

Final report

# The effects of minimum wages on the labor market and income distribution in Kenya - a CGE analysis

Tabitha Mwangi  
Florence Simiyu  
Albert Onderi



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# **The effects of minimum wage on the labor market and income distribution in Kenya - a CGE analysis.**

## **Abstract**

In Kenya, there has been increased debate on the impact of increases in the minimum wage and the pay disparities between sectors. Long-term differences in earnings across sectors and different regions (urban and rural) are reflected through higher poverty rates in rural areas and especially among wage earners. This study evaluated the effects of minimum wages on labor and its impact on growth. The study uses the single country static model, PEP-1-1 model and Social Accounting Matrix for Kenya for the year 2009. The key research questions are to assess the effects of minimum wages on rural or urban area labor markets, labor migration, and income distribution. To achieve this, the study simulates three scenarios: increases in minimum wages for formal workers in urban and rural areas at the same rate of 5%, different rates (10% rural and 5% urban), and a cut in the minimum wages in both regions. The study findings indicate that wage increases fuel the migration of labor from rural to urban areas and stifles expansion of the economy. A rise in minimum wages has an overall negative effect on rural households while benefiting urban household. The policy therefore tends to increase incomes of urban households compared to rural ones, increasing inequality. A fall in real minimum wages on the other hand, is supportive of growth and employment growth.

**JEL:** C68, J38, J61, E64

**Keywords:** Minimum wage, labor market, migration, income distribution, CGE

## **Authors**

Tabitha Mwangi  
Economist  
Kenya National Bureau of Statistics  
wambuitm@gmail.com

Florence Simiyu  
Lecturer  
Technical University of Kenya  
nelimalola@gmail.com

Albert Onderi  
Research Analyst  
JKUAT  
albertjohn2379@yahoo.com

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## **Abbreviations**

CPI	Consumer Price Index
EAC	East African Community
GOK	Government of Kenya
ICT	Information and Communication Technology
ILO	International Labor Organisation
ISIC	International Standard for Industrial Classification
KNBS	Kenya National Bureau of Statistics
KSh	Kenya Shilling
ROK	Republic of Kenya
SAM	Social Accounting Matrix

## Executive summary

Kenya has a history of setting various minimum wages based on location and industry of employment. Minimum wages are regulated through the general, agricultural and sectoral wage councils. Revision of minimum wages often makes the distinction between workers in urban and rural areas. The difference in the wages is postulated to impact on the supply of labor in both rural and urban areas due to migration of workers and the demand by various sectors.

A Social Accounting Matrix (SAM) for 2009 has been used. The SAM includes 36 activities distinguished between rural and urban, 18 commodities, 4 types of labor, capital and 20 types of households (10 urban and 10 rural). Three scenarios have been simulated to analyze the effects of minimum wage changes; a similar minimum wage increase of 5% for formal workers in both urban and rural areas; a higher minimum wage for rural formal at 10% combined with lower rate for the urban formal at 5%; and a decrease in the minimum wage of rural formal by 5% and for urban formal by 10%. Increases in wages for formal workers in rural areas leads to decline in production in agricultural sectors, contraction in demand for labor and migration of workers to urban areas. The overall effect of increases in the wages of formal urban and formal rural workers leads to varied increases in the value added of industries, with an overall positive effect on GDP. An increase in urban formal wage increases the migration to urban areas by 9.98% compared to a migration rate of 1.19% for rural wage increase. A rise of formal rural wages results in a decline in the value added of all agriculture industries, Subsistence, Commercial and Other agriculture due to a reduction in demand for labor in these labor intensive industries following upward adjustments in the minimum wages. The poorest households in rural areas benefit the largest from increases in wages in both urban and rural areas.

## Introduction

### 1.1 Context of the study

In Kenya, minimum wages can be traced back to 1972 through the minimum wage regulation and wage guidelines (Republic of Kenya, 1973). Minimum wages have been regulated through the general, agricultural and sectoral wage councils. The wage councils, which are advisory in nature, are constituted by the Minister for labor. Labor market policies and institutions are recognized as an integral part of ensuring growth and equity in remuneration of workers. Minimum wages act as a means of reducing the risks faced by formal workers by broadening access to social protection, and they also indirectly affect informal sector workers, through changes in labor demand.

The setting of minimum wage in Kenya is based on location and industry of employment. An illustration from the general Wages Order, as gazetted in May 2010 contains minimum wage levels for fifteen occupational categories, with different rates of pay for cities, municipalities and all other towns (Republic of Kenya, 2009). This implies existence of forty five sets of minimum wages under this Wage Order. The agricultural order, on the other hand, contains minimum wages for eleven different occupations (Republic of Kenya, 2009). It is notable that the agricultural sector provides employment to over seventy percent of the total employment while in urban areas most employment is in the services and industrial sectors. To ensure policy relevance given the current setting of wages according to location and sectors, this study will adopt a regional (urban versus rural) and sectoral approach between agricultural and nonagricultural activities (industry and services).

**Table 1.1: Share of sectoral employment by location**

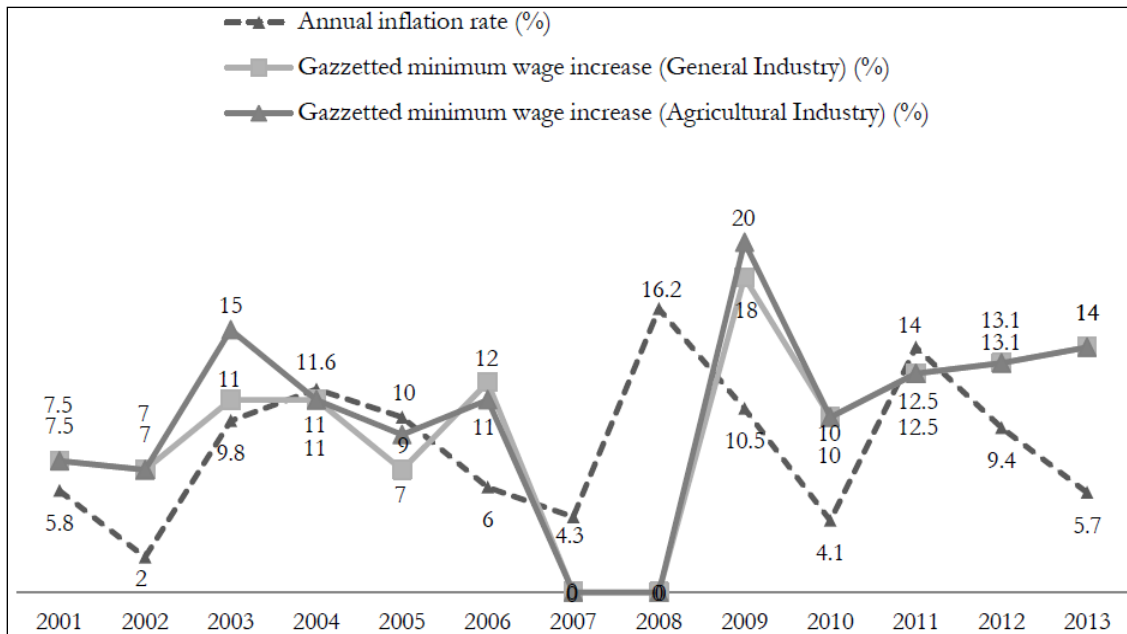
Sector	1997			2005/06		
	Rural	Urban	Total	Rural	Urban	Total
Primary/Agriculture	71.9	12.2	58.4	73.1	7.8	59.7
Secondary/Industry	4.0	13.1	6.1	4.2	13.2	6.1
Tertiary/Services	24.0	74.6	35.5	22.6	79.0	34.2

Source: World Bank, 2013



The labor structure across sectors has also ensured that some policies accrue benefits to workers in some sectors while for others there is no change in welfare. For example, the setting of the minimum wage by occupation and industry based on location are reviewed regularly in Kenya. A simple analysis indicates a higher growth in minimum wages for agriculture compared to industry (Figure 1). However, this has not reduced labor migration from rural to urban areas in search of higher level of wages. However, high rates of rural-urban migration often create pressure on available employment opportunities and provision of social services.

**Figure 1: Growth rate of gazetted minimum wages and annual inflation rate**



Source: Republic of Kenya, 2015

Unlike rural areas where agriculture is the dominant economic activity, industry and service sectors are dominant in urban areas. However, the lower employment opportunities in urban areas often lead to not only higher rates of frictional unemployment but also higher incidence of poverty for poor urban households compared to rural households. The main reason being the migration of labor from rural areas, from workers expectation of higher minimum wage jobs in urban areas. The lack of employment in formal sector for migrants implies that majority of them would have to find work in the informal sector activities. This means that for some migrant workers their situation in the urban labor

market may lead to worse off employment status and relative incomes than if they were in the rural areas. The long term development strategy, Kenya Vision 2030, aims at creating more than 700,000 jobs annually as part of its socio-economic program (GoK, 2007). The sectors that are expected to support the country's vision and growth agenda and hence create employment are mainly industrial sectors of manufacturing, agriculture, and service sectors of wholesale and retail trade, information and communication technology (ICT) and financial services. These sectors are subject to minimum wage policy, through which the Government aims to ensure a dignified wage for the Kenyan workers. However, firms oppose to frequent revisions of the minimum wage on basis that However, the challenge exists between balancing supporting growth whilst ensuring equitable pay and poverty reduction across all regions

### **Minimum wages and informality**

The International Labor Organization (ILO) definition of informality includes workers that are characterized by the lack of social security, poor working conditions, low wages and low levels of productivity for firms. While the employers range from the activities of unregulated firms and salaried workers to undeclared or unpaid employment. In Kenya, the informal sector is estimated to account for a disproportionately large proportion of workers. Projections on employment creation by type based on the country's historical employment data (2001-2012) show that formal employment will exceed 2 million jobs after the year 2012 to an estimated 3.8 million jobs by the year 2030. Informal sector Jobs are forecast to increase from about 11 million jobs in 2012 to 21 million (about double) by the year 2030. The country's labor force is forecast to rise from about 16.5 million in 2012 to approximately 26.7 in 2030. While unemployment gap is forecast to narrow over time, formal employment gap appears to be widening over time. This indicates that informal jobs will grow at faster rate than the rate of creation of formal sector jobs. The forecast shows that total employment (formal and informal) will increase from about 12.6 million in 2012 to about 25 million by 2030 but the bulk (84 per cent) of these jobs will be in the informal sector(ROK, 2015).

The earliest comprehensive study on employment and inequality in Kenya showed that urban unemployment can be explained by the fact that minimum wages in urban areas exceed all groups (wage employees in rural areas; large and small farms and non-agricultural enterprises) except owners of non-agricultural enterprise (ILO, 1972). This is due to the enforcement of the minimum wage in urban areas notably in manufacturing sector which leads to high wage differentials when compared with the agricultural sector. This is supported by Andalón and Pages (2008) whose findings on labor market outcomes in Kenya indicate that minimum wages have a positive effect on incomes of workers and women in the non-agricultural sectors (manufacturing). The higher minimum wages in urban areas have been identified as a one of the contributing factors to rural-urban migration in developing countries. This is supported by other labor statistics which indicate that although the size of wage employment in rural areas are rising, to an estimated 15.6 per cent, however informal urban employment is rising faster and estimated at over 70 per cent of total employment (ROK, 2013).

Migration of labor can also partly be attributed to insufficient support extended to agricultural production and low prices for farm produce. The movement of labor is explained by the availability of greater opportunities in urban areas with the best educated persons migrating in search for jobs (KNBS, 2012). However various initiatives have emerged to address rural development and employment creation to reduce rural-urban migration have also shifted towards the development of technology that will use local materials, including labor. The introduction of fertilizer subsidies in the country has aimed at not only increasing agricultural production to also increase employment and reduce poverty through increased food security. The increased urbanization, which has risen to a high of 40 % rate of in-migration for major urban areas, is seen as a hindrance towards the location of production in the rural areas. Kenya's rural industrialization strategy has not made progress for a long time and therefore the recognized need for increased investment at the rural levels, increased employment opportunities and the reduction of rural-urban migration (ROK, 2011). In this study, the migration of interest is from rural areas to urban areas. The definition of urban and rural areas is determined by population concentration.

Areas with a population of more than 2000 are considered urban while those with less are categorized as rural.

## **1.2 Research questions and objectives**

This study seeks to evaluate responses of the labor market, and sectoral and economic responses to increases in minimum wages in Kenya. Given the relative importance of the agricultural sector in the Kenyan economy, the study generally seeks to find out if the minimum wage policy is a hindrance to the sectors growth through lower wages and labor supply to the sector. Similarly, what is the effect of the wages on other sectors and the labor market. Specifically, the study seeks to find if there is an optimal growth in minimum wages that supports growth and reduces that inequality that exists between households in urban and rural areas.

The specific research questions are;

- How do the minimum wage increases affect labor migration between urban and rural areas?
- What is the impact of the differential minimum wage increases on income distribution and poverty in Kenya?

## 2. Literature review

Empirical studies have identified two effects of minimum wage policies: a distribution effect and an employment effect. On the distribution effect, Fields and Kanbur (2007) found that poverty can actually decrease, increase or remain unchanged depending on the degree of poverty aversion, the elasticity of labor demand, the ratio of the minimum wage to the poverty line, and the extent of income sharing. Studies from Latin America and developing countries from other regions indicate that poverty falls as the minimum wage rises (Lustig and Mcleod, 1997; Morley, 1995). Neoclassical theory predicts negative effects on overall employment and an increase in averages wages as direct consequences of an increase in the minimum wage. The standard two-sector model, one covered and one uncovered, dictates that raising the minimum wage reduces employment in the covered sector, creates unemployment, and eventually push the workers to find employment in the uncovered sector which in turn has a negative effect on the lower tail of the wage distribution.

The impact of a minimum wage in the presence of a high informal sector is mixed. Some studies have found that minimum wage to the formal sector provide a signaling (lighthouse) effect to the informal sector, leading to increased informal sector wages (Boeri et al 2010). On the other hand, other studies have found that if minimum wages are enforced only in the relatively high-wage urban formal sectors, they are unlikely to help workers in the parts of the economy where most of the poor are found-the rural and urban informal sectors (Gindling and Terrell, 2004; Harrison and Leamer, 1997). In a review of literature of segmented labor markets and differentiated wages, Boccanfuso and Savard (2011) find that wage gaps between the formal and informal sector can also partly be explained by minimum wages that are set above the equilibrium level, and the activities of trade unions, and rules and regulations that introduce rigidities in the labor market. Similarly, Agénor and Aynaoui (2003) findings suggest that a cut in the minimum wage for unskilled formal labor, can lead to a reduction in unemployment in the short term, and that the process of adjustment in the labor market often involves; rural to urban migration, formal-informal adjustments in labor supply. This is also reported by Schultz, (1982)

findings that for the less educated groups, the traditional wage gap is the dominant determinant of urban labor force growth and inter-regional migration.

### 3 Methodology

The study adopts the single-country static PEP-1-1 CGE model (Decaluwe et al, 2010) which is modified to fit the study. The CGE model is an appropriate tool for this study as it is capable to assess the economy-wide effects of minimum wages. The model is calibrated using Social Accounting Matrix (SAM) for the year 2009. This section presents the adjustments made to the PEP-1-1 model with regard to the labor market. The model adjustments in the labor market follow the characteristic of the Kenyan labor market with respect to application of minimum wage policy in the labor market. The main aspect of this study is assessing the implication of the minimum wage on the labor market, migration of labor from rural to urban areas, and income distribution.

#### Production structure

The activities in the model are spilt between urban and rural areas. The distribution of economic activity by region shows that there is some minimal agricultural activity in urban areas, while industry and services being high. However, there is substantial non-agricultural activity in rural areas, in the service activities (Table 4.1). The modeling is approached in two steps: regional aspect of the labor market and specification of a migration equation.

The adjustments made to the standard PEP-I-1 model, are as follows. To address the spatial dimension of application of the minimum wage, labor has been categorized into urban and rural, by formality, that is formal and informal labor. There are four labor categories: formal urban, formal rural, informal urban and informal rural. Economic activities have further been distinguished into both rural and urban, with a distinction between public and private activities. The total labor supply in urban area activities,  $LSTU$ , and for rural areas activities  $LSTR$ , is the sum of labor supply in the public  $LSpub,j$ , and private sectors  $LSpri,j$  for each category of labor  $j$ .

$$LSTU = LSpri,j + LSpub,j$$

$$LSTR = LSpri,j + LSpub,j$$

## Unemployment and migration

Unemployment is calibrated as a sum of a ratio of the total urban formal labor supply, at a rate of 9.2 per cent which has been the estimated unemployment rate in Kenya, plus a proportion of migrant labor to urban areas. The volume of migrants is an estimated 3 per cent of formal workers in rural areas, while the share in the volume of unemployed is fixed at 10 per cent of total migrants. The rationale is that as migrants enter the urban labor market targeting formal employment in the private sector, a share of the migrants is unable to immediately find work due to the resulting oversupply of labor in urban areas and hence increase the volume of the unemployed. The implications on the supply of labor in the formal private sector in urban areas,  $LSTU_{for}$ , is that it includes the sum of labor demand, migrants,  $Migr$ , and the volume of the unemployed,  $CH$ . With a fixed supply of labor, introduction of a minimum wage, creates unemployment in the formal urban labor market. The equilibrium conditions in the urban labor market for the private sector are as follows;

$$LS_{pri,forurb} - \sum LD_{pri,forurb} = CH + Migr$$
$$LS_{pri,inforurb} + CH + Migr = \sum LD_{pri,inforurb}$$

The equilibrium conditions in the rural labor market for the private sector are as follows. The supply of formal rural labor in private sector, less the demand for labour in the private sector is equal to the volume of migrant labour to urban areas,  $Migr$ . While the volume of migration is determined by changes in labor demand and labor supply formal rural workers in the private sector. These are represented as follows.

$$LS_{pri,forrur} - \sum LD_{pri,forrur} = Migr$$

The migration function is a function of wage rates in the formal urban labor market and the total supply of labor in the urban labor market (sum of  $LSTU_{INF}$  and  $LSTU_{For}$ ). The migration of labor is affected by changes in the wage rate for the formal urban labor market, whereby an increase in the formal urban minimum wage has an initial demand and the supply of labor in each region.



$$Migr^i = Migr^o [1 + \left\{ \left( \frac{\sum LD^i_{pri,forurb}}{\sum LD^o_{pri,forurb}} \right) \left( \frac{W^i_{pri,forurb}}{W^o_{pri,forurb}} \right) \left( \frac{LSTU^o_{inf} + LSTU^o_{for}}{LSTU^i_{inf} + LSTU^i_{for}} \right) \right\} - 1]$$

A higher increase in the minimum wage in urban areas pulls workers to urban areas, increasing  $LS_{pri,forurb}$ , and the volume of the unemployed. It however raises wages in rural areas, while having a downward pull on urban wages.

### **Simulation set up**

Minimum wages have regularly been reviewed and adjusted based on locality, often with differences between rural and urban areas. Table 3.1 shows the trend in real minimum wages from 2003 to 2015. Increases in real minimum wage during this period have ranged from a decline of 13.1 per cent in 2013 for both urban and rural sectors areas to increases of up to 13.4 per cent for the urban industry. The simulation set up in the model, is to increase and decrease the formal labor wage rates in urban and rural areas but at different scope based on the history of changes in the minimum wage.

### **Simulation 1**

In the first simulation, a similar increase of 5% is effected for both the formal rural and urban labor categories.

**Table 3.21: Changes in minimum wage<sup>1</sup> levels**

Year	Urban-Industry		Rural-Agriculture	
	Nominal wage (KSh)	Growth % in Real wage	Nominal wage (KSh)	Growth % in Real wage
2003	3,905	1.1	3,905	2,529
2004	4,335	-0.7	4,335	2,870
2005	4,638	-2.6	4,638	3,060
2006	5,195	5.6	5,195	3,396
2007	5,195	-4.1	5,195	3,396
2008	5,195	-13.1	5,195	3,396
2009	6,130	6.7	6,130	4,076
2010	6,743	13.4	6,743	4,483
2011	7,586	-8.2	7,586	5,044
2012	8,579	3.4	8,579	5,704
2013	9,781	7.8	9,781	6,503
2014	9,781	-6.4	9,781	6,503
2015	10,955	5.1	10,955	7,284

Source: Own computation from Economic Survey, various issues

<sup>1</sup> Minimum wage levels adjusted for inflation; 2002=100

### Simulation 2

The second simulation is a rise in the wage rate for the formal rural labor by 10% compared to a 5% increase for the urban wage for the same labor category. The objective of this simulation is to observe if there is an impact of higher rural wage increase unlike simulation 1.

### Simulation 3

From the history of decreases in real minimum wages, in the third scenario, 10% decrease in real wage in urban formal labor and 5% decrease in formal rural wage are implemented.

## 4 Data

The data for the model is a 2009 social accounting matrix (SAM) for Kenya. The 2009 original SAM developed by Kenya National Bureau of Statistics (KNBS, 2015) was adjusted to the objectives of the paper. An aggregated version of the SAM used in this study is presented in Annex 1.

### Composition of value added and employment

There are 36 activities in the SAM, 18 for rural and 18 for urban areas are based on International Standard for Industrial Classification. The public sector used includes; public administration, education, health and social work activities. The contribution of value added by economic activity shows the divergence between urban and rural areas. The production of subsistence agriculture, other agriculture activity, and public services contribute the highest to rural GDP at 17.3 per cent, 10.9 per cent, and 12.8 per cent, respectively. In urban areas, public services, real estate, and accommodation and food service activities contribute 15.2, 15.1 and 11.0 per cent, respectively.

**Table 4.1: The distribution of value added by region and economic activity**

Activity	Rural	Urban	Total
Subsistence Agriculture-Crop	17.3	0.3	11.8
Commercial Agriculture-Crop	6.3	2.7	5.2
Other agriculture	10.9	2.6	8.3
Manufacturing -Food	0.7	0.4	0.6
Manufacturing-cloth and textiles	4.8	4.1	4.6
Manufacturing -Other	2.2	2.1	2.2
Mining	6.3	6.3	6.3
Energy and water	0.9	5.4	2.4
Construction	4.3	3.5	4.1
Wholesale and Retail trade	7.4	8.6	7.8
Accommodation and Food services	9.2	11	9.8
Transport	1.5	2.4	1.8
ICT	2.2	4.1	2.8
Financial services	3.7	9.7	5.6
Real estate	6.3	15.1	9.2
Professional and scientific	1.6	4.9	2.6
Public services	12.8	15.2	13.5
Personal and Domestic services	1.6	1.6	1.6
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Authors calculation from SAM

The labor disaggregation in the SAM is by region and formality of employment. There are four labor categories; formal rural, formal urban, informal rural and informal urban. Informal employment is defined as employment that does not have social security. The distribution of labor categories by economic activity is presented in Table 4.2. There is a mix of both formal workers targeted by the minimum wage policy across all economic activities in both urban and rural areas. Simulations of the minimum wage have been applied to all activities, as they are all targeted by the policy.

**Table 4.2: Employment shares by labor category, region and economic activity**

Activity	Rural		Urban		Total
	Formal	Informal	Formal	Informal	
Subsistence Agric-Crop	0.9	5.6	0.0	0.3	3.1
Commercial Agric Crop	0.4	0.9	0.0	3.0	2.3
Other agriculture	0.9	2.4	0.1	2.8	3.1
Manufacturing -Food	0.1	0.5	0.0	0.4	0.5
Manufacturing-clothand textiles	1.6	2.6	0.8	3.5	4.3
Manufacturing -Other	0.2	1.4	0.2	2.0	1.9
Mining	1.8	2.7	0.7	5.8	5.6
Energy and water	0.6	0.2	1.1	4.7	3.6
Construction	1.7	3.6	0.8	2.5	4.2
Wholesale and Retail trade	1.3	10.0	0.4	5.2	8.1
Accommodation&Food services	2.5	4.1	1.3	10.1	9.2
Transport	1.3	0.8	0.8	1.6	2.3
ICT	1.4	2.0	2.0	2.4	4.0
Financial services	3.5	1.1	4.1	7.0	8.2
Real estate	0.7	0.9	0.9	16.5	10.4
Professional and scientific	1.0	1.4	2.0	3.0	3.9
Public services	27.5	8.3	11.0	1.9	23.1
Personal and Domestic services	2.2	1.6	0.8	0.5	2.4
<b>Total</b>	100.0		100.0		100.0

Source: Authors calculation from SAM

### Household income

Households are disaggregated into deciles for both urban and rural areas on the basis of income, from the poorest, HH1, to the richest, HH10. Labor income contributes more than fifty per cent to total household income in rural areas compared to less than half for urban

households. Household incomes from informal labor are highest for rural households at 25.4 per cent and from formal labor is highest for urban households at 15.6 per cent (Table 4.3). This is observable across all households by income ranking. Urban households receive a significantly higher income in form of remittances at 3.8 per cent compared to rural households at 0.2 per cent. Minimum wage increases can impact on income distribution by direct increase in the income of poor households positively through a reduction in the proportion of workers in poorer households.

**Table 4.3: Sources of household income**

Household	Formal labor	Informal labor	Distributed firm profits	Government transfers	Remittances	Total
<b>Rural</b>	<b>25.2</b>	<b>25.4</b>	<b>47.3</b>	<b>2.0</b>	<b>0.2</b>	<b>100.0</b>
RHH1	31.8	45.9	20.8	1.0	0.5	100
RHH2	34.4	36.0	28.3	0.9	0.3	100
RHH3	27.2	32.8	37.7	2.0	0.3	100
RHH4	27.8	26.3	42.9	2.6	0.4	100
RHH5	25.7	23.2	48.6	2.3	0.2	100
RHH6	26.8	23.5	46.6	2.9	0.2	100
RHH7	25.9	27.5	43.9	2.6	0.1	100
RHH8	22.6	26.5	47.9	2.7	0.2	100
RHH9	22.6	30.3	45.3	1.7	0.2	100
RHH10	23.9	16.1	58.8	1.2	0.1	100
<b>Urban</b>	<b>15.6</b>	<b>11.0</b>	<b>68.8</b>	<b>0.8</b>	<b>3.8</b>	<b>100.0</b>
UHH1	14.8	14.4	70.8	0.0	0.0	100
UHH2	16.9	9.5	72.3	0.0	1.3	100
UHH3	12.8	22.0	63.4	0.1	1.6	100
UHH4	11.6	15.7	72.2	0.1	0.5	100
UHH5	12.6	12.6	73.3	0.2	1.2	100
UHH6	9.2	16.2	69.8	1.1	3.8	100
UHH7	6.8	6.4	77.4	1.9	7.4	100
UHH8	7.5	10.4	71.4	1.8	8.9	100
UHH9	11.0	11.3	73.7	0.8	3.2	100
UHH10	19.8	11.0	65.8	0.5	2.9	100

Source: Authors calculation from SAM

## 5 Results

The analysis is focused on output growth, labor market effects, and changes in incomes and expenditures; that is changes in the consumption and sources of household income and other agents.

### Impact on the labor market

In the first simulation, where a 5%, increase in minimum wages for formal workers in rural and urban areas, the effect of decreasing the demand for labor in most sectors with minor growths in Subsistence agriculture, Other Manufacturing, ICT and professional services. The effect of wage increase in urban areas has mixed effects on the demand for labor by industry.

**Table 5.1: Changes in demand for composite (formal and informal) labor**

Activity	Sim 1		Sim 2		Sim 3	
	Rural	Urban	Rural	Urban	Rural	Urban
Subsistence Agric-Crop	0.11	4.52	-0.31	2.10	-0.91	-12.67
Commercial Agric Crop	-1.62	5.13	-3.50	2.78	1.13	-13.64
Other agriculture	-0.94	1.76	-2.25	0.13	0.32	-6.55
Manufacturing -Food	-1.44	4.24	-2.65	1.69	1.45	-12.50
Manufacturing-cloth and textiles	-1.14	-1.16	-2.85	-1.19	0.43	1.62
Manufacturing -Other	0.23	2.06	0.27	0.08	-0.57	-7.61
Mining	-2.10	0.51	-4.32	-0.46	1.84	-3.28
Energy and water	-3.62	-0.82	-8.80	-0.48	1.76	1.68
Construction	-1.05	0.31	-2.10	-0.09	1.14	-2.21
Wholesale and Retail trade	-2.54	5.60	-1.70	2.41	6.60	-15.75
Accommodation and Food services	-1.97	0.43	-3.92	-0.45	1.97	-2.94
Transport	-3.65	-0.59	-7.92	0.53	2.99	1.64
ICT	0.97	-4.96	-1.70	-3.97	-5.36	12.23
Financial services	-1.43	-2.62	-6.91	-0.29	-3.59	8.52
Real estate	-2.14	-2.18	-4.74	-3.02	1.37	2.99
Professional and scientific	0.01	-3.19	-3.08	-2.87	-3.54	6.94
Personal and Domestic services	-3.39	3.08	-7.99	9.69	2.61	-1.10

Source: Authors calculation

**Table 5.2: Changes wages of composite (formal and informal) labor**

Activity	Sim 1		Sim 2		Sim 3	
	Rural	Urban	Rural	Urban	Rural	Urban
Subsistence Agric-Crop	-0.43	-2.91	-0.40	-1.79	1.09	8.87
Commercial Agric Crop	0.70	-3.36	1.73	-2.17	-0.23	10.05
Other agriculture	0.37	-1.24	1.11	-0.34	0.15	4.52
Manufacturing -Food	0.12	-2.52	0.63	-1.45	0.45	7.84
Manufacturing-cloth and textiles	1.11	1.12	2.51	1.68	-0.70	-1.26
Manufacturing -Other	-0.57	-1.49	-0.66	-0.56	1.25	5.17
Mining	1.17	-0.19	2.63	0.56	-0.77	1.90
Energy and water	3.41	1.97	6.91	2.40	-3.28	-3.24
Construction	0.65	0.10	1.64	0.81	-0.17	1.20
Wholesale and Retail trade	-0.60	-3.27	-0.72	-2.09	1.28	9.81
Accommodation and Food services	1.06	-0.19	2.40	0.55	-0.64	1.92
Transport	2.53	1.36	5.22	1.89	-2.30	-1.83
ICT	1.24	3.32	2.75	3.57	-0.85	-6.33
Financial services	3.49	3.99	7.06	4.14	-3.36	-7.82
Real estate	1.40	1.43	3.07	1.94	-1.03	-1.98
Professional and scientific	1.32	2.46	2.90	2.83	-0.94	-4.38
Public services	-0.39	-0.39	-0.64	-0.64	0.50	0.50
Personal and Domestic services	2.31	1.20	4.81	1.75	-2.06	-1.45

Source: Authors calculation

The decrease in minimum wage for the formal workers increases the demand for these workers across most sectors in urban and rural areas. The fall in minimum wage would in this case be a contributing factor to increase formality compared a rise in the wages. Conversely, demand for informal workers reduces also in most sectors.

**Table 5.3: Demand for formal labor by sectors**

Activity	SIM 1		SIM 2		SIM 3	
	FR	FU	FR	FU	FR	FU
Subsistence Agric-Crop	-4.06	-1.83	-7.93	-3.21	4.13	1.70
Commercial Agric Crop	-4.85	-1.62	-9.34	-2.87	5.17	1.44
Other agriculture	-4.45	-3.11	-8.62	-3.97	4.64	5.33
Manufacturing -Food	-5.12	-1.78	-9.35	-3.34	6.07	1.13
Manufacturing-cloth and textiles	-4.08	-4.09	-8.18	-3.70	4.05	9.45
Manufacturing -Other	-4.04	-3.02	-7.58	-4.19	4.62	4.65
Mining	-4.96	-3.48	-9.48	-3.84	5.45	6.82
Energy and water	-4.79	-3.12	-10.86	-2.46	3.23	7.75
Construction	-4.34	-3.45	-8.10	-3.30	5.23	7.41
Wholesale and Retail trade	-6.72	-1.11	-9.44	-3.17	12.21	-1.22
Accommodation and Food services	-4.93	-3.57	-9.26	-3.84	5.70	7.21
Transport	-5.47	-3.35	-11.13	-1.86	5.32	8.95
ICT	-1.94	-6.18	-6.91	-5.02	-2.06	15.87
Financial services	-2.56	-3.37	-8.90	-0.94	-2.26	10.62
Real estate	-4.83	-4.85	-9.58	-5.28	4.75	10.27
Professional and scientific	-2.80	-5.06	-8.12	-4.48	-0.25	12.25
Public services	0.00	0.00	0.00	0.00	0.00	0.00
Personal and Domestic services	-5.37	0.09	-11.48	6.97	5.14	6.35

Note: FR represents formal rural and FU for formal urban labor

Source: Authors calculation



**Table 5.4: Demand for informal labor by sectors**

Activity	Sim 1		Sim 2		Sim 3	
	IR	IU	IR	IU	IR	IU
Subsistence Agric-Crop	0.82	5.39	1.02	2.82	-1.72	-14.35
Commercial Agric Crop	-0.02	5.62	-0.53	3.19	-0.74	-14.57
Other agriculture	0.41	4.02	0.26	2.02	-1.24	-11.29
Manufacturing -Food	-0.30	5.45	-0.54	2.69	0.11	-14.83
Manufacturing-cloth and textiles	0.80	2.97	0.75	2.31	-1.80	-7.83
Manufacturing -Other	0.83	4.12	1.40	1.79	-1.26	-11.86
Mining	-0.14	3.61	-0.68	2.15	-0.48	-10.04
Energy and water	0.05	4.00	-2.19	3.63	-2.57	-9.26
Construction	0.52	3.65	0.83	2.74	-0.68	-9.54
Wholesale and Retail trade	-1.98	6.16	-0.64	2.87	5.90	-16.81
Accommodation and Food services	-0.10	3.52	-0.44	2.16	-0.24	-9.71
Transport	-0.67	3.75	-2.49	4.26	-0.60	-8.24
ICT	3.04	0.72	2.13	0.90	-7.57	-2.41
Financial services	2.38	3.74	-0.04	5.23	-7.75	-6.84
Real estate	0.00	2.15	-0.79	0.62	-1.14	-7.14
Professional and scientific	2.13	1.92	0.82	1.47	-5.86	-5.46
Public services	0.00	0.00	0.00	0.00	0.00	0.00
Personal and Domestic services	-0.56	7.45	-2.88	13.64	-0.76	-10.44

Note: IR represents informal rural and IU for informal urban labor

Source: Authors calculation

## Migration

The migration of labor is affected differently in the three simulations. Increases in the minimum wage in Sim 1 and Sim 2 increase migration by 3.73% and 4.12 per cent respectively. The resulting comparatively higher increases in demand for labor in informal labor across sectors may be the pull factor for migrants to urban areas. Most notably, the reduction in the minimum wage in simulations 3 leads to increased labor demand in the formal urban and a drop in the volume of the unemployed by as much as 57.7% while also reducing the volume of migrants by 7 per cent.

**Table 5.5: Impact on volume of unemployment and Migration**

<b>Simulation</b>	<b>Change in Volume of Unemployed (%)</b>	<b>Migration</b>
Sim 1	21.80	3.73
Sim 2	14.21	4.12
Sim 3	-57.72	-7.04

Source: Authors compilation

### **Impact on GDP growth**

The impact of minimum wage changes on GDP are depicted in Table 5.6. Simulation one and two where increases in the minimum wage for formal urban and rural workers results in a reduction in real GDP levels by 0.198% and 0.495%, respectively. Higher increase of the formal rural minimum wage by 10% in Sim 2 compared to 5% in Sim 1 results in considerable higher reductions in aggregate output and GDP. However, a cut in the minimum wage has positive impact on output and real GDP growth which expand by 0.124% and 0.133%, respectively. Higher increase in minimum wage in rural has negative effect on rural value added which contracts by -0.677 per cent compared to a 5% increase. Decreasing the minimum wage as applied in Sim 3, has the effect of increasing the GVA of rural areas while contracting urban area GVA.

**Table 5.6: Change (%) in value added, output and intermediate consumption**

<b>Indicator</b>	<b>Sim 1</b>	<b>Sim 2</b>	<b>Sim 3</b>
Real GDP at market prices	-0.198	-0.405	0.133
Total industry output (XST)	-0.237	-0.517	0.124
Intermediate consumption (CI)	-0.259	-0.577	0.119
Rural gross value added	-0.311	-0.677	0.243
Urban gross value added	-0.018	-0.013	-0.117

Source: Authors calculation

The overall effect of increases in the wages of formal urban and formal rural workers leads to varied decreases in the value added of various industries. Results indicate that generally, most industry level growths in value added (Table 5.7) contract with increases in minimum wage in rural areas compared to urban, while increase in more industries in urban areas. More notable impacts from a similar increase (Sim 1) in the wage rate in the

two regions, is the growth in value added of Manufacturing food in urban by 1.19% while rural contracts by 0.41%.

An increase in rural wage (Sim 2) leads to negative growths in value added of most industries in rural areas and similarly in urban areas, as labor demand contracts from the upward wage adjustments. However, there is notable growth in value added of personal and domestic service and wholesale and retail trade activities in urban areas by 7.19 per cent, and 1.17 per cent, respectively. This is due to increased labor supply in urban areas from higher labor migration from rural to urban areas due to increased volume of unemployed in the rural areas. The increase is attributed to the high proportion of workers in the industries in the urban areas.

**Table 5.7: Changes (%) in real value added by industry**

Industry	Rural			Urban		
	Sim 1	Sim 2	Sim 3	Sim 1	Sim 2	Sim 3
Subsistence Agric-Crop	0.01	-0.04	-0.11	0.54	0.25	-1.60
Commercial Agric Crop	-0.11	-0.25	0.08	0.35	0.19	-1.00
Other agriculture	-0.09	-0.22	0.03	0.17	0.01	-0.65
Manufacturing -Food	-0.41	-0.76	0.41	1.19	0.48	-3.66
Manufacturing-cloth and textiles	-0.32	-0.81	0.12	-0.33	-0.34	0.46
Manufacturing -Other	0.05	0.06	-0.13	0.46	0.02	-1.75
Mining	-0.48	-1.00	0.42	0.12	-0.11	-0.76
Energy and water	-0.96	-2.37	0.46	-0.22	-0.13	0.44
Construction	-0.41	-0.83	0.45	0.12	-0.04	-0.87
Wholesale and Retail trade	-1.25	-0.83	3.19	2.71	1.17	-7.93
Accommodation and Food	-0.45	-0.90	0.45	0.10	-0.10	-0.68
Transport	-1.67	-3.64	1.35	-0.27	0.24	0.74
ICT	0.48	-0.85	-2.69	-2.48	-1.98	5.95
Financial services	-0.57	-2.79	-1.44	-1.05	-0.12	3.34
Real estate	-0.18	-0.41	0.12	-0.18	-0.26	0.25
Professional and scientific	0.01	-1.50	-1.73	-1.55	-1.40	3.32
Public services	0.00	0.00	0.00	0.00	0.00	0.00
Personal and Domestic services	-2.54	-6.01	1.95	2.30	7.19	-0.82

## Impact on Trade

The model approach is that of a small-country open economy, with the exchange rate as the numeraire, and a fixed current account balance. The effect of minimum wage changes on international trade are minimal as shown in Table 5.8. The impact of a rise in minimum wages increases the prices of domestically produced goods which results in increased demand for imports which become relatively cheaper. The consequence is an exchange rate depreciation to counteract the effects of increased imports and the effect on the balance in trade. The depreciation increases the prices of imports and thereby reduces the demand for imported good. An increase in minimum wage increases the exports of all agriculture activities, other manufacturing and wholesale and retail trade, which are labor intensive goods. However, higher increase of minimum wage for the rural formal labor (Sim 2) leads to a slight contraction in exports compared to a 5% increase (Sim 1), as well as a higher contraction of total imports.

**Table 5.8: Effect on International Trade**

Item	Exports			Imports		
	Sim 1	Sim 2	Sim 3	Sim 1	Sim 2	Sim 3
<b>Total Exports/Imports</b>	0.000	-0.006	-0.002	-0.001	-0.002	0.000
Subsistence Agriculture-Crop	0.003	0.004	-0.005	-0.007	-0.012	0.009
Commercial Agriculture Crop	0.003	0.003	-0.005	-0.004	-0.007	0.005
Other agriculture	0.001	0.001	-0.003	-0.004	-0.007	0.006
Manufacturing -Food	0.000	-0.002	-0.005	-0.003	-0.007	0.002
Manufacturing-cloth and textiles	-0.002	-0.006	0.001	-0.001	-0.002	0.002
Manufacturing -Other	0.003	0.002	-0.009	-0.003	-0.005	0.006
Mining	-0.002	-0.006	0.000	-0.001	-0.003	0.001
Energy and water	-0.012	-0.017	0.017	0.015	0.021	-0.025
Wholesale and Retail trade	0.005	0.002	-0.017	-0.009	-0.007	0.024
Transport	-0.003	-0.007	0.000	0.001	0.003	0.001
Accommodation and Food	-0.011	-0.019	0.011	0.009	0.016	-0.010
ICT	-0.014	-0.020	0.022	0.012	0.017	-0.022
Financial services	-0.027	-0.038	0.046	0.040	0.055	-0.066
Professional and scientific	-0.016	-0.023	0.026	0.016	0.021	-0.028
Personal and Domestic services	-0.018	-0.033	0.019	0.018	0.033	-0.018

Source: Authors calculation

## Incomes and expenditure of agents

### Government and firms

There is a negative effect on total Government income from an increase in minimum wages Sim 1 and Sim 2 (Table 5.8), while a cut in minimum wages increases it by 0.04 per cent. Similarly, increase in minimum wages results in lower total business and household income taxes, and import duties, as well as product and import taxes. This is explained by growth in aggregate output, and hence the policy simulation is not a major hindrance to growth. Decrease in minimum wage rises government income by 0.35% mainly as a result of growth in revenue from import duties, business income taxes, product and import taxes and indirect taxes on goods.

**Table 5. 8: Changes in income and savings of government**

Item	Sim 1	Sim 2	Sim 3
Government savings	-0.61	-1.29	0.35
Revenue			
Business income taxes	-0.02	-0.03	0.05
Household income taxes	-0.04	-0.06	0.04
Indirect taxes on goods	-0.09	-0.22	0.01
Import duties	-0.20	-0.37	0.23
Production taxes	0.00	0.00	-0.01
Products and imports	-0.11	-0.24	0.05
Other production taxes	0.00	0.00	-0.01
Total government income	-0.07	-0.14	0.04
Government transfer income	0.10	0.22	-0.02

Source: Authors calculation

### Households

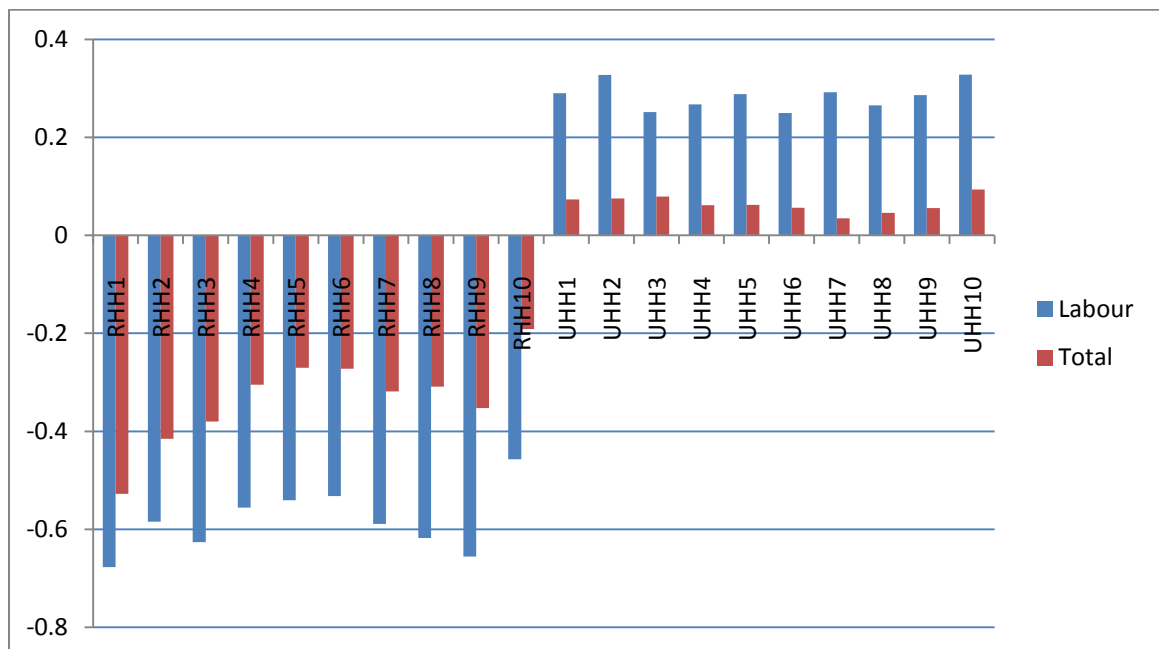
**Household incomes;** Based on changes in factor prices change and various sources of household income there are expected changes in household earnings. The figures 2, 3, and 4, show the percentage changes in total household income and labor income for the 20 different households for the three simulations. There are mixed results from the simulations. Both Sim 1 and Sim 2 result in households in rural areas facing a reduction in

labor and total incomes while urban households increase their incomes. A higher increase in the rural formal minimum wage, Sim 2, reduces rural household labor and total incomes by more than 1% compared to a lower increase in the minimum wage, Sim 1. The reduction in rural incomes from rise in rural minimum wages is explained by decrease in labor demand in activities that labor intensive and increased unemployment.

The total income of poorer households in rural areas, RHH1 to RHH5 experience higher rate of reduction in total income compared to richer households. Poorer households in rural areas are heavily dependent on employment as farm laborers and are therefore disproportionately affected by wage increases.

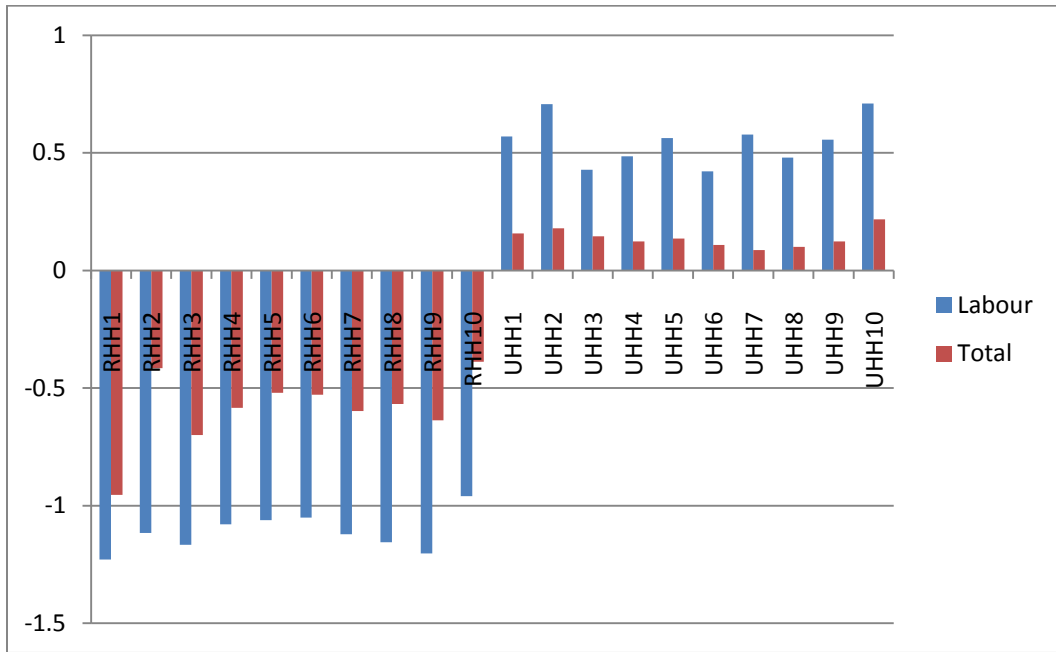
The increases in the minimum wages result in increases in the labor incomes of urban households. Noticeably, the rate of reduction in labor and total incomes of rural households is more than double the increase in the urban labor incomes. On the other hand, effects of a reduction in the minimum wage in urban and rural areas, has a positive effect on rural households and a negative effect on urban households as depicted in Figure 4.

**Figure 2: Impact Simulation 1 on household real income**



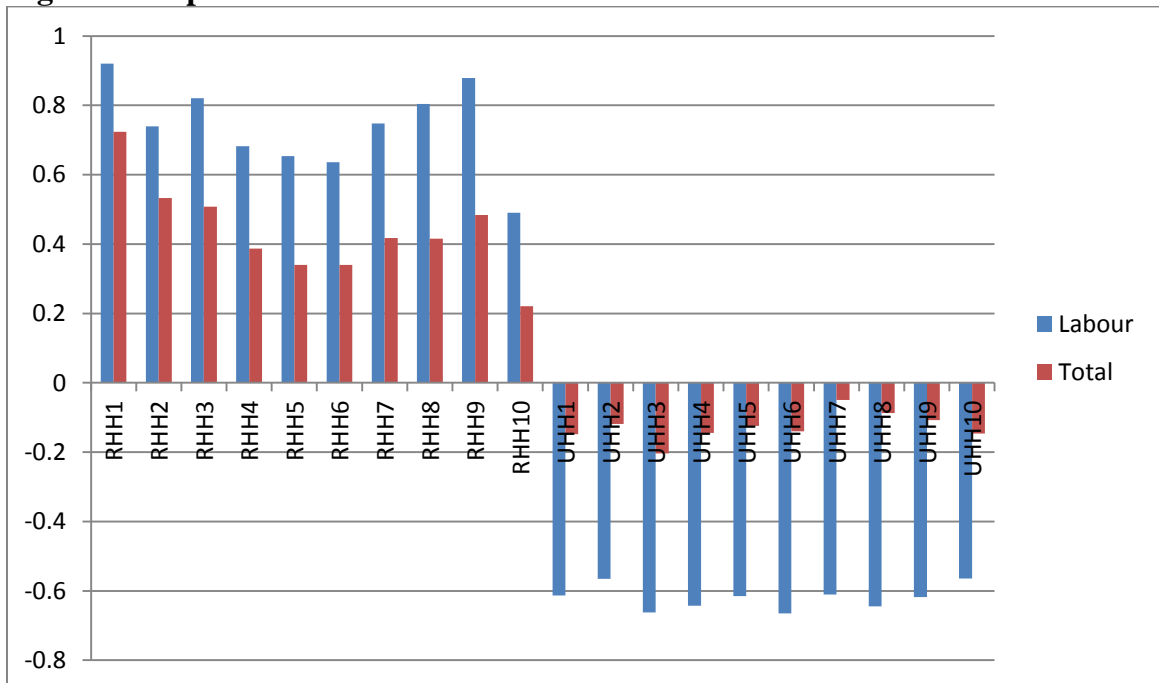
Source: Authors calculation

**Figure 3: Impact of Sim 2 on household real income**



Source: Authors calculation

**Figure 4: Impact of Simulation 3 on household real income**



Source: Authors calculation

**Household expenditures;** The consumer price index (CPI) increases by 0.10% and 0.22% after in Sim 1 and Sim 2, respectively and falls by 0.02% following Sim 3. The rise in the minimum wage and consequent rise in the CPI reduces the consumption budgets of both rural and urban households as depicted in Table 5.9. A cut in the minimum wage in urban and rural areas leads to a rise in the real consumption budget in rural households with highest gain recorded for the poorest households, RHH1 and RHH2. However, Sim 3 leads to a fall of urban household’s real consumption budget.

**Table 5.9: Changes (%) in real consumption budget of households**

Household	Sim 1	Sim 2	Sim 3
RHH1	-0.623	-1.172	0.749
RHH2	-0.510	-1.006	0.558
RHH3	-0.475	-0.919	0.533
RHH4	-0.400	-0.803	0.412
RHH5	-0.365	-0.740	0.365
RHH6	-0.367	-0.748	0.364
RHH7	-0.414	-0.817	0.442
RHH8	-0.404	-0.788	0.440
RHH9	-0.447	-0.857	0.509
RHH10	-0.286	-0.608	0.246
UHH1	-0.022	-0.064	-0.124
UHH2	-0.020	-0.042	-0.094
UHH3	-0.017	-0.076	-0.179
UHH4	-0.034	-0.097	-0.119
UHH5	-0.033	-0.085	-0.100
UHH6	-0.039	-0.113	-0.115
UHH7	-0.061	-0.134	-0.025
UHH8	-0.049	-0.121	-0.063
UHH9	-0.040	-0.098	-0.082
UHH10	-0.002	-0.004	-0.121

Source : Authors calculation



## **6 Conclusions and policy implications**

From the analysis it can be concluded that minimum wage policy has multiple impacts on growth, the labor market, and households. The simulations show that a rise in minimum wages in urban and rural areas has differential impacts for rural and urban areas. Further, the results reveal that increases in wages would lead to an increase in the price level, thereby, indicating that the policy contributes to inducing inflation in the economy.

The overall effect of varied increases in the wages of formal urban and formal rural workers leads to varied increases in the value added of various industries, with an overall negative effect on real GDP growth. Conversely, a cut in these minimum wages, increases the level of real GDP. The cut wages in both rural and urban areas has a positive effect on the labor market, reducing unemployment, with labor employed in the formal sector increasing, higher revenue for government and higher incomes for poorest households which are located in the rural areas. In conclusion, minimum wage often have a negative effect on poorer households in rural areas while having a benefit for urban areas. The application of high minimum wages should therefore be done with caution, balancing the demands for higher wages, and effects on economic and income distribution issues given the labor market situations and outcomes.

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# Annexes

## Annex 1: Social Accounting Matrix-Aggregated

	L	L	K	AG	AG	AG	AG	AG	AG	AG	AG	J	J	J	J	J	J	I	I	I	I	I	I	X	X	X	X	X	X	OTH	OTH	OTH
	USK	SK	CAP	RHH	UHH	FIRM	GVT	ROW	TI	TD	TM	A1	A2	A3	A4	A5	A6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	INV	VSTK	TOT
L	USK											30,862	23,376	70,548	52,059	101,604	318,226															596,685
L	SK											7,071	7,257	14,653	11,276	20,638	243,222															304,117
K	CAP											266,745	308,300	242,593	110,383	126,272	585,582															1,639,875
AG	RHH	383,588	188,923			535,515	22,712	2,279																								1,149,079
AG	UHH	213,097	115,194			846,561	9,733	46,566																								1,231,150
AG	FIRM			1,620,687				106,955																								1,727,642
AG	GVT							37,493	251,213	206,826	53,683																					549,214
AG	ROW			19,188		1,552		1,702										7,023	67,414	668,689	60,257	15,398	67,719								908,942	
AG	TD				39,572	76,272	90,981																								115,845	
AG	TI																		8,827	193,318	6,599	6,581	35,887								251,213	
AG	TM																	442	15,669	36,612	960										53,683	
J	A1																	305,945	61,888	-	-	-	-	18,205	21,703	-	-	-	-		395,127	
J	A2																	68,900	294,054	16,457	-	-	-	4,100	30,342	-	-	-	-		431,046	
J	A3																	-	-	898,033	-	-	-	-	-	230	-	4,390	-		1,135,383	
J	A4																	-	-	1,317	445,764	-	-	-	-	-	4,901	-	-		453,286	
J	A5																	-	-	1,573	-	394,799	6,769	-	-	-	-	102,364	-		502,683	
J	A6						14,347											-	-	-	-	8,133	1,792,130	-	-	-	-	-	30,567		1,963,194	
I	C1				173,453	82,952						10,830	6,496	99,507	76	1,342	473													7,182	382,311	
I	C2				151,367	84,030		19,475				21,041	13,640	119,830	230	5,778	2,835													29,627	447,852	
I	C3				338,285	301,331						35,058	35,883	347,246	163,969	65,356	265,578													263,291	1,815,998	
I	C4				10,888	29,016		33,259				4,357	3,424	79,211	32,382	24,992	55,211													240,840	513,580	
I	C5				67,849	125,538		101				5,679	6,108	55,891	21,572	17,350	94,188													30,635	424,911	
I	C6				337,970	495,521		382,858				5,942	10,375	88,214	48,478	134,406	351,250													47,492	1,902,506	
X	C1								22,305																						22,305	
X	C2								52,275																						52,275	
X	C3								242,464																						242,464	
X	C4								5,857																						5,857	
X	C5								100,603																						100,603	
X	C6								147,107																						147,107	
OTH	INV				13,633	34,937	254,586	65,027	145,039			7,542	16,187	17,691	12,860	4,944	46,619														635,128	
OTH	VSTK																															-
OTH	TOT	596,685	304,117	1,639,875	1,149,079	1,231,150	1,727,642	549,214	908,942	251,213	115,845	53,683	395,127	431,046	1,135,383	453,286	502,683	1,963,194	382,311	447,852	1,815,998	513,580	424,911	1,902,506	22,305	52,275	242,464	5,857	100,603	147,107	635,128	-





## Urban households

Commodity	UHH1	UHH2	UHH3	UHH4	UHH5	UHH6	UHH7	UHH8	UHH9	UHH10
Sub Agric-Crop	0.00	1.49	0.60	1.44	1.29	6.01	7.56	13.06	8.75	6.75
Com Agric Crop	0.04	1.21	1.29	0.38	1.03	2.75	4.47	5.78	4.89	2.90
Other agriculture	0.00	2.68	0.93	0.65	6.92	4.80	3.08	5.37	7.25	3.25
Mining	0.03	0.02	0.02	0.15	0.05	0.01	0.00	0.02	0.01	0.00
Manu-Food	33.78	47.96	46.48	34.98	38.98	25.45	20.70	15.74	21.92	11.79
Manu-cloth and textiles	0.68	1.45	1.90	1.80	2.27	2.07	1.68	1.61	3.12	3.83
Manu-Other	0.67	2.19	1.51	1.10	1.24	1.95	1.04	1.31	1.92	11.65
Energy and water	2.14	4.05	3.68	2.93	3.31	2.50	1.92	1.98	2.52	2.68
Construction	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.07	0.04
wholesale and Retail trade	0.00	0.00	0.00	0.03	0.32	0.13	0.42	12.91	1.77	13.82
Transport	50.92	29.26	33.50	20.53	27.25	39.48	46.43	23.94	18.27	3.38
Accomodation	0.00	0.00	0.05	0.06	0.53	0.09	0.16	0.53	0.96	1.84
ICT	0.48	0.41	0.70	0.83	1.22	1.60	1.57	2.15	4.20	6.74
Financial services	0.00	0.00	0.00	0.02	0.16	0.06	0.09	0.11	2.93	5.91
Real estate	0.00	0.87	1.46	0.48	1.36	6.95	7.39	8.45	11.55	12.76
Professional and scientific	0.02	0.02	0.03	0.03	0.05	0.07	0.07	0.09	0.17	0.28
Public services	4.54	4.48	3.40	3.92	4.22	4.01	3.27	3.68	6.77	10.72
Personal and Domestic services	6.70	3.91	4.43	30.66	9.80	2.07	0.13	3.26	2.92	1.66
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

### Annex 3: Distribution of household expenditure

Household	Consumption	Taxes	Savings	ROW
<b>Total RHH</b>	<b>49.12</b>	<b>34.16</b>	<b>28.07</b>	-
RHH1	1.23	0.10	(2.88)	-
RHH2	1.98	0.27	(2.01)	-
RHH3	2.77	1.23	(1.22)	-
RHH4	3.26	1.26	0.39	-
RHH5	4.04	1.68	0.37	-
RHH6	4.52	3.61	5.33	-
RHH7	5.52	3.91	5.71	-
RHH8	6.25	5.50	10.65	-
RHH9	7.93	6.14	14.34	-
RHH10	11.63	10.47	(2.61)	-
<b>Total UHH</b>	<b>50.88</b>	<b>65.84</b>	<b>71.93</b>	<b>100.00</b>
UHH1	0.17	0.05	0.00	-
UHH2	0.30	0.08	0.01	-
UHH3	0.45	0.02	0.02	-
UHH4	0.76	1.55	0.04	-
UHH5	0.96	1.78	0.10	3.48
UHH6	1.81	0.83	1.32	2.40
UHH7	3.79	2.22	2.81	3.89
UHH8	5.28	4.00	7.00	11.50
UHH9	6.83	15.05	23.13	16.87
UHH10	30.53	40.25	37.50	61.86