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Impact Of Minimum Wage On Youth Unemployment
A Case Study Of East Africa

By

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Project contains no material previously published or written by any other person except where the due reference is made in the Research Project itself.

Mboya Wesley Wambua

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This Research Project has been submitted for examination with my approval as the Supervisor.

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ABSTRACT

The aim of this study to investigate the impact of minimum wage policies on employment among the youth population in the East African Community. It implemented a panel data analysis with a sample of three countries: Kenya, Uganda and Tanzania as the cross sections and uses data from the year 2000 to 2019. The independent variables regressed on the youth employed were: minimum wage, economic growth, investment growth, the country's human development index, inflation and the bank lending rate. The first model found a positive and significant effect from the human development index to the youth employed. The second model, which also included interactions between minimum wage and the other independent variables found positive significant effects from inflation and interactions with inflation and economic growth.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The effect of the minimum wage policy has been broadly talked about and is a going concern among labour economists and analysts. Its effect is particularly huge among the young population. The regular neoclassical model predicts that the usage of a base wage instigates joblessness as long as the interest bend for work is downward slopping. As of not long ago, most time series analyses focusing on the U.S. establish that a 10% rise in the wage floor would bring down young person work by between 1% to 3% (Brown, Gilory and Kohen, 2016). The minimum wage policy in the U.S has affected a few portions of the labor market. The policy's inclusion has been widened enormously after the Second World War, accommodating businesses with much lower wages. Since the base wage is constant no matter the age of the laborer, it has totally different effects on various age gatherings: in 2005 the equivalent $2.10 the minimum wage was 94 percent of the middle compensation for those 16 to 19 years of age (Konwinski & Zaharia, 2017).

Be that as it may, Card, Katz, and Krueger (2017) and Card and Krueger (2014), challenge these forecasts and illustrate the affectability of past estimation results on model determination. With a sample of observations that reached out into the 2000s, they find that the effect of the minimum wage policy on youth employment was actually less significant. Burkhauser, Couch, and Wittenburg (2015) call to attention that as the minimum wage policy changes happen in discrete strides through time, the incorporation of factors in the estimations that have the impact of controlling for any discrete change after some time is probably going to significantly decrease the opportunity of acquiring an exact estimate for the impact of the policy. They construct a small but significant negative connection between the wage base policy and youth employment by using controls for some macro conditions in their model.

South Africa is an instance of the more effective transitions from centrally planned economy to a market economy. It has one of the most elevated joblessness rates in Central and Southern Africa even with this achievement. Since the implementation of the Economic Transformation Program in 2000, the joblessness rate has expanded consistently and was as of 2017 at around 15 percent (Nkosinathi, 2017). The stuns related with the ETP and the breakdown of the Council for Mutual Economic Assistance at first certainly delivered joblessness. Still, the minimum wage policy is a considerable factor to attribute to the steady increase in employment. Dissimilar to some other already midway arranged economy (PCPE), South Africa's minimum

wage policy has been ceaselessly updated upward all through the change time frame and has expanded both in real terms and comparative with the normal pay. Mbeki (2018) states that South Africa's base wage likewise varies from those of different nations in that it depends on month to month profit, as opposed to hourly. This makes employers less inclined to react to increments in the minimum wage by limiting the number of hours a minimum wage worker earns and more likely to raise the number of hours a minimum wage worker works but reduce the number of minimum wage workers. Bokamoso (2014) cites these as reasons as to why South Africa's labor market has special characteristics wherein to construct the impact of minimum wage on employment.

Agriculture is the backbone of Ethiopian economy, contributing 45 percent of the Gross Domestic Product and 85 percent of foreign exchange earnings (Payne, 2017). Most of Ethiopia's population derive their livelihood from agriculture and agriculture-dependent industries (World Bank, 2016). As indicated by African Economic Outlook (2016), of late Ethiopia has recorded exceptional economic growth. Despite this, unemployment among the youth is one of the core challenges facing the country's economic development with the youth consisting 28% of Ethiopia's population (CSA, 2017). Developing literature shows that the Ethiopian youth unemployment rate is one of the highest. (Yusuf, 2018).

Notwithstanding, CSA (2015) demonstrate that urban youth unemployment figures in Ethiopia show a declining pattern, despite the fact that high figures illustrate a major challenge. Unemployment among the youth was found to be more prevalent in urban areas. CSA (2015) illustrates that the capital city, Addis Ababa, has the highest youth unemployment rate followed by the second largest city of Dire Dawa. Despite the special elements and reasons for joblessness in these urban areas being multi-faceted and mind boggling, Okafor (2018) accredits the significant level of youth unemployment in urban territories to rural-urban migration of the youth in Ethiopia despite the special dynamics in the two cities.

Approaches to setting minimum wages are a well-known yet disagreeable instrument. Blanchard (2016) proposes that the fundamental purpose behind founding least wages should be to enable laborer's whose wages are obliged by the monopsony of employers. Two different contentions for the minimum wage setting identify with proficiency compensation and the way that increment in minimum wages improve laborer's purchasing power, which can trigger demand of labor by increasing demand of consumer goods. Levin-Waldman (2017) indicates that the contention on efficiency of wages expresses that higher wages can expand laborer's

efficiency, which thus permits managers to pay higher wages. One explanation behind an expansion in productivity may be that higher wages permit laborer's to improve their sustenance. Another form of this logic is that minimum wages power directors to give hands on preparing, which makes laborer's progressively profitable. However, it might also be reasoned that without much motive to give training, firms may simply turn out to be increasingly specific, recruiting laborer's with higher efficiency instead of acquiring in the expense of preparing them. On its part, the buying power argument necessitates that low compensation businesses profit by the higher utilization of low-pay laborer's which may not really be the situation. Without that interface the impacts are probably going to be little, as increased sales are not prone to make up for higher pay costs.

Kenya's Employment Act (CAP 229) was executed in 1962, when the minimum wage policy was implemented. Since the time at that point, the minimum wage has had more than seven alteration stages, from the earliest starting point with a 62.19% inclusion rate to 100% full inclusion in 2018. As indicated by the review of Kimani (2017), the compliance rate with the Minimum Wage Law is half in Kenya. Also, the level of laborer's with a monthly wage underneath Ksh 10,000, which is lower than the legal minimum wage Ksh 13,572, is dominant among laborer's between 20-24 years of age, trailed by the age set of 45-64 years of age, and afterward that of 25-44 years of age. The comparing figures are 7.56%, 4.12%, and 2.28%, respectively. Therefore, Kenya deserves a careful study on the impact of minimum wage on unemployment. Kenya's labor market can give more evidence and furthermore shed light over our comprehension on the impact of minimum wage on unemployment. Kenya has held a functioning minimum wage policy since the nation was awarded autonomy. There are 17 upward revisions of the minimum wage, setting an enormous number of the minimum wages that differ by occupation, industry and area. Minimum wages are refreshed every year and apply to every single salaried worker who are at above 18 years of age and work in the formal sector. An alternate pay matrix applies to agrarian representatives and to laborers engaged in other practices. Proof of the impact of least wages in Kenya is hampered by the shortage of information.

Viable execution of minimum wages has consistently ended up being fundamental to the labor force in any country. An investigation led in England by Davis (2018) concludes that the possible advantages of higher minimum wages originate from the higher wages for affected laborer's. The potential drawback is that a higher minimum wage permitted by law may demoralize employers from employing the low-wage and low-ability young people that

minimum wages are expected to help. At that point least wages are not a "free lunch" with which to support helpless young people, however, rather represent a trade-off of advantages for some versus costs for other people. High minimum wages in this manner may negatively affect work assimilation. Studies carried out are not consistent, however particularly for the US, proof recommends that base wages diminish the employments accessible to adolescents. Lyson (2016) states that higher base wages are turning into the standard in numerous nations. Albeit a minimum wage policy is planned to guarantee a minimal way of life, unintended results subvert its adequacy. A decent set of proof shows that the pay gains from the minimum wage increments are balanced, for young people, by less occupations. Moreover, the proof on distributional impacts, however constrained, does not highlight ideal results from the minimum wage climbs even if some segments of laborer's may profit. Different instruments, for example, earned income tax credits, show up more successful at helping the youth than the minimum wage policy.

As per Abebe (2015) the minimum wage policy assists young people with winning enough pay. In any case, Kanorio (2018) recommended that more investigation ought to be done on the likely drawbacks in which it might dissuade businesses from employing low-wage, low-expertise youths. In the event that base wages decrease work for young people, victors and failures will rise. Whether a minimum wage diminishes neediness or helps young people at that point relies upon where these 'winners' and 'losers' are found along the distribution of incomes. Plainly, the impact on occupations is basic: in the event that a higher minimum wage doesn't reduce employment, then from the government's viewpoint it is a "free lunch" that eradicates poverty, regardless of whether higher-pay youth are also at advantage. Work financial experts have since a long time ago examined whether least wages lessen business. Omolo and Omitti (2014) established that the minimum wage policy in Kenya has failed to contribute to sustained poverty reduction. Moreover, using aggregate time series data they find a negative correlation between minimum wages and modern private sector employment which creates the knowledge gap that this study seeks to fill.

1.2 Statement of the Problem

Youth unemployment and underemployment is a growing global phenomenon. In Kenya nearly 5 million people (18–34 years of age) are unemployed; and the youth unemployment rate was 38.9 per cent in 2018 (ILO, 2019). It has become a challenging issue particularly for many developing African countries including Kenya (Kolev and Saget, 2019). Despite the different efforts that have been made by African countries, the overall youth employment situation has

not changed (UNECA 2017). Youth face not only the challenge of obtaining 'productive employment, but also safe and acceptable work' (Broussard, 2016). Abebe (2017) and the World Bank (2018) point out that throughout African countries, a significantly higher proportion of young men and women than adults work in the informal sectors, where wages are lower and workplace protection and benefits are nonexistent (ILO, 2019).

Despite population growth rates of 169%, 187% and 173% from the year 2000 to 2019 in Kenya, Uganda and Tanzania respectively as by World Bank Databank (2019), the unemployment rates have remained fluctuating between 8.7% and 10%, 2% and 3.6% and 2% and 3.5% in the prescribed order instead of gradually decreasing. Kenya's employment to population ratio between 2000 and 2019 was lowest at 63.3% in 2005 and highest at 73% in 2016. Tanzania's employment to population ratio was relatively higher at between 81.8% and 85.7% whereas Uganda's employment to population ratio had the lowest range at between 68% and 70%. These numbers clearly suggest a growing pool of unemployed individuals of which majority are the youth (UNECA 2017), coupled with a high dependency ratio. This portrays an imminent risk of increased crime and social unrest if the labor absorption rate is not ameliorated.

1.3 Objectives of the Study

1.3.1 General Objective of the Study

The main objective of the study will be to formulate suggested minimum wage policies in the East African Community Countries in attempt to absorb more youths into formal employment.

1.3.2 Specific Objective

To identify the impact that minimum wage policies have on unemployment among youths in the East African Community Countries.

1.4 Research Question

What impact does minimum wage policy have on the employment of youths in East Africa?

1.5 Justification of the Study

Governments of the three East African countries would benefit from this study, since it aims to increase formal employment and specifically formal youth employment. This would improve social welfare by mitigating the risk of social vices, reducing the dependency ratio of the countries involved and also improving standards of living.

Other beneficiaries are the unemployed youths in the three countries, since it aims to achieve their employment into the formal sectors. However, this is with the assumptions that all unemployed youths do wish to be formally employed and that all unemployed youths qualify for formal employment in their respective countries. Additionally, other scholars may benefit in future from this study as it may be useful as a guide to understanding the problem of youth unemployment in the three East African countries.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this chapter the researcher reviews the empirical and theoretical literature relevant to the problem being investigated, conceptual framework, critique of the existing literature, summary and the research gaps.

2.2 Theoretical Framework

The impact of minimum wages on employment can be explained in two theories, namely, modern economic theory and the classical economic theory of labor. These theories are discussed below.

2.2.1 Modern Economic Theory of Labor

Modern labor economic theory predicts that albeit an extreme minimum wage may raise joblessness as it fixes a high cost for firms' budgets. A minimum wage at a sensible level can lead to job creation and subsequently improve development and productivity. This is on the grounds that work markets are monopsonies, and laborer's constantly need haggling power. When less fortunate laborer's have more to spend it prompts producers to produce more in order to sustain the increased market demand. The contention that a minimum wage diminishes work depends on a straightforward demand-supply model of the labour market. Robert (2006) and Arrigo and Ian, (2004), expanding on the study by Piero Sraffa, explain that that model, is incomprehensible. Michael (2003) contend that in view of simulations, that little of the experimental work finished with the textbook model comprises a possibly incorrect logic. Subsequently concrete proof barely exists for that model.

The supply and demand model predicts that raising the minimum wage helps laborer's whose wages are raised, and harms individuals who are not recruited or lose their positions when organizations downsize. However, defenders of the minimum wage policy hold that the circumstance is considerably more complex than the model can represent. One muddling factor is conceivable monopsony in the work market. In this manner, it is at any rate hypothetically conceivable that the minimum wage policy may support employment. Even though monopsony of labor might be non-existent in some labor markets, it is encouraged by information asymmetry and immobility of labor.

2.2.2 Classical Economic Theory of Labor

Classic economic theory of labour permits people to examine the money related impacts of social and government-orchestrated arrangements. Nations are built upon several economic principles. The minimum wage is a typical monetary standard influencing the salary of a country's laborer's. Countries utilize the base wage law strategies to guarantee people can keep up at least a certain standard of living. Minimum wage policies can have a few positive or negative impacts in the country's economy (Wayne, 2003). These laws endeavor to improve a person's situation in the monetary levels of income. Instead of having many pro laborer's, the minimum wage policies are aimed at achieving a degree of financial equity. Governments canals use minimum wage policies to compel organizations to pay all people similarly without any form of bias or impartiality based on personal attributes. (Barnes, 2006).

Base wage laws at times have unintended outcomes such as increasing a person's tax expenses. Countries with progressive tax rate frameworks expect people to pay more expenses as their salary grows. Setting a high the base wage or utilizing steady increments can drive people into higher tax brackets. Another unintended outcome is that company's may end up with higher labour expenses which could cause employers to downsize their labour. Minimum wage policies could bother higher-paid laborers. These segments of laborers can earn pay raises for years without their employers actualizing this reward. Steady increments in the minimum wage of a country therefore necessitates that higher-paid laborer's too are compensated at a higher wage rate regardless of the firms' budget constraints.

2.3 Empirical Review

2.3.1 Approaches That Trade Unions Have Put in Place to Implement Minimum Wage

The management approach to facilitate adherence emphasizes the necessity of administrative structures which are scrutinized and comprehended by the laborer's in question. This nullifies any defense of vagueness of the policy made by employers who are found to underpay their laborer's. An interactive negotiating process of pay setting allows the remuneration to be set at a level on which workers' and employers' representatives have agreed as per Chorafas (2016). The wage floor would first be the end result of a consensus-oriented haggling process between social partner , and afterwards be passed as law by the legislature. Payne (2016) explains that a three-party decision-making process could facilitate the common interpretation

of the remuneration law. Too the current aim, a national minimum wage may well be preferable than a system of minimum wages for different labour segments. National minimum wage policies exist for example in Brazil, UK and plenty of West Africa countries (Stephanou and Rodriguez, 2015)

As per Maheshwari (2017) a solid minimum wage policy established in a consensual manner despite everything requires a lot of information and capacity building in order to be deemed as effective. Accurate comprehension of minimum wages is essential for consistence. What's more, training ought to be offered to employers, laborer's and their delegates so as to ensure that failure to complying is not attributed to lack of capability. Colquitt (2019) explains that the government of Britain has run five training programs between October 2017 and March 2018 in attempt to raise awareness on the minimum wage policy between. Furthermore, Grable et al (2014) states that the British government has run annual training programs in select sectors that may be in jeopardy such as hospitality and hairdressing. As per Stephanou and Rodriguez (2015), trainings also inhibit employers from underpaying their laborer's then declaring ignorance.

Inspections appear to be the mainstream instrument in ensuring adherence as they are given by law in the majority of the nations in the ILO Minimum Wage Database. In any case, scrutiny officers are at danger of being compromised by bribes since they are not well-paid (Skidmore, 2019). In response to this risk, the Brazilian government appears to have put in place anti-corruption measures. Inspectors are allocated to a subregion for a year, so as avoid from the formation of personal ties to employers. Assessors also get a genuinely significant pay, which can be coordinated through merit-based incentives (Almeida and Carneiro, 2019).

2.3.2 Performance of the Legislation of Minimum Wage

In numerous nations like the US and the UK, laborer's themselves can individually sue their employers (US Department of Labor 2015; Low Pay Commission, 2017). Though this system encourages individuality in rights and voice, it implies greater risk on the individual's job security and therefore hinders individual protest. Therefore, measures are required to enable and secure laborer's and to offer them impetuses to protest. To start with, remuneration for underpayment should be legislated. The business needs to remunerate the laborer's by paying them the distinction between the paid pay and the minimum wage. In certain nations, a period restriction on back-pay is accommodated yet this arrangement does not appear to be reasonable to the laborer's (US Department of Labor 2015; Low Pay Commission, 2017). According to

Ngoc (2015), employers are urged to react rapidly to such complaints on compensation by awarding punishment waivers to quick responses. Rand (2017) points out that dispute settlement at the sectoral level seems to have advantages. A mutual understanding can be found quicker when confrontation is less direct.

If there should be an occurrence of infringement of the minimum wage policies, monetary fines are given by law in most nations in ILO Minimum Wage Database. Heavy fines are vital to the adequacy of the implementation framework. If all stakeholders follow sensible economic stipulations, the expenses incurred due to non-compliance ought to consistently exceed the benefits of adherence. In certain nations, the measure of the fine is controlled by taking the base wage and duplicating it by a few times; in Colombia, for example, the fine may sum up to a hundred-fold of the base pay. Contingent upon the degree of seriousness of the offense, detainment is additionally a potential result in nations like India (Cook and Nixon, 2016). As per Sarapaivanich and Kotey (2016) penalties may turn out to be progressively heavier relying upon the circumstance. For example, if the offence is recurrent, it duplicates in Algeria. In Vietnam, the courts may even order dissolution of the business.

In attempt to provide an easily accessible and safe channel of wage complaints, government organizations in the UK have put up discreet hotlines to which laborer's can call and complain anonymously. In addition to this, online questionnaires were found useful in the UK to filling online complaint forms on employers not adhering to the minimum wage policy as per Davis (2016). They have proved effective as anyone can raise issue either anonymously or identified.

The Kenyan Department of Labor stated that enactment and changes in the national minimum wage policy were as of 2018 going through parliament and that the date of execution of the new wage would be rescheduled. There have been minimum wage policies since Kenya gained self-rule. Sectoral and segmented labour understandings should comply with the minimum wage policies once assented (Kimani, 2018). The Basic Conditions of Employment Amendment Bill likewise makes arrangements for exclusions of as long as a year from the minimum wage for new companies and little and medium-sized businesses who might struggle to pay the higher compensation. Further, the national minimum wage is set to be annually revised by the National Minimum Wage Commission considering macroeconomic dynamics (Seppala, 2015).

2.4 Research Gaps

An ILO study illustrated that the implementation of a minimum wage in 2012 of in Northern Macedonia may have had significance in lessening the gender pay gap. Be that as it may, amplifying the impact of base wages on gender pay gaps necessitates that the labour market institutions and wage laws are not biased against less advantaged segments of labor.

Likewise, since the causes of gender wage gaps are numerous, many policies ought to be implemented so as to rectify the gaps. National legislation must provide for the right to equal remuneration for work of equal value and effective access to justice to claim this right. In addition, equal pay between youths needs to be promoted through strong polices to promote equality, including combating stereotypes about youth roles and aspirations and strengthening polices (Ngugi, 2015).

The training, geared toward employers' and workers' representatives as well as human resource managers, focuses on a wide range of issues, including minimum wage implementation. Trade Unions try to link the workers' interest in good working conditions with management's interest in the company's performance. Indeed, the compliance rates with most of the indicators for working conditions have shown a positive trend in the last years. Most notably, the minimum wage compliance rate for regular workers increased from 93% to 100%, and the rate for casual workers from 74% to 89% between 2016 and 2018. The research study will narrow its research undertakings into these gaps with an aim of gathering data that would help to come up with effective recommendations on the impact of minimum wage on unemployment among youths in East Africa.

2.5 Summary

This section handled an analysis of existent literature. Specifically, the section focused on the theories that explain the affectivity of minimum wages on employment, ways in which that worker's unions have set up to execute the minimum wage, execution of the minimum wage policies, challenges facing trade unions in actualizing the minimum wage policy and how it influences joblessness among young people in East Africa. It also helped in recognizing some niches that ought to be explored in future. According to Maheshwari (2017) a strong, consensus-based minimum wage regulation still requires much knowledge and capacity building to ensure it is effective. Clear information and correct understanding of the minimum wage are necessary for compliance. In addition to this, training should be provided for employers, youths and their representatives in order to guarantee that non-compliance is not

due to a lack of capacity. The government as well as employers' organizations and trade unions can run information campaigns targeting the wider society, employers and workers.

CHAPTER THREE
DATA AND METHODOLOGY

3.1 Introduction

As illustrated in the literature review, the research and information on the impact of minimum wage on employment shows different reactions to minimum wage policies in different countries. In more developed countries, an increase in minimum wage has more positive impact than in less developed countries. This may be attributed to the differences in microeconomic responses; in less developed countries firms may be less inclined towards employing more people at a higher minimum wage since they would be better off employing less units of skilled labour.

In this section I will cover the population and the sample that will be used in data analysis. I will then introduce and explain the methods that will be used in data analysis and how the methodology will be conducted.

This study examines the impact that minimum wage policies have had on employment among the youth of the three East African Countries, namely, Kenya, Uganda and Tanzania. Other factors are considered into the study to explain the country-specific macroeconomic influences that would also affect employment among the youth.

3.2 Research Design

In this study, I mean to use experimental research methods to explore the relationship between minimum wages and youth employment in East Africa. Experimental research entails objective and scientific manipulation of data collected from surveys, databanks or reports aimed at constructing a relationship between variables. I chose experimental research due to the high level of accuracy it will offer the econometric model used in the study.

I intend on collecting secondary data on a sample of East African Countries that will be used in the empirical analysis from online databanks such as the World Bank Databank and the International Labour Organization Databank

3.3 Data Population and Sampling

There is a total of six East African Community Countries, namely, Kenya, Uganda, Tanzania, Burundi, Rwanda and South Sudan. It would be ideal to use data on all six countries to explain the impact of minimum wage on youth employment. However, various reasons hindered some countries from being viable constituents of the sample. For instance, Rwanda has no government-mandated minimum wage or any form of legislated wage floor and banks on

employers being reasonable in compensating their laborer's. For this reason, Rwanda is not in the sample used in this study. Additionally, South Sudan will be omitted from the sample due to lack of data on its minimum wages. Burundi has non-randomly missing data on minimum wage from 2012 to 2019 and is therefore also be omitted from the sample.

Therefore, the sample used in this study will feature three of the six East African Community Countries, namely, Kenya, Uganda, and Tanzania. Available data on youth employment and minimum wages run from 2001 to 2020. However, since the observations of the year 2020 are not yet conclusive, this study will focus on data up until the year 2019.

3.4 Data Analysis

3.4.1 Empirical Model

Feriyanto & Sriyana (2016) explain that beside minimum wage, other factors that may affect employment in a country are Foreign Direct Investment, Domestic Investment and Economic Growth. They cite Imbriani, Pittiglio & Reganati (2011) who establish that Foreign Direct Investment inwards positively affects employment in a country but depends on the industries being invested in since different industries have different labor intensities. Similarly, they cite Mohamed, Singh, Singh, & Liew (2013) who concluded that Domestic Investment and employment have a positive causality effect on each other. Nayyar (2014) concluded that Economic Growth has a two-way positive relationship with Employment in that improved economic growth may give rise to more employment opportunities, while still, increased employment would increase the Gross National Income.

Phillips (1958) studied the relationship between inflation and unemployment in Britain between 1861 and 1957 and found an inverse relationship between the two. Bierens and Broersma (1993), found that variable costs such as interest expenses affect firms' employment rather than fixed costs such as rent. This brings lending rates as a considered variable in this study. Feriyanto (2016) found that the human development index has a bilateral causal relationship with the employment level in Indonesia.

The empirical model used in this study is defined as follows:

$$DYE_{it} = \beta_1 DMW_{it} + \beta_2 IG_{it} + \beta_3 EG_{it} + \beta_4 HDI_{it} + \beta_5 I_{it} + \beta_6 DLR_{it} \quad (1)$$

DYE is the percentage annual change in the estimated national employed youth population as modelled by the International Labour Organization.

DMW is the percentage annual change in the legislated national minimum wage as recorded by the International Labour Organization.

IG is the percentage growth in investment as recorded by the World Bank as Gross Capital Formation in the World Bank Databank.

EG is the annual percentage growth in economy size annual recorded as GDP by the World Bank in the World Bank Databank.

HDI is the human development index as modelled by the United Nations Development Programme.

I is the GDP deflator, a measure of inflation, as recorded by the World Bank.

DLR is the percentage change in the lending rate; as was recorded by the relevant banking regulators.

The model used is a panel data model because the variables' observations vary by both country and time. This study also includes a second model which will include interactions between minimum wage and the other independent variables to establish any joint effects that minimum wage has.

3.4.2 Estimation Procedures

In panel data, there are three models that can be used to estimate the data, namely: pooled OLS model, fixed effects model and random effects model. The pooled model treats that all the observations as of the same cross-section and time frame. It would simply yield the average relationship based on all observations. The fixed effects model uses time-demeaned variables and hence would yield different intercepts for each cross-section but similar slope parameters. Lastly, the random effects model assumes that the cross-section specific intercepts are part of the error term of the regression.

To specify which panel data model will be used in this study, various tests will be carried out. First, the variables will be tested for stationarity through the Levin-Lin-Chu, Im-Pesaran-Shin and Fisher-Type unit-root tests. The Breusch-Pagan Lagrange Multiplier test which tests for significant correlation in residuals of different periods will offer scrutiny between the pooled

OLS model and the random effects model. If the test returns significant correlation, the random effects model ought to be used over the pooled OLS model. The Durbin-Wu-Hausman test which will test whether the fixed effects estimator is significantly different from the random effects estimator will discriminate between the random effects model and the fixed effects model. An insignificant difference would mean that the random effects model should be used over the fixed effects model since it is superior to the fixed effects model. The F-test which is based on loss of goodness-of-fit with a least squared dummy variable model as the unrestricted model and a pooled OLS model as the restricted model will test whether the fixed effects model is suitable over the pooled OLS model.

CHAPTER FOUR
RESULTS AND FINDINGS

4.1 Introduction

In this chapter, the results pertaining to the model described in the previous chapter are presented. The first part discusses the results of the tests that were run on the data and the second part discusses the relationships obtained from the sample in terms of sign and significance.

4.2 Test Results

Various tests were conducted to prepare the data for regression. The results to the tests are reported in this sub-section.

4.2.1 Tests for stationarity

Variable	LLC p-value	Inference
DYE	0.0223	There is no unit root
DMW	0.0000	There is no unit root
IG	0.0045	There is no unit root
EG	0.0002	There is no unit root
HDI	0.0000	There is no unit root
I	0.0574	There is a unit root
DLR	-	-

The Levin-Lin-Chu test reported absence of a unit root for all the variables except inflation in the three countries, but it did not yield results for the change in lending rates because its observations were unbalanced across the three countries.

Variable	IPS p-value	Inference
DYE	0.0897	There is a unit root
DMW	0.0003	There is no unit root
IG	0.0012	There is no unit root
EG	0.0016	There is no unit root
HDI	0.0000	There is no unit root
I	0.0015	There is no unit root
DLR	0.0003	There is no unit root

The Im-Pesaran test for stationarity reported absence of a unit root for all the variables except the percentage growth of youth employment. Notably, it yields results for both balanced and unbalanced variables.

Variable	Fisher type p-value	Inference
DYE	0.0460	There is no unit root
DMW	0.0000	There is no unit root
IG	0.0000	There is no unit root
EG	0.0000	There is no unit root
HDI	0.0000	There is no unit root
I	0.0000	There is no unit root
DLR	0.0000	There is no unit root

The Fisher-type unit-root test based on the augmented dickey-fueller tests reported absence of unit roots for all the variables in the study. Similar to the Im-Pesaran test, the Fisher-type unit-root test also yielded results for both balanced and unbalanced panels.

4.2.2 Test for model specification

Test	P-value	Inference
F- test for Fixed Effects	0.0021	There are significant fixed effects
Breusch LM Test	0.0000	The random effects model is appropriate
Hausman Test	0.0402	The fixed effects model is preferable to random effects model

The f-test for fixed effects reported a low p-value of 0.0021 indicating that the fixed individual effects are significant. The Breusch Pagan Lagrange Multiplier test for heteroskedasticity reported a p-value of 0 with a probability of 1.0 indicating presence of heteroskedasticity and therefore appropriateness of the random effects model on the data. The Hausman test for endogeneity reported a p-value of 0.0402. Therefore, the null hypothesis that the random effects model is preferable to the fixed effects model is rejected.

This study therefore uses the fixed effects model in model estimation as the three tests advise that both the fixed effects and the random effects are significant, but the fixed effects model is more preferable in this particular context.

4.3 Regression Results

Two regressions were run to model the sampled data. Model 1 is the fixed effects model with the original independent variables only, and model 2 is the fixed effects model with the original variables and also interaction terms between the change in minimum wage and the rest of the independent variables. The results to both model regressions are discussed in this subsection.

4.3.1 Model 1 Results

Variable	Co-efficient	P-value
cons	-0.0371	0.033
DMW	-0.0006535	0.972
IG	0.0350891	0.172
EG	0.0725208	0.569
HDI	0.110527	0.002
I	-0.0023737	0.867
DLR	0.0003496	0.719

Model 1 finds the constant and the human development index as significant variables affecting the percentage growth of youth employment. It finds that ceteris paribus, the youth employed in the countries in the sample should annually decline by 3.7%. If the human development index rises by one unit on a year-on-year basis in the countries in the sample, the youth employment in the country ought to incline by 11.05%.

4.3.2 Model 2 Results

Variable	Co-efficient	P-value
cons	-0.0404671	0.147
DMW	-0.2181424	0.379
IG	-0.0285751	0.450
EG	0.245101	0.090
HDI	0.0887523	0.095
I	0.1432005	0.026
DLR	0.0013465	0.43
DMW*IG	-0.5728784	0.085
DMW*EG	2.929186	0.029
DMW*HDI	-0.042293	0.918
DMW*I	1.292319	0.028
DMW*DLR	-0.007122	0.785

Model 2 on the other hand finds inflation, interaction with economic growth and interaction with inflation to have a significant effect on the percentage growth of youth employment in the sample countries. All else constant, if the consumer price level rises annually by 1%, the youth employed ought to increase by 14.32%. In regard to the significant interaction variables, the delta of the youth employed to the minimum wage is as follows;

$$d\,DYE/d\,DMW = 2.929186\,EG + 1.292319\,I \quad (2)$$

This means that the percentage change in the youth employed due to a unit percentage change in the minimum wage is dependent on the growth of the economy by a factor of 2.93 and on the inflation level of the economy by a factor of 1.29.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter, the results to the regression models reported in the previous chapter are discussed and conclusions are drawn from them. Finally, recommendations are offered in the final part of the chapter.

5.2 Summary of the Study

This objective of this study was to identify the impact that minimum wage policies have on the employment status of the youth population in the East African Community. Due to previously discussed reasons, only a sample of three out of the six countries in the East African Community were used in a panel data model considering the dynamics of youth employed in a given cross section due to: the minimum wage of the country, the growth in investments in the economy, the growth of the economy, the level of inflation in the economy, the human development index of the people in the country and the average bank lending rate in the economy.

While the Breusch Pagan Lagrange Multiplier test reported that a random effects model would be appropriate, the f-test for fixed effects reported that significant fixed effects were present across the three cross-sections. The Hausman test reported that a fixed effects model would be more appropriate than a random effects model given the specified model and the data being modelled.

5.3 Conclusions

Model 1 found that only the Human Development Index has a positive and significant effect on the youth employment in the East African Community as all other variables reported insignificant effects in the model including the minimum wage. The human development index is a composite index produced by the United Nations Development Programme consisting of the level of wealth, level of education and quality of health of a people. This finding shines light on the importance of the productivity of a people on their employment as it indicates the more productive a people can be, the higher the employment of the youth in the country. Krishna and Bino (2013) establish that the Human Development Index is directly correlated to the wage level of a people. This explains higher youth employment by higher participation in the labour pool as a higher Human Development Index indicates a promise of higher return for

labour. Moreover, a higher Human Development Index attracts investments which in turn create more jobs absorbed partially by the youthful population.

Model 2, which factored in interactions between minimum wage and the other independent variables, found a positive significant effect by the inflation level. This finding is supported by the Phillip's curve which generally illustrates a short term negative relationship between inflation and unemployment despite findings that the Phillip's curve is flawed since workers rarely have the bargaining power to convert increased demand for their labour into higher compensations and thence higher labour pool participation by Bahn and Clemens (2019).

Model 2 also found positive significant effects from the interactions of minimum wage with inflation and the economic growth but no direct effect of minimum wage on the employment of the youth. This is the focal finding of the study since it explains the significance of the minimum wage policy on youth employment in the East African Community as shown in equation (2). This finding shows that in the East African Community, minimum wage minimum wage policies ought to be constructed and revised putting under consideration the economic growth of the country together with the inflation level in the economy if they have the objective of improving the employment status of the youth population.

5.4 Limitations of the Study

One limitation while carrying out this study was the inadequacy of data in constructing the sample. For instance, Burundi's data on minimum wage was unavailable from the year 2013 onwards and Rwanda's data on minimum wage was unavailable from the year 2006 to 2009 then again from 2012 to 2017. This made the sample used in the study smaller than desirable as this study targeted a sample of at least four out of the population of six countries to increase the adequacy of the sample in representing the population.

Another limitation was that some cross sections such as Tanzania did not have all its data on minimum wage in the International Labor Organization databank. I therefore had to fetch data from multiple sites then standardize them to the units used in the ILO databank.

5.5 Recommendations

5.5.1 Policy Recommendations

The outcome of this study stipulates that the human development index, the inflation level and the interactions of minimum wage to inflation and economic growth are important in improving the status of youth employment in the East African Community. Since minimum wage policies are much more easily manipulated than the Human Development Index, the involved

governments could use this minimum wage policies as an instrument to counter growing youth unemployment in dire seasons such as economic contractions and recessions. Reducing the minimum wage in such seasons would cause employers to be more inclined towards hiring more young people with fewer skills than the more experienced adults. This would go a long way in curbing crime and other social vices that occur in such seasons. However, lowering the minimum wage can also cause deflation since the strength of affording goods and services will be reduced. It could also cause voluntary unemployment as minimum wage earners will end up having to earn less than they originally were.

It is notable though, that the Human Development Index has a more long-run effort on the side of the governments and also a more long-term effect on the employment of the youth. Improving a people's Human Development Index involves public expenditure into ventures aimed at improving the national health and education quality. These may include constructing public health covers at affordable and equitable premiums to the youth and establishing more institutions of higher learning for both formal education and technical training.

5.5.2 Suggestions for Further Research

This study found the Human Development Index to have a direct and positive effect on the employment of the youth in the East African Community. Further research could be conducted in future on effective policies and measures aimed at improving the human capital of the people of the East African Community. This will not only improve the employment prospects of the youth population but will also improve the productivity of the current and future generations.

Also, it would be of great interest to study the country-specific dynamics between minimum wages and youth employment through a time series analysis. This is however currently not possible due to the inadequate available data.

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