees with better pay has led to greater job satisfaction and output (Georgiadis, 2013). By compensating employees more than what they could earn elsewhere for similar positions, companies can attract and retain highly qualified individuals while also boosting overall staff performance. In summary, although paying salaries above-market rates might seem like an unnecessary expense for businesses concerned about keeping overhead low; implementing such measures through the

efficiency wage model pays significant dividends far beyond its initial cost outlay. As we can infer seen, on one hand, the efficiency wage model highlights how employers can motivate their employees to enhance productivity by providing them with higher-than-market-level pay. On the other end of the spectrum, minimum wage laws aim to establish a baseline beneath which no worker should be paid. The ultimate objective is to achieve equilibrium between employee well-being and employer profitability. It is important to note that every economic policy has its advantages and disadvantages. While incentivizing workers through high wages under an efficiency wage model might result in increased production levels, it could also lead low-skilled individuals being excluded from job opportunities if they fail to meet performance standards. Conversely, setting a minimum wage ensures improved compensation rates for workers; however, it may force some firms out of business as they battle against added expenses making them unable compete within their respective markets. Therefore policymakers must deeply analyze all elements before instituting any decisions regarding wages.

The segmented labor market model: Deakin's (2013) research delves into the segmented labor market, a model that explains the influence of minimum wage adjustments on different types of workers in distinct ways. The basis is that this market is classified into various segments according to job security, income level and prospects for growth. This segmentation implies that when there are increases in minimum wages, some employees enjoy advantages while others face negative effects based on their status within the labor market. For low-wage jobs with minimal job stability and little room for advancement retaining staff whilst sustaining high productivity is a challenge; hence raising minimum wage can be beneficial since it allows them to earn decent incomes. However, those who hold specialized skills or better-paying positions may become disadvantaged due to an overabundance of available workforce when lower-level employment becomes less attractive because of higher compensation rates. Thus, taking each working group's unique position within this segmented labor force theory will help

determine appropriate steps towards implementing adequate minimum wage threshold which will not negatively affect its economy's work structures.

2.4 Debates in the scientific literature on the effectiveness of minimum wages

The conventional neoclassical economics model asserts that the disadvantages to society resulting from an increase in the minimum wage exceed its advantages (Levin-Waldman, 1998). Neoclassical economists contend that policies artificially boosting wages to benefit a specific group at the cost of others prove to be ineffective. Furthermore, even if raising the wage level yields positive outcomes, the fixed costs remain unchanged (Levin-Waldman, 1998).

Proponents assert that an increase in the minimum wage has the potential to elevate workers from poverty, foster progression towards better employment opportunities, and establish a fairer distribution of wealth. On the contrary, critics contend that heightened minimum wages might result in unemployment, curtailed working hours, or augmented expenses for companies which may impede economic expansion and aggravate inequality.

Numerous research studies consistently indicate that, under specific circumstances, a substantial minimum wage can limit opportunities for marginalized individuals (Card and Krueger, 2017). While contemporary economics acknowledges the correlation between an excessively high minimum wage and unemployment, as it surpasses market demand, there is also evidence suggesting that a minimum wage can enhance employment and foster productivity. This effect can be attributed to the monopsonistic characteristics of labor markets and the limited bargaining power of workers (Boal and Ransom, 1997).

Minimum wage can offer several benefits, including the possibility of enhancing employee efficiency and productivity. An increase in the minimum wage has the potential to

improve workers' purchasing power, thereby increasing consumer spending. This boost in aggregate demand can further contribute to economic growth. According to Collins (2017), in order to maximize the benefits while minimizing costs, it is recommended to adopt a gradual approach when implementing increments in the minimum wage. By making incremental adjustments to the minimum wage over a period of 20 years, it is possible to reduce the impact of unemployment and improve both quality of life and productivity. This means that despite only slight increases in the minimum wage, there are likely to be significant macroeconomic advantages that outweigh any potential costs associated with unemployment (Collins, 2017).

Heather Boushie's research suggests that enforcing minimum wage regulations can lead to several positive outcomes (Boushey, 2014). Firstly, raising the minimum wage has the potential to uplift millions of working families out of poverty, providing significant support to breadwinners and their children. However, it is crucial for governments to ensure comprehensive benefits for low-wage workers, including access to affordable and high-quality healthcare and housing. Additionally, economic studies indicate that a higher minimum wage does not result in higher unemployment. Instead, it promotes increased productivity and helps address income inequality (Boushey, 2014).

Although the aforementioned benefits and a growing favorable perception exist, a significant body of literature staunchly challenges the suitability and economic efficiency of minimum wage policies. Opponents argue that implementing minimum wage regulations in the labor market brings about notable drawbacks, including increased unemployment rates, elevated labor costs for businesses, and a surge in informal sector employment (Khamis, 2009).

An excessively high minimum wage can have negative consequences for low-skilled employees, since businesses tend to favor individuals with more expertise and greater productivity who are not impacted by minimum wage regulations. Furthermore, as a reaction to the increased wages, organizations may shift towards automation, causing possible job loss

for workers in the intermediate period (ILO 2017). According to an OECD study (1998), on average, an increase of 10 percent in the minimum wage results in a reduction of approximately 1.5 percent in employment opportunities for workers with low skills. Likewise, research indicates a comparable decline of between 1-4 percent in youth employment as a consequence. Those who oppose the idea suggest that it would not be an effective means of reducing poverty rates since there is minimal correlation between earning a low hourly wage and living below the poverty line. Furthermore, most employees subject to minimum wage hikes do not live within households classified as poor; additionally, there is already a substantial proportion of working-class individuals who earn wages exceeding the legal minimum limit (Burkhauser and Sabia, 2007).

According to Blassingame (2015), every increase in the minimum wage negatively impacts the very sector it aims to support, particularly young individuals entering the workforce. The primary reason behind this is that employers have long utilized various organizational strategies to reduce entry-level positions and manage the effects of growth. However, with technological advancements, employers now have the ability to replace entry-level roles with low-maintenance, tax-efficient innovative devices or software. The results of a survey conducted among small business owners indicate that 76 percent of respondents stated that a minimum wage increase would not affect their business, as they already pay wages above the minimum requirement and have legal means to bypass minimum wage regulations, potentially disadvantaging unskilled workers (Blasingame, 2015).

Research conducted by Neumark and Nizalova (2007) reveals that compulsory minimum wage policies disrupt workers' incentives for making employment and training choices, ultimately resulting in adverse long-term outcomes.

Many analyses of the minimum wage tend to oversimplify the employee-employer relationship by solely focusing on wages and employment. However, the impact of the

minimum wage on worker welfare is more complex in practice. Various important factors such as flexible working hours, work pace, compensation packages, job location, and promotion opportunities are often excluded from research due to calculation difficulties and subjectivity (Clemens, 2019). As a result, there is no comprehensive model to definitively assess the effectiveness of minimum wage policies. Research on the topic is polarized and lacks exhaustive analysis of multiple variables. While some studies argue that the policy is economically ineffective, others refute this claim. However, there has been a recent shift in economists' attitudes towards the minimum wage policy, leading to renewed interest in researching its specific case-specific implications rather than universal conclusions.

To summarize, there are diverse perspectives and research findings on minimum wage policies. While advocates argue that raising the minimum wage can bring benefits such as poverty reduction and economic growth, critics point out the potential risks of unemployment and increased costs for businesses. In decision-making processes, collaboration among government, employers, and workers is necessary for achieving balanced outcomes. It is imperative for policymakers to thoroughly analyze every aspect of implementing minimum wage policy, as both over- and under-regulation can have detrimental consequences not only for the intended beneficiaries but also for the labor market as a whole.

2.5 Methodological approaches and research designs

Various methodological approaches are employed in the scientific literature to analyze the impact of raising minimum wages on income mobility. These include:

- *Cross-sectional studies*: These studies compare the income mobility of individuals in different states or countries with different minimum wages. The aforementioned surveys

are relatively expeditious and straightforward to carry out, nonetheless, they can present a challenge in terms of interpretation since they disregard the variability in an individual's earnings over a considerable period (Card and Krueger, 1993).

- *Longitudinal and fixed effects studies*: According to Besamusca et al. (2021), longitudinal data and fixed effects models are essential in accurately estimating the causal effect of minimum wages on income mobility. The utilization of longitudinal data by researchers is crucial when examining income mobility, as it enables them to monitor changes over time. In particular, income mobility requires an investigation into how individuals' incomes alter throughout a specific period. Fixed effects models play an essential role in accounting for personal factors that could potentially influence both minimum wage increases and alterations in income. These models aid in isolating the actual causal effect of minimum wage hikes on income mobility. By neglecting other variables such as education level or occupation type, estimations may become biased or imprecise. It should be acknowledged that these studies are relatively more expensive and time-consuming to conduct; however, they provide a more accurate depiction of the impact of raising minimum wages on income mobility (Dube, 2017). Utilizing these methods, decision-makers can make well-informed judgments regarding the establishment of suitable minimum wage rates that prioritize economic development without sacrificing social welfare initiatives intended to alleviate poverty by augmenting earnings at lower tiers.
- *Difference-in-differences studies*: These studies compare the change in income mobility in a group of workers who are affected by a minimum wage increase to the change in income mobility in a group of workers who are not affected by a minimum wage increase. This method can help to control for other factors that could affect income mobility, but they can be difficult to implement (Neumark and Wascher, 2006).

- *Regression discontinuity designs*: According to Neumark and Wascher (2006), regression discontinuity designs can help mitigate the issue of spurious correlations between minimum wages and other factors affecting income mobility.
- *Border discontinuity designs*: Border discontinuity design is an approach used in empirical research to examine causal links by employing natural or artificial discontinuities along a border or threshold. In border discontinuity design, researchers assess the outcomes or impacts of an intervention or treatment on each side of a predefined threshold, such as a geographic border or a cutoff score (Aaronson et al., 2018).

It is evident that the evaluation of the effects of minimum wage on income mobility primarily depends on quantitative techniques rather than qualitative ones. The preference for quantitative methods such as regression analysis stems from their ability to control different variables affecting the correlation between minimum wage and income mobility. However, qualitative measures like interviews and focus groups provide more profound insights into the experiences of low-income earners but do not have control over these variables. There exists a scarcity of mixed approaches that utilize both qualitative and quantitative methods in research on the influence of minimum wage on income mobility. This is likely due to the complexity and time-consuming nature of mixed approaches compared to either quantitative or qualitative methods (Johnson and Onwuegbuzie, 2004). However, employing mixed approaches can provide a more comprehensive understanding of the impact of minimum wage on income mobility.

Overall, undertaking a thorough evaluation of the influence of minimum wages on income mobility is an arduous undertaking that necessitates meticulous consideration of methodological procedures and statistical techniques employed by scholars. Mastering this endeavor will empower policymakers to make knowledgeable determinations regarding the

implementation of just labor policies that stimulate economic advancement while guaranteeing impartial opportunities for all individuals, irrespective of their ethnicity, age, or gender.

3. DATA AND METHODOLOGY

3.1 Research question, objectives, hypotheses, and research ethics

The thesis' research question is introduced as follows: What is the effect of raising the minimum wage on the income mobility of poor households?

There exist three principal hypotheses pertaining to the aforementioned inquiry.

Hypothesis 1: The minimum wage hike improves income mobility for those living in poverty. The augmentation of the minimum wage has the potential to bestow upon them improved prospects, ameliorated living standards, and an elevated socioeconomic position.

Hypothesis 2: Enhancing the minimum wage rate does not exert a substantial impact on the income mobility of poor households. Though it may provide an instantaneous relief in monetary terms, the enduring upward mobility is not ensured due to certain factors such as restricted job opportunities, insufficient skill sets, or institutional obstructions.

Hypothesis 3: The minimum wage hike negatively affects income mobility for poor households by creating unintended consequences like fewer employment opportunities or increased costs for businesses. These factors could hinder their ability to advance and potentially worsen inequality.

The **objectives** of this research are as follows:

1. to scrutinize the correlation between minimum wage policies and the upward income mobility of the poor;
2. to evaluate how much higher wages affect income levels and poverty rates in this demographic;
3. to analyze its role in promoting upward mobility;

4. examine ways through which such increases could positively or negatively affect income mobility;
5. to provide evidence-based recommendations for policymakers and stakeholders on optimizing the impact of minimum wage policies on income mobility;
6. to contribute to existing literature on minimum wage policies and income mobility.

In conducting this study, the following steps were taken to ensure transparency and respect for the ethics of academic research:

- respecting the confidentiality and privacy of the data by anonymizing any personally identifiable information.
- handling the data securely and protecting it from unauthorized access.
- being transparent in reporting the methodology, including any data transformations or manipulations performed.
- disclosing any potential conflicts of interest that may influence the analysis or interpretation of the results.
- utilizing appropriate statistical techniques and avoiding any form of data manipulation or cherry-picking to favor desired outcomes.
- being diligent in accurately reporting the findings, including any limitations or caveats associated with the analysis;
- ensuring that the research does not harm individuals or groups and that it contributes to the advancement of knowledge and societal well-being.

3.2 Case study selection and typology

The criteria for selecting Armenia as a case study object for my thesis are as follows:

1. ***Relevance***: Armenia has a minimum wage policy, and it is a middle-income country with a significant poverty rate[1].
2. ***Context***: Armenia has a history of political and economic instability, and recently underwent significant reforms related to labor policies and minimum wage.
3. ***Feasibility***: as a native speaker of Armenian the data is accessible to me in terms of interpretation.
4. ***Contribution:*** Armenia offers unique insights and perspectives that are not captured by existing literature on the impact of raising the minimum wage on the income mobility of the poor in middle-income countries.

In our study, we focus on a single and local case by examining the effects of an increased minimum wage in Armenia over a specific period of time (diachronic) (Thomas, 2011).

3.3 Data preparation and cleaning

The present research utilizes data from the Household's Integrated Living Conditions Survey anonymized microdata database, obtained from the RA Statistical Committee's website[2]. The dataset encompasses observations from the years 2016 to 2021, comprising several thousand households. This rich dataset includes various variables that are crucial for analyzing the impact of minimum wage on the income mobility of the poor in Armenia.

[1] "Data for Armenia, Upper Middle Income | Data," accessed April 2, 2023, https://data.worldbank.org/?locations=AM-XT.
[2] "Household's Integrated Living Conditions Survey Anonymised Microdata Database (by Households) / Statistical Committee of the Republic of Armenia," accessed June 1, 2023, https://www.armstat.am/en/?nid=205.

The selected variables for this study focus on key factors that are likely to influence income mobility. These variables include the type of area in which the household is located (rural or urban), the number of members within the household, the total income of the household per month in Armenian Dram (AMD), the sex, education, and age of the household head, the poverty level of the household, and whether the family is registered in the poverty family benefit system. The rationale for selecting these variables lies in their pertinence to the research question and their potential impact on income mobility. The incorporation of the minimum wage variable facilitates a direct examination of how income per capita is affected by the new threshold for minimum wage set in Armenia in 2020. The utilization of the year 2020 as a point of reference presents numerous benefits. First and foremost, it establishes a firm and uniform starting point for comparison since it predates the recent adjustments made to minimum wage (as of January 1, 2023). Secondly, it enables the exploration of extended patterns in income mobility, taking into account any potential pre-existing trends or alterations prior to the increase in minimum wage. Settlement, as a variable, can highlight any disparities in income mobility between urban and rural areas. Household size can be gauged through the members variable, which may offer insights into its effect on income. Headage, headeduc, and headsex reflect characteristics of households' head that could have an impact on income mobility. The soc_01 binary parameter help consider specific income brackets that may be particularly relevant to understanding income mobility and grasping whether the household's income is derived predominantly from the benefits system. Finally, inf - or the annual inflation rate – assists in accounting for changes in purchasing power over time.

To ensure data coherence and completeness, a thorough data preparation process was conducted. Firstly, the datasets from 2016 to 2021 were merged into one cohesive dataset, enabling a comprehensive analysis across multiple years. Next, efforts were made to address any inconsistencies or missing values present in the dataset. In this regard, a mean imputation

method was employed to estimate missing values, ensuring that the dataset is robust and suitable for further analysis. Certain variables required modification to ensure their suitability for analysis. The "settlement" variable, which represents the type of area (rural or urban), was adjusted to contain only 0 and 1 values for consistency and ease of interpretation. Similarly, the "soc_01" variable standing for whether the family is registered in the poverty family benefit system, was transformed into a binary variable. Values falling within the designated range were converted to 1, while others were assigned a value of 0. Another crucial variable, "minwage," was created based on the "year" variable. It was set to 1 for specific years that corresponded to periods when the minimum wage was increased, while being assigned a value of 0 for other years. This variable allows for the examination of the impact of minimum wage changes on the income mobility. Furthermore, I focused on analyzing the subset of data relevant to the poor population. To accomplish this, the data frame was subsetted to include only those rows where the "poverty" variable indicated a poverty level of 2 (poor) or 3 (very poor). The criteria of assessing the poverty level of the household is based on the poverty line classification of the RA Statistical Committee (see Table 1[3]).

Table 1: Poverty lines in Armenia from the years 2016 to 2021 (AMD)

	Years					
Poverty lines	**2016***	**2017***	**2018****	**2019**	**2020**	**2021**
Food poverty line	23 313	24 269	24 827	23 763	23 828	26 500
Lower poverty line	-	-	35 071	35 054	35 324	38 548
Upper poverty line	-	-	42 621	53 043	53 641	57 744
Average poverty line	-	-	-	44 048	44 482	48 145
Complete poverty line	40 867	41 612	-	-	-	-

**Note: the years 2016 and 2017 are unavailable in both lower and upper limits due to a modification in classification methodology which occurred in the year 2019.*

[3] The table was compiled by the author utilizing the data on the living conditions from annual reports of yearbooks published by the Statistical Committee of the Republic of Armenia, source: https://armstat.am/en/?nid=586&year=2019.

***Note: the data from 2018 is unavailable in average poverty line due to methodology alteration in classification in 2019.*

Apart from the abovementioned data preparation measures, I also integrated two supplementary components to the dataset with a view to augmenting the analysis. These enhancements consisted of an annual inflation rate and a variable denoting income per individual in the household. The aim of incorporating the annual inflation rate is to consider the effect of inflation on income. This is vital for precisely evaluating alterations in income over time. By integrating the inflation rate, it is possible to adjust income data to indicate the the purchasing power of each year, thereby guaranteeing that the analysis reflects actual changes in income and minimizes any distortion caused by inflation.

In addition, a new variable income per individual, denoting an average total income received by each person within a household, offers a finer indication of the income distribution and facilitates a more refined evaluation of the impact of minimum wage on the income mobility. Through dividing the entire household income by the number of individuals present in it, I am able to gauge individual-level earnings and investigate their relation with minimum wage regulations and income mobility. Below is the summary of the cleaned dataset (Table 2).

Table 2: Descriptive summary of the dataset

Variable	Observations	Mean	SD	Min	Max
ID	7,063	1.659890e+04	9.793772e+03	44	33,676.0
settlement	7,063	5.651989e-01	4.957660e-01	0	1.0
year	7,063	2.018332e+03	1.710170e+00	2,016	2,021.0
members	7,063	4.404078e+00	1.957230e+00	1	16.0
totincome	7,063	1.885163e+05	1.644703e+05	0	4,662,391.7
headsex	7,019	1.313150e+00	4.638079e-01	1	2.0
headeduc	6,905	4.607386e+00	1.647122e+00	0	9.0
headage	7,019	5.983359e+01	1.452417e+01	17	96.0
poverty	7,063	2.043608e+00	2.042347e-01	2	3.0
soc_01	7,063	5.901175e-01	4.918466e-01	0	1.0
minwage	7,063	2.994478e-01	4.580486e-01	0	1.0
incpc	7,063	4.522171e+04	3.295203e+04	0	777,065.3

It is imperative to incorporate the annual inflation rate and formulate the variable of income per person in order to guarantee precision and thoroughness in the analysis. By taking into account the impact of inflation and scrutinizing individual-level income, it is probable to accommodate for economic complexities and offer a more insightful perception of how minimum wage, income mobility, and poverty among working individuals are interrelated in Armenia.

The inclusion of these supplementary data points elevates the durability and pertinence of the analysis, thus enabling more precise deductions regarding the impact of minimum wage regulations on the income mobility. The incorporation of the annual inflation rate and the creation of the income per person variable align with good research practices, ensuring the data accurately reflects economic realities and facilitating a comprehensive examination of the research question and objectives.

3.4 Model

The prime intention of this study was to utilize a Difference-in-Differences (DID) approach (Angrist and Krueger, 1999) to determine the effect of the minimum wage on the income mobility of poor households. Nevertheless, the peculiar arrangement of data and observed patterns in the dataset posed difficulties in establishing treatment and control groups. Notably, variations were observed in household compositions between 2016-2021, rendering it problematic to establish a uniform cohort for analysis. An alternative method was employed due to the constraints mentioned above, which involved utilizing an Ordinary Least Squares (OLS) model. Cingano (2014) argues that OLS is more precise in determining the effect of changes in minimum wage by considering other factors such as education or demographic characteristics. Using this method permits researchers to separate out any alterations caused by

shifts in the minimum wage from unrelated variables. As a result, policymakers can make better decisions regarding low-wage earners' financial well-being with valuable insights gained from these findings. The utilization of this model facilitated the controlling of multiple variables from the dataset that may have influenced income mobility. In addition, a matching approach - Mahalanobis matching in particular (Amusa et al., 2022) - was incorporated to generate a corresponding sample (Model 2 with 4.096 observations compared to 6.905 in Model 1). The purpose of matching individuals based on their covariates was to minimize potential confounding factors and establish a more equitable comparison between the treatment group (those impacted by the minimum wage hike) and control group (those not affected by the minimum wage increase).

The study aimed to enhance the validity of the estimated treatment effect by employing matching technique to create comparable subgroups with similar distributions of covariates. This approach was designed to mitigate potential bias and address the limitations imposed by the data structure, thus providing a more rigorous analysis of the impact of minimum wage on income mobility of impoverished households. The regression model can be represented by the following formula:

$$income\ per\ capita = \beta_0 + \beta_1 * MW + \beta_2 * S + \beta_3 * M + \beta_4 * HA + \beta_5 * HE + \beta_6 * SB + \beta_7 * HS + \beta_8 * IF + \varepsilon$$

where

- β_0 represents the intercept;
- β_1 to β_8 stand for the coefficients associated with each respective independent variable;
- *MW* is the minimum wage;
- *S* is the settlement;
- *M* is the number of members;

- *HA, HE, HS* stand for the age, education and age of the household's head;
- *SB* shows whether the familiy is included in the benefit system;
- *IF* is the annual inflation;
- ε denotes the error term, capturing the unobserved factors that influence income per capita but are not included in the model.

4. RESULTS

4.1 Elucidation of regression analysis findings

The ensuing part delineates the outcomes of my OLS models, both without (Model 1) and with matching (Model 2). The outcomes of the regression analysis as presented in Table 3 furnish significant input into the relationship between multiple independent variables and income

Table 3: Regression Results

	Dependent variable:	
	incpc	
	Model 1	Model 2
minwage	15,107.960***	12,721.440***
	(1,394.218)	(1,722.862)
settlement	4,545.980***	4,390.230***
	(774.490)	(1,124.435)
members	-2,525.960***	-2,951.966***
	(195.245)	(295.998)
headage	205.819***	213.694***
	(26.971)	(39.364)
headeduc	1,300.767***	2,236.022***
	(275.903)	(465.871)
soc_01	-528.027	4,308.212**
	(1,019.738)	(1,740.838)
headsex	-2,656.075***	-2,462.739**
	(845.210)	(1,249.402)
inf	1,008.675***	877.160***
	(156.490)	(196.622)
Constant	30,582.670***	27,229.250***
	(2,810.113)	(4,157.339)
Observations	6,905	4,096
R^2	0.123	0.116
Adjusted R^2	0.122	0.114
Residual Std. Error	30,905.990 (df = 6896)	34,943.180 (df = 4087)
F Statistic	121.323*** (df = 8; 6896)	66.931*** (df = 8; 4087)
Note:		*p<0.1; **p<0.05; ***p<0.01

mobility of poor households in Armenia. The approximated coefficients elucidate the direction and importance of such relationships, allowing for a deeper understanding of the factors influencing income mobility.

The coefficients for minimum wage (minwage) in Model 1 and Model 2, which stand at 15,107.96 AMD and 12,721.44 AMD respectively, reveal a positive and statistically significant relationship between minimum wage increases and income mobility. Based on this finding, we can infer that higher minimum wages are associated with improved income mobility among the poor households in Armenia, which, in turn, aligns with prior economic theory and empirical research that argues for the potential positive impact of minimum wage policies on income mobility (Campos Vnzquez, Esquivel, and Santillnn Hernnndez, 2018).

Given R-squared values of 0.123 and 0.116, we can conclude that Model 1 and Model 2 account for roughly 12.3 percent and 11.6 percent, respectively, of the variance in the dependent variable attributed to the independent variables considered in the models. Such modest R-squared values imply that a small fraction of income mobility variability can be explained by these variables. Nevertheless, this does not necessarily stipulate that raising the minimum wage would have an insignificant effect on income mobility.

Based on the coefficients of settlement, it is apparent that income mobility is more common amongst households who reside in urban environments. This can be supported by previous research done in the field which emphasize the correlation between urban living and increased economic mobility as a result of access to services, employment opportunities and other factors beneficial for higher income (Chetty et al. 2018).

The negative coefficients for members imply that larger household size is associated with lower income mobility. The reasoning behind this correlation lies in the fact that larger households often face greater financial burdens and resource limitations, leading to more

obstacles when trying to attain higher levels of income mobility as opposed to smaller households.

The positive coefficients for the age of the household head suggest that older household heads tend to have a positive impact on income mobility. This could be due to their accumulated work experience, network connections, and potentially higher levels of human capital, which contribute to better income prospects and mobility.

The coefficients for education of the household head indicate that higher levels of education for the household head are associated with increased income mobility. This is in line with the human capital theory (Acemoglu, Gallego, and Robinson, 2014), which posits that higher levels of education provide individuals with better job prospects, skills, and earning potential, thereby facilitating upward income mobility.

The negative coefficients of household sex indicate that female-headed households experience lower income mobility compared to their male counterparts. This finding highlights the presence of gender-related factors and inequalities that may hinder the income mobility prospects of women in Armenia.

Lastly, the coefficient for inflation signifies that higher inflation rates are associated with increased income mobility. This result could be attributed to various factors, such as increased wage pressures or a stimulating effect of inflation on economic activity (Atigala et al., 2022), which may positively impact income mobility.

In summary, the regression analysis provides empirical evidence on the impact of various factors on income mobility among poor households in Armenia. The interpretation of the coefficients highlights the significant positive impact of minimum wage hikes, urban settlement, higher levels of education, older age of the household head, and lower inflation rates on income mobility. Conversely, larger household size and being female-headed appear to be

associated with lower income mobility. These findings contribute to the existing body of knowledge on income mobility and offer insights that can inform policymakers and stakeholders in designing targeted interventions to enhance income mobility and reduce disparities among the poor households in Armenia.

4.2 Model Specification

In order to ensure the validity and reliability of the regression analysis, several model diagnostic checks were performed. These checks included the Shapiro-Wilk test and tests for multicollinearity and heteroscedasticity.

The Shapiro-Wilk test was conducted to assess the normality of the residuals. Based on the results of the Shapiro-Wilk test ($W = 0.73505$, p-value $< 2.2e-16$) conducted on the residuals, it appears that they do not conform to a normal distribution and have non-linear pattern. Nevertheless, it is crucial to acknowledge that the normality premise is merely one of various presumptions in linear regression models. Breaching the normality assumption does not automatically indicate that the model is inadequate or flawed.

To further assess the regression model, additional diagnostic tests were conducted. The "bptest" function was used to perform a Breusch-Pagan test for heteroscedasticity, which checks whether the variance of the residuals is constant across different levels of the independent variables. The studentized Breusch-Pagan test on the regression model resulted in a test statistic (BP) of 11.833, degrees of freedom (df) of 8, and a p-value of 0.1588. The p-value is greater than the commonly used significance level of 0.05, suggesting that there is no significant evidence to reject the null hypothesis of homoscedasticity. This implies that the

variance of the residuals is constant across different levels of the independent variables in the model.

The "vif" function was employed to calculate the variance inflation factor (VIF), which examines multicollinearity among the independent variables. High VIF values indicate high correlation among the independent variables, which can affect the reliability of the regression estimates. Here are the VIF values for each predictor:

- minwage: 2.489294
- settlement: 1.059062
- members: 1.074417
- headage: 1.097227
- headeduc: 1.206576
- soc_01: 1.636666
- headsex: 1.103833
- inf: 2.762704

Generally, the above VIF values are considered acceptable, indicating low multicollinearity among the predictor variables. In the model, all the VIF values are below 5, suggesting that there is no severe multicollinearity issue.

These model diagnostic checks were performed to ensure the validity and reliability of the regression analysis and to assess the assumptions and potential issues related to the model. These steps help to enhance the robustness and credibility of the findings and contribute to a comprehensive academic narrative of the analysis.

5. DISCUSSION

5.1 The economic backdrop of minimum wage policy in Armenia

During the Soviet centralized planning system, Armenia's industrial sector thrived by providing diverse manufactured goods to other union republics in return for energy and raw materials. Nonetheless, when Armenia was declared a sovereign state, it lost the significant manufacture complexes (Beddies et al., 2005). Due to unresolved disputes over Nagorno Karabakh with Azerbaijan (Kocharyan, 2016), Armenia's economy is limited to solely two accessible borders with Georgia and Iran. The geographic isolation and weak financial institutions have exposed the country to global market fluctuations as well as Russia's economic challenges. It relies heavily on Russian trade and government support since most of Armenia's crucial infrastructure is owned by Russia. Remittances from those working in Russia account for a significant portion of Armenia's GDP. As per the data provided by the central bank of Armenia, the remittances received from Russia in 2021 accounted for a substantial amount of $865 million, which is nearly equivalent to 5 percent of Armenia's GDP (Mejlumyan, 2022). While Armenia joined the Eurasian Economic Union in 2015 (Khachaturian, 2020), it also seeks closer ties with the EU after having signed the Comprehensive and Enhanced Partnership Agreement in 2017[4].

Armenia's economy experienced considerable growth between 2017 and 2019 with an average GDP growth rate of 6.8 percent [5]. This was largely due to the implementation of prudent macroeconomic policies[6] which contributed to a more stable economic landscape, as well as an

[4] RA Ministry of Economy. "Ministry of Economy of the Republic of Armenia | Home." www.mineconomy.am, July 24, 2020. https://www.mineconomy.am/en/page/787.
[5] World Bank. "GDP Growth (Annual %) - Armenia | Data." data.worldbank.org. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=AM.
[6] World Bank. "Overview." World Bank, April 7, 2023. https://www.worldbank.org/en/country/armenia/overview.

improved business environment that resulted from the political changes in 2018 (Lanskoy and Suthers, 2019). However, the COVID-19 pandemic and the military confrontation with Azerbaijan in 2020 caused significant disruptions to Armenia's economy, resulting in a sharp decline of 7.4 percent in GDP growth. These upheavals led to heightened poverty levels, public debt-GDP ratio reaching up to 67.4 percent ("FitchRatings", 2021), and accelerating inflation rates which picked 7.2 percent and 8.6 percent [7] in 2021 and 2022 respectively. In addition, the price of the lowest acceptable standard of goods and services for an average household, also referred to as the minimum consumer basket, has surged by 21.7 percent amounting to 73,400 drams (Mkrtchian, 2021). Individuals who received the minimum wage were susceptible to experiencing destitution since their earnings did not suffice to meet their fundamental necessities. As a result, the RA government implemented two increases in the minimum wage in 2020 and more recently in 2023. Based on the analysis of information conducted by the State Revenue Committee, the National Institute of Labor and Social Research has calculated that as a result of the increase in the minimum wage from January 1, 2020, the wages of about 187,000 workers in the public and private sectors have increased, of which about 57,000 workers are public workers, and 130,000 workers are in private sectors[8]. According to the same report, implementing an increase in the minimum wage for employees in the public sector necessitated a budgetary allocation of roughly 6 billion AMD from the RA 2020 state budget, excluding income tax. Similarly, in the private sector, such a raise resulted in an additional expenditure of approximately 17 billion AMD absent any income tax considerations.

[7] World Bank. "Inflation, Consumer Prices (Annual %) - Armenia | Data." data.worldbank.org. https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=AM.
[8] RA Ministry of Labor and Social Affairs. "The minimum wage will increase to AMD 68,000," November 19, 2019. https://www.mlsa.am/?p=24151.

5.2 The Effectiveness of Minimum Wage Regulation in Armenia

To proceed with our discussion, it is necessary to first ascertain the minimum wage level that would be sufficient for maintaining a basic standard of living with optimal efficiency in Armenia. To achieve this objective, we shall utilize the subsequent formula (Anker 2006; as cited in Belser and Sobeck):

$$Minimum\ living\ wage\ = \frac{(poverty\ line * household\ size)}{number\ of\ workers\ in\ the\ household}$$

The mean size of a household is measured using the common OECD scale to factor in economies of scale and diminished requirements for offspring: the primary adult constitutes one adult, the second adult comprises 0.7 adults and children are allocated a weightage of 0.5. A typical household size consisting of approximately 2 adults and 2.5 children corresponds to 2.9 "adult equivalents," namely, 1 + 0.7 adults + 2.5*0.5 children (Belser and Sobeck). Table 3[9] displays the outcome of utilizing the aforementioned equation to determine the minimum wage necessary for meeting basic living expenses in Armeni over the period of 2019-2021.

Table 4: Poverty Lines and A bare minimum compensation necessary to uphold a fundamental level of sustenance

	Years		
Poverty lines	**2019**	**2020**	**2021**
Food poverty line	23 763	23 828	26 500
A bare minimum wage necessary to uphold a fundamental level of sustenance	46 734	46 862	52 116
Lower poverty line	35 054	35 324	38 548
A bare minimum wage necessary to uphold a fundamental level of sustenance	68 940	69 471	75 811

[9] The table was compiled by the author utilizing the data on the living conditions from annual reports of yearbooks published by the Statistical Committee of the Republic of Armenia. https://armstat.am/en/?nid=586&year=2019.

Upper poverty line	53 043	53 641	57 744
A bare minimum wage necessary to uphold a fundamental level of sustenance	104 318	105 494	113 563

The aforementioned data indicates that the raise in minimum wage for 2020 would suffice to meet the lower poverty line for said year. It is essential to note, however, that poverty distribution across the three levels of assessment is not uniform. Based on 2020 figures, the upper line exhibited the highest proportion (47.6 percent) of impoverished individuals in RA, while those classified as extremely poor constituted the smallest percentage (0.7 percent)[10]. To clarify, the minimum wage of 68,000 in 2020 only caters to the basic necessities of individuals who are experiencing severe food deprivation and living below the lower poverty line, wheras individuals falling under the upper poverty line, comprising a significant proportion of those living in impoverished conditions, are not encompassed by the minimum wage policy.

The other issue at hand pertains to the working poor. In RA, the number of individuals employed as of 2020 was 1,060,100. Out of this figure, 31,300 were non-residents while

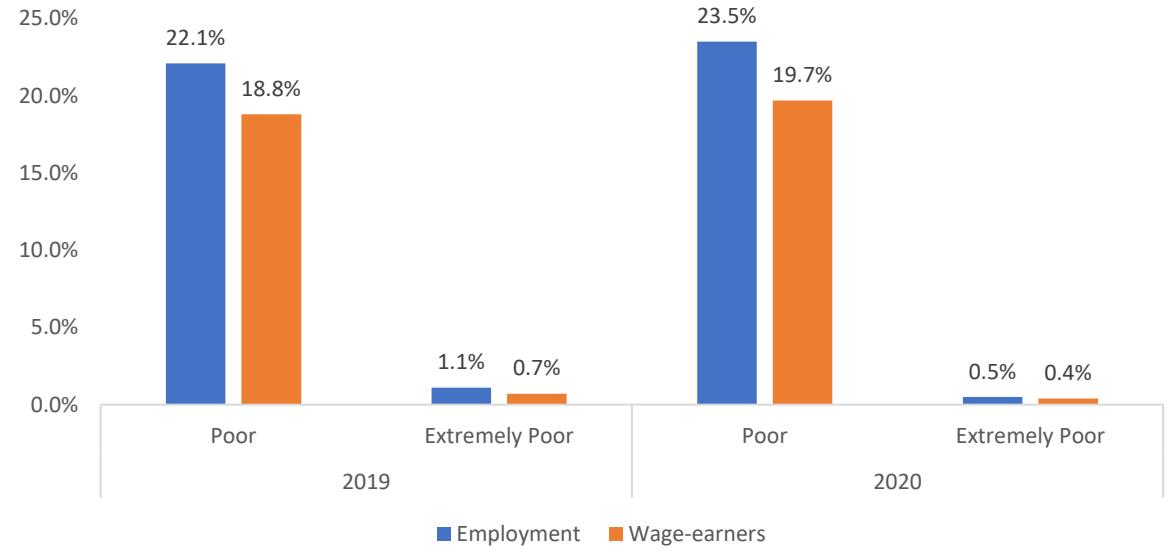

Figure 2: RA Labor Force Participation and Poverty

[10] RA Statistical Committee. "Armenia – Poverty Snapshot over 2009-2020". https://armstat.am/file/article/poverty_2021_a_2..pdf

1.028.800 were residents. Shockingly enough, a considerable proportion of these residents (amounting to 343.700) worked in the informal sector. To put things into perspective, it is noteworthy that in 2020 alone, nearly a quarter (i.e., 23.5 percent) of employed RA citizens lived below the poverty line (Figure 2[11]). Similarly concerning is the fact that almost one-fifth (i.e.,19.7 percent) of them belonged to the category of hired workers categorized as poor. Under such circumstances and given that only about 187.000 employees saw an increase in their salaries due to the implementation of a minimum wage threshold set in 2020 , one can conclude that although an improvement has been made with respect to income levels for some individuals; yet there remains much room for progress since as many as around 241.768 people employed in RA continued to live in poverty.

Labor economists are increasingly concerned about the potential negative impact of raising minimum wages, as it often leads to a rise in unemployment rates, particularly among younger and less skilled workers. However, this scenario is not applicable to the labor market in Armenia. The regression analysis results indicate (Figure 3[12]) that there is a strong negative relationship between the unemployment rate and the minimum wage in Armenia from 2001 to

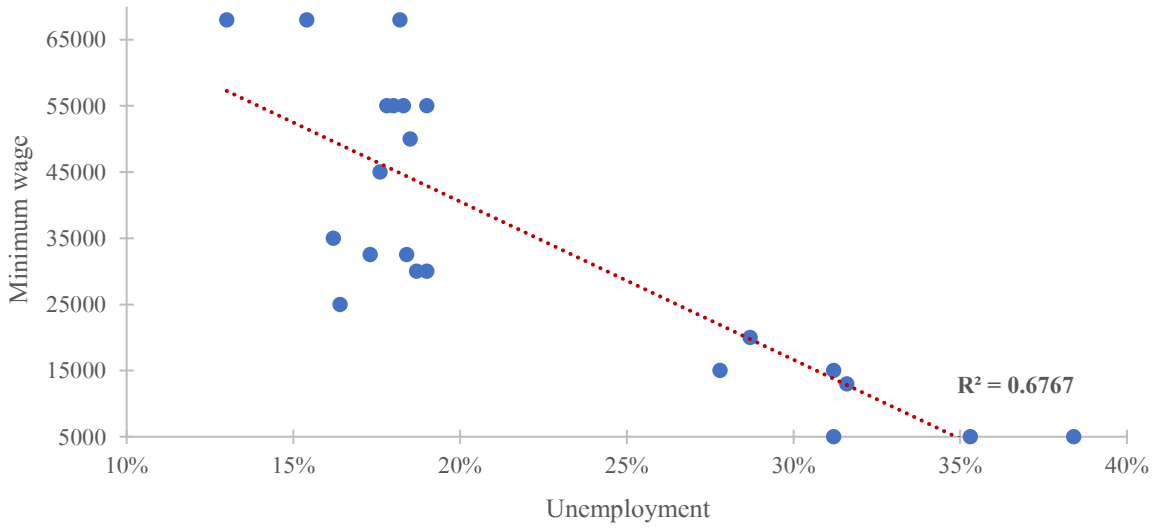

Figure 3: The relationship between Unemployment and Minimum wage in Armenia (2001-2022, AMD)

[11] The figure was compiled by the author based on the publication of "Social Image of Armenia 2021" of RA Statistical Committee, page 41. https://armstat.am/file/article/poverty_2021_a_2..pdf.

[12] The figure was compiled by the author based on the publications of "Labor market indicators" of RA Statistical Committee. https://www.armstat.am/am/?nid=82&year=2022.

2022. The coefficient of determination (R^2) is 0.6767, which means that approximately 67.67 percent of the variation in the unemployment rate can be explained by changes in the minimum wage. The negative correlation coefficient of -0.8226 further supports this finding and suggests a strong inverse relationship between the minimum wage and unemployment rate. This means that as the minimum wage increases, the unemployment rate tends to decrease, and vice versa. It should be observed that this specific regression analysis primarily captures the statistical correlation between the minimum wage and unemployment rate, without establishing a causal relationship. The policymakers set the minimum wage, and their decisions may be swayed by economic circumstances and labor market trends. This endogeneity can introduce bias in the estimated relationship between the minimum wage and unemployment rate.

Another key aspect to assess the effectiveness of the minimum wage regulation is the minimum-average wage ratio, which represents the relationship between the minimum wage and the average wage. This ratio provides valuable insights into the relative level of the minimum wage compared to the overall wage distribution, shedding light on the extent to which minimum wage policies are affecting income disparities and promoting income mobility. In Armenia, from 2001 to 2021 the minimum-average wage ratio on avarage was 29 percent

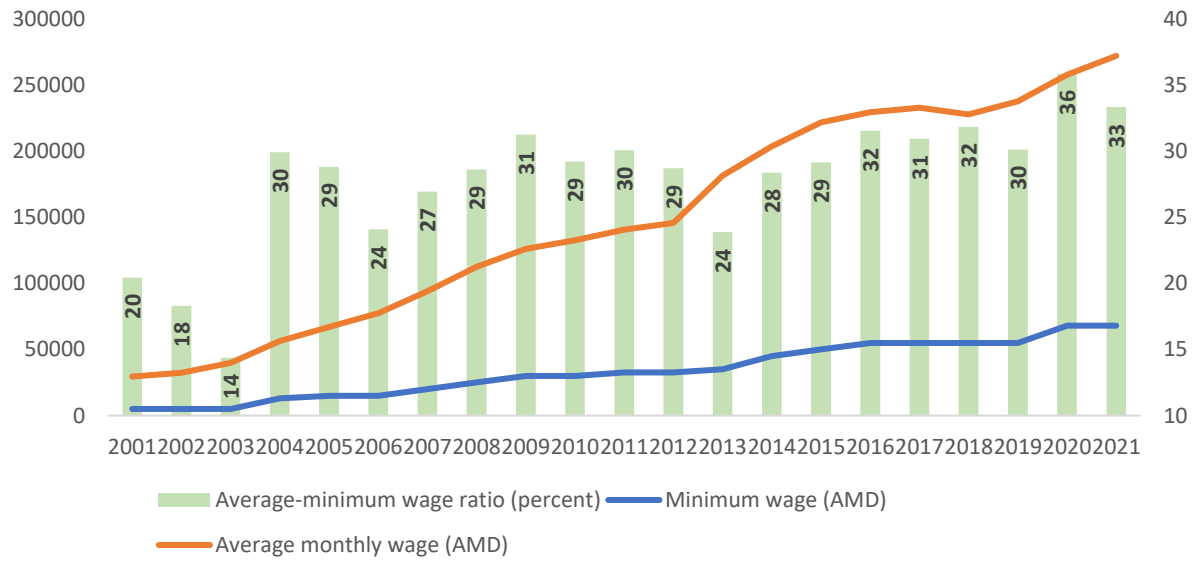

Figure 4: Sizes and ratio of the minimum and average wages in the Republic of Armenia

(Figure 4[13]), which is an average indicator, since the minimum wage in advanced economies usually ranges from 35-60 percent of the average wage (ILO, 2020), while the ratio of minimum to average wages in developing countries is often higher. This is due to the fact that the average wage earner in developing countries is often relatively low paid.

One of the disadvantages of the average wage is that it reflects an incomplete picture of income polarization. This gap is filled by the calculation of median income (Figure 5[14]). Although the ratio of the minimum monthly and the median wages in RA is high and is on average 78 percent, significantly exceeding the average indicator of around 53 percent of the OECD countries (OECD, 2023), it is necessary not to ignore the structure of poverty, the disproportionate income distribution, average wage purchasing power and recent inflationary trends, which can disrupt the connection of the minimum wage with the above indicators, becoming a serious problem for socially vulnerable groups, in particular, low-skilled and poor wage-earners.

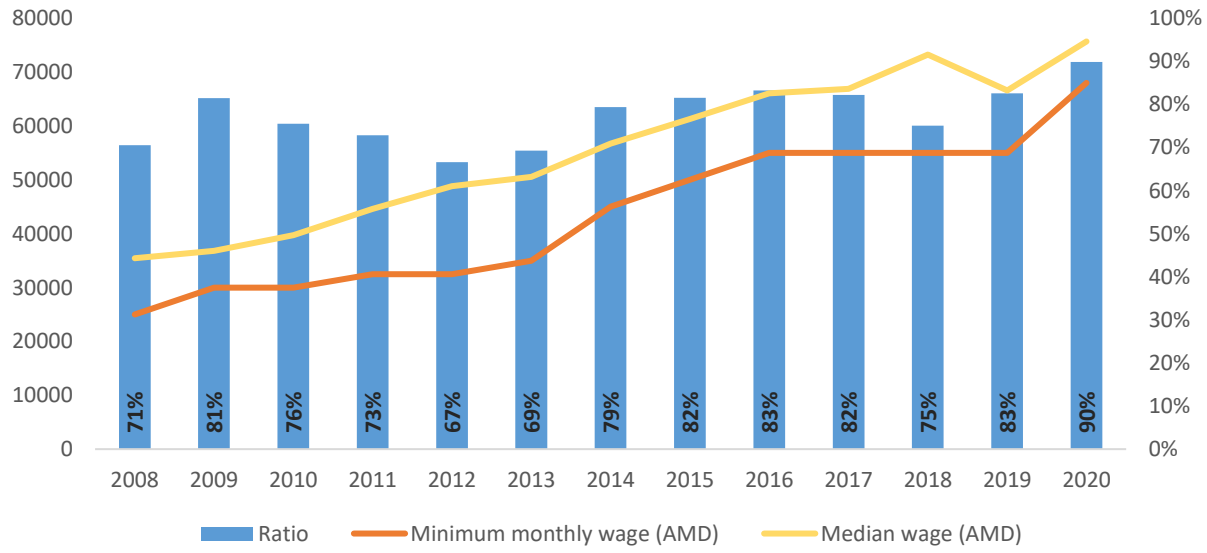

Figure 5: Ratio of the minimum and median wages in the Republic of Armenia

[13] The figure was compiled by the author based on the publications of "Labor market indicators" of RA Statistical Committee, page 41. https://www.armstat.am/am/?nid=82&year=2022.
[14] Ibid.

To halve poverty by 2026, the RA Government requires an annual GDP growth of more than 7 percent [15]. The provision of a sustained growth rate will lead to a significant enhancement in the standard of living for individuals, and pave the way for an increase in incomes, job opportunities and a reduction in poverty levels. However, the current inflationary trends may impede the attainment of goals as outlined by the RA government program. It is imperative in such circumstances to introduce intricate social programs, which involve establishing a more precise and comprehensive minimum wage threshold. This remuneration ought to be greater than the cost of basic necessities for living, while being directed towards individuals who receive the lowest wages. As per the RA government's proposal, there will be a gradual rise in the monthly minimum wage for wage-earners, up to 85,000 AMD[16]. However, due to the prevalence of shadow unemployment, it is uncertain how many workers will ultimately benefit from this increase. According to data from the RA Statistical Committee, informal employment rates stood at 35.2 percent [17] in 2020.

According to the dataset utilized for the regression analysis, the median income per person in the household amounted to 42,981.6 AMD from 2016 to 2021, and the average income - 49,782.0 AMD, we can assess the impact of the minimum wage increase in relation to the poverty lines and the required bare minimum wage for sustenance. The decision to utilize the median income is preferable as it provides a more accurate depiction of the income distribution. After analyzing the poverty lines and minimum wages necessary for sustenance, we have determined that increasing the minimum wage from 55,000 AMD to 68,000 AMD would be advantageous for improving poor households' standards of living. However, it is critical to examine the general income distribution and the individual requirements of people

[15] RA Government Program, RA Government Decree No. 1363-A of August 18, 2021. https://www.gov.am/files/docs/4737.pdf
[16] Ibid.
[17] RA Statistical Committee. "Formal and Informal Employment." armstat.am. https://armstat.am/file/article/lab_market_2021_4.4.pdf.

and families within distinct poverty levels. With an average income of 42,981.6 AMD and a median income of 55,703 AMD in mind, individuals residing below the poverty line received an additional financial gain of 12,721.44 AMD due to the minimum wage rise in 2020. As a result, they can now afford essential goods and alleviate their economic difficulties to some extent. Nevertheless, this amount remains insufficient when considering that it falls short of satisfying upper poverty limits for 2021. Overall, raising the minimum wage from 55,000 AMD to 68,000 AMD offers potential benefits to poor households across Armenia; however, it must be acknowledged that this may not eliminate all issues faced by poor families who continue to struggle financially.

To encapsulate, the examination of the impact of minimum wage in Armenia has brought to light a number of crucial aspects:

1. The increase in the minimum wage from 55,000 AMD to 68,000 AMD aligns with and surpasses the food and lower poverty lines, however, it is still not sufficient to uphold a fundamental level of sustenance for those living under the upper poverty line.
2. The issue of working poor is concerning, as a significant number of employed individuals in Armenia continue to live below the poverty line. While some improvements have been made in terms of income levels, a substantial portion of the workforce remains in poverty.
3. The results of the regression analysis reveal a significant inverse correlation between the minimum wage and unemployment rate, suggesting that as the minimum wage rises, there is a tendency for the unemployment rate to decline. Nonetheless, it should be emphasized that this observed correlation does not necessarily imply a causal relationship. The policymaking process may be

affected by endogeneity and other extraneous variables which can potentially skew the estimated correlation.

4. The ratio of the minimum wage to the median and average wages can reveal valuable information regarding income inequality and upward mobility. Although Armenia's minimum-average wage ratio is relatively modest in contrast to advanced nations, it is crucial to account for poverty patterns, income distribution, average wage purchasing power, and inflationary tendencies while assessing how the minimum wage relates to other metrics.

In order to tackle the aforementioned obstacles, it is imperative that a more all-encompassing and prudent minimum wage policy be implemented, targeting those who earn the lowest wages. This should be supplemented with intricate social initiatives and measures to diminish the incidence of informal employment. The upsurge in minimum wage rates is predicted to have a favorable effect on income mobility by potentially furnishing poor households with additional financial means.

6. CONCLUSION

With reference to the findings and debates laid out, multiple policy implications and recommendations can be formulated to address the issue of poor households in Armenia through the impact of raising the minimum wage:

1. **Incremental and Targeted Minimum Wage Hikes**: The results of the regression analysis indicate that raising the minimum wage can have a beneficial effect on income mobility and possibly elevate the living standards of impoverished households. It is advisable for policymakers to contemplate introducing incremental and prudent adjustments to the minimum wage (Collins, 2017), which cater to distinct poverty levels. Adopting this strategy can guarantee a fair and equitable approach that assists individuals and families with low income, without negatively affecting employment rates or the economy in general.
2. **Regular Monitoring and Adjustments**: In light of the ever-changing economic landscape, which encompasses factors such as fluctuations in labor market demand and supply, inflation rates and alterations to the cost of living, it is imperative that due diligence be employed to evaluate the efficacy of minimum wage policies on a regular basis. Such evaluation should focus on gauging its influence on poverty levels, income distribution and overall welfare. Policymakers must be willing to make tweaks to minimum wage rates where necessary, so as to ensure they are commensurate with prevailing economic conditions and adequate for the needs of workers.
3. **Complementary Social Programs**: It is imperative to supplement the minimum wage increase policy with focused social programs, notwithstanding its immediate effectiveness in easing financial burden for low-income households. These initiatives

may comprise economical healthcare accessibility, opportunities for learning and skill development, and encouragement for entrepreneurship and employment generation. A comprehensive strategy that tackles various aspects of poverty and facilitates avenues for progression can effectively diminish impoverishment on a larger scale over time.

4. **Addressing Informal Employment**: The high incidence of informal employment creates a hindrance to the efficacy of minimum wage policies. It is essential for policymakers to concentrate on initiatives that can help formalize the informal sector, endorse better work prospects, and guarantee adherence to minimum wage legislation. This step can be instrumental in broadening the positive outcomes of raising minimum wages to encompass a greater proportion of the labor force, and diminish the susceptibility of employees in the informal economy.
5. **Recurrent Evaluation and Research**: It is essential to conduct continuous assessment and extensive research to comprehend the enduring consequences of minimum wage policies in diminishing poverty and enhancing income mobility. To evaluate the impact of minimum wage hikes, oversee labor market trends, and recognize probable inadvertent outcomes, policymakers must allocate resources towards meticulous studies and data gathering. Employing evidence-based methodical approach can aid in formulating more sound public policy decisions that promote long-term effectiveness and sustainability in addressing poverty issues while elevating living standards.

By analyzing the above policy implications and executing workable suggestions, policymakers in Armenia can strive towards establishing a conducive atmosphere for low-income households, curbing poverty rates, and endorsing sustainable economic growth.

While the study furnishes significant knowledge pertaining to the impact of raising the minimum wage on income mobility in Armenia, it is crucial to recognize specific research limitations that can direct forthcoming research undertakings.:

1. **Dataset Limitations**: The findings of the regression analysis are based on a specific dataset that has limitations. The unique organization of the data and identifiable patterns in the dataset caused challenges for defining treatment and control groups. It is worth noting that there were disparities in household compositions during the period of 2016-2021, which made it challenging to form a consistent cohort for analysis. In addition, inconsistencies were observed in the variables contained within the dataset, as certain datasets encompassed variables that were excluded from subsequent ones, which led to the exclusion of certain valuable variables from the analysis.
2. **Robustness of the model**: Given modest R-squared values of 0.123 and 0.116 imply that a small fraction of income mobility variability can be explained by these variables. Advanced econometric methods, such as instrumental variable or Difference-in-Differences analyses, may be utilized in future studies to mitigate endogeneity and offer increased causal inferences.
3. **Informal Economy Considerations**: We also acknowledged the high occurrence of informal labor in Armenia and its potential influence on the efficiency of minimum wage measures. Subsequent studies may further investigate comprehending the intricacies of the unregulated economy, its correlation with minimum wage regulations, and the strategies aimed at decreasing poverty.
4. **Long-Term Effects and Sustainability**: The study primarily focuses on short-term effects of minimum wage increases on poverty and income mobility (2016-2021). Furhter research may explore the long-term effects and sustainability of these policies.

5. **Regional and Sectoral Variations**: To enhance comprehension, future research could delve into potential sectoral and regional variations relative to minimum wage policies. In-depth analysis would be necessary as different regions and industries have unique labor market characteristics and socioeconomic conditions that may have a bearing on this aspect.

Efforts directed towards overcoming the aforementioned limitations and exploring prospects for forthcoming investigations can augment comprehension of the relationship between minimum wage, poverty, and income mobility in Armenia. This understanding can facilitate policymaking based on empirical evidence to efficiently combat poverty and enhance prevailing standards of living.

In summary, the key findings of this study demonstrate a positive and statistically significant causal inference between the minimum wage hikes and income mobility. The regression analysis coefficients reveal that increasing the minimum wage leads to an estimated growth in income for poor households. These results are highly relevant for comprehending the potential advantages of raising the minimum wage. By comparing it to poverty lines and assessing the bare minimum wage necessary to cover sustenance, it is apparent that the increase occurred in 2023 is expected to provide additional financial resources to poor households, ultimately improving their living conditions.

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