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The Impact of Sexual Violence on Women’s Earnings: The Case of Mashonaland West Province, Zimbabwe

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Abstract

Sexual violence profoundly affects the social well-being of victims through its numerous adverse mental health outcomes, which may affect survivors’ employment and earnings. However, scant scholarly literature examines the impact of sexual violence on women’s earnings in Zimbabwe. Using data collected from 173 working women in Zvimba and Hurungwe districts, the ordered logit model results showed that sexual violence (both lifetime and past 12 months experiences) was insignificant in influencing women’s earnings in Zimbabwe. While Educational attainment, location, and occupation were statistically significant in influencing women’s earnings. Women who attained higher levels of education (secondary and tertiary) had greater chances of earning higher incomes than those who attained primary education. Women who reside in urban areas were more likely to earn higher incomes than their rural counterparts. On occupation, those in the Managerial and Professional workers’ category had greater chances of earning incomes above \$10,000 (ZWL) than those in other categories. Given the impact of education on women’s earnings, the study recommends that the government consider making education up to secondary level compulsory and free for women and subsidising their tertiary education through its ministries responsible for education. Providing more education centres, including vocational study centres, particularly in rural areas, may help empower rural women and improve their chances of participating in the labour market and earning higher incomes.

Keywords: Sexual Violence, Women’s Earnings, Health, Education, Labour, Zimbabwe

Introduction

Sexual violence is a serious public health and human rights issue with both short- and long-term consequences on women’s physical, mental, sexual, and reproductive health (Krug et al., 2002; Jaff, 2020). Global estimates published by the World Health Organization [WHO] (2021) indicate that about 1 in 3 (33%) of women worldwide have experienced either physical and or sexual intimate partner violence (IPV) or non-partner sexual violence in their lifetime. The problem of sexual violence is reported to be widespread in Africa, with an estimate of 36.6% of women having experienced partner physical or sexual violence or non-partner sexual violence (Steele et al., 2019). In Zimbabwe, the Zimbabwe National Statistics Agency [ZIMSTAT] (2019a) reported that 11.6% of women aged 15-49 experienced sexual violence at least once in their lifetime, and 5.1% experienced sexual violence in the past 12 months.

Sexual violence is driven by many factors operating in a range of social, cultural, and economic contexts (Krug et al., 2002; Bows, 2016; Berlo and Ploem, 2018; Medie, 2019). Gender inequalities are at the heart of sexual violence directed against women.

In many societies, particularly in developing countries, the traditional and religious beliefs cause women to be viewed as subordinate to men and have a lower social status, allowing men control over and greater decision-making power than women (WHO, 2009; Berlo and Ploem, 2018; Medie, 2019). However, sexual violence against women does not only occur due to gender inequalities, as the aggressiveness of men can also be a result of growing up with violent families or uncaring fathers (Bows, 2016).

Sexual violence profoundly affects the social well-being of victims through its numerous adverse mental health outcomes, which may affect survivors' employment and earnings (Loya, 2015; Sabia et al., 2013; Jatfors, 2017). Sexual violence against women can bring about direct and indirect economic costs. Direct economic costs exist when women decide not to participate in the labour force, and indirect economic costs emanate from loss of potential (low productivity), which results in low earnings. According to the International Labour Organization [ILO] (2018), violence and harassment negatively affect the health status of women, which in turn leads to low productivity as one spends more time seeking medical attention and counselling services and can prevent women from entering the labour market.

There is a realisation that women's economic empowerment boosts productivity, increases economic diversification and income equality, and other positive development outcomes (International Monetary Fund, 2018). Studies by Tansel (2002), Tsani et al. (2013), and Choudhry and Elhorst (2018) support the view that high female labour market participation increases overall economic efficiency and improves the development potentials of the country. Besides being a fundamental human rights issue, gender equality is key to prosperous economies and inclusive, sustainable economic growth (Chen, 2004; Mitra et al., 2015). In recognition of the need to empower women and fight against sexual

violence, the Government of Zimbabwe enacted the following policies and laws; the National Gender Policy (2004 and 2013), National Girls' and Young Women's Empowerment Framework (2014), Zimbabwe School Health Policy (2018), Domestic Violence Act [5:16], Sexual Offences Act [9:21], Labour Act [28:01] and the Protocol on the Multi-Sectoral Management of Sexual Abuse and Violence in Zimbabwe (2012).

Since 2004, there has been an improvement in how women are viewed in the country, as women are now actively considered in various opportunities. However, a lot still needs to be done as evidenced by the low female participation rates (43.4%) compared to male counterparts (56.6%) in paid employment regardless of their high female proportion of the population (52%) (ZIMSTAT, 2020). Sexual violence against women could impede the government's efforts to achieve gender equality and create decent jobs for women, which engenders significant economic gains.

Studies conducted by Sabia et al. (2013) and Loya (2015) in the United States of America (USA) found that sexual violence had a negative impact on labour force participation and women's earnings primarily through its known effects on survivors' mental health and sense of safety. Chegere and Karamagi (2020), in a closely related study, examined the impact of IPV on labour market outcomes in Tanzania and found that IPV is negatively associated with women's earnings in Tanzania. Despite the possible negative impact of sexual violence on women's earnings, there is a dearth of scholarly literature on the impact of sexual violence on women's earnings in Zimbabwe and particularly in Mashonaland West province. Although Benefo and Pillai (2003), Chikwanha and Ncube (2014), and Mapuranga et al. (2015) undertook studies on factors that affect FLFP and sexual harassment of female employees in Zimbabwe, it should be argued that they are limited in scope as they did not examine the relationship between sexual violence and women's earnings. The study will contribute to the literature by investigating the impact of sexual violence on women's earnings.

Review of Literature

The literature on sexual violence against women and labour market outcomes suggests that the threat of victimisation and adverse physical and psychological effects of sexual violence negatively influence women's earnings. According to Loya (2015), sexual violence is associated with numerous adverse mental health outcomes, affecting survivors' employment and earnings. Due to the causal link between health and education, the study will follow the human capital theory, which is instrumental in analysing factors such as violence against women that influence labour market outcomes. Adoption of this theory is necessitated by the line of thinking which states that; violence against women may also affect a woman's economic well-being through its effect on her health (Loya, 2015; Chegere and Karamagi, 2020). Given that sexual violence affects women's health, it tends to lower her health capital, which is a crucial determinant to women's decision on the total amount of time available for market and non-market activities and the level of efficiency in undertaking those activities. In line with this conceptual view of the human capital theory, sexual violence against women results in low productivity, low production of commodities, and lower earnings in the labour market that reduces individual and household utility.

Empirical studies by Sabia et al. (2013) and Loya (2015) show that sexual violence against women negatively influence women's earnings. Sabia et al. (2013) found that the experience of sexual violence is associated with a 5.1 percent decline in women's earnings. This result was supported by Loya (2015) who found that sexual violence negatively affects earnings largely through its known effects on survivors' mental health and sense of safety. A closely related study by Chaudhry et al. (2010) show that education and health positively impact earnings, which means anything that negatively affect a women's health may cause earning to decline. Chegere and Karamagi (2020) investigated the impact of intimate partner violence on women's earnings and found negative relationship between these variables.

Materials and Methods

Study Area

The study was carried out in two districts of Mashonaland West province: Zvimba and Hurungwe. According to Zimstat (2013), Hurungwe has the largest proportion of the province's population, i.e., 21.9% (329,197 people), followed by Zvimba, which has 17.5% (263,020 people). The largest proportion of the province is found in rural areas (74.9%), and the highest proportion (55%) of its employed persons work in agriculture (ZIMSTAT, 2013). Mashonaland West is one of the top three provinces with wider gender gaps (with a gap of 18%) in labour force participation (Zimbabwe National Statistics Agency, "2019 Labour Force and Child Labour Survey"). It is among those with a high rate (11.1%) of sexual violence against women (Zimbabwe National Statistics Agency, "Multiple Indicator Cluster Survey: 2019 Findings Report"). Therefore, a pool of 7 wards was purposively selected from the two districts for data collection. The wards were purposively selected because they are the only ones in which United Nations (UN) Women partners, Caritas Zimbabwe and Spotlight Initiative, organisations that assisted in data collection, have operations.

Determination of Sample Size

The study sample size was determined following Cochran's (1977) formula articulated by Israel (2003) as;

$$n = \frac{Z^2 p(1-p)}{e^2} \quad (3)$$

Z is the value corresponding to the required confidence level, p is the percentage occurrence of a state or condition, and e is the maximum required error. A 95% confidence interval value of 1.96 is used for this study to determine the sample size. The value of p is difficult to determine, but Bartlett et al. (2001), as cited by Taherdoost (2017), suggest that researchers should use 50% to estimate p, as this will maximise variance and produce the maximum sample size. The study will use 6% as the maximum allowable error. Given these values, a sample size of 267 respondents was ideal, but 315 questionnaires were deployed to cater to those who would commit errors and not complete the questionnaire.

Data Sources and Collection Methods

The study used multi-stage sampling techniques in collecting data between the 12th and the 18th of March 2021. Respondents for the study were selected in partnership with UN Women partners, Caritas Zimbabwe and Spotlight Initiative, and Ministry of Women Affairs, Gender and Community Development working in these two districts. Data were collected from 7 wards (4 in Hurungwe and 3 in Zvimba) purposively picked from where Caritas Zimbabwe and Spotlight Initiative are jointly working. Field officers from the two organisations contacted, sensitised, and obtained consent from the respondents to ensure accuracy, quality, and ownership of the information obtained. They also assisted in administering the questionnaires, which minimised the fieldwork expenses. Respondents were gathered at the ward level to participate in the self-administered questionnaire interviews in the presence of village heads and councillors.

The simple random sampling technique was applied to proportionately select respondents, where bigger wards contribute more to the sample. Sampling was done in consultation with local leadership, Caritas Zimbabwe and Spotlight Initiative, where individual names as supplied by these organisations and personnel were placed in a hat and then picked one at a time without replacement to get the ward sample size. The number of respondents selected per district by ward is as follows;

Table 1: Number of Respondents in a Sample Per District by Ward

District	Ward No.	Female Population by Ward	% contribution to Wards Population	Sample Contribution
Hurungwe	5	2728	7%	22
Hurungwe	6	5729	15%	46
Hurungwe	9	12256	31%	98
Hurungwe	10	4713	12%	38
Zvimba	18	3403	9%	27
Zvimba	20	4757	12%	38
Zvimba	21	5710	15%	46
Total	39296		315	

Source: Zimstat (2013) and Survey Data

The study targeted economically active women aged 15-64 years, as informed by the 2019 National

Labour Force and Child Labour Supply survey report. A pre-coded structured questionnaire was used to collect data. The questionnaires were self-administered using English and Shona languages to make the questions easily understandable. Respondents with literacy challenges were individually assisted in completing the form. The questionnaire was piloted to test for validity, reliability, and acceptability using ten females from Zvimba district, ward 20, which is 3.3% of the sample size (Fink, (2009) as cited in Akinci and Saunders (2015). As a result of this pilot study, necessary adjustments were made based on comments raised.

Empirical Models

To empirically examine the relationship between sexual violence and women’s earnings in Zimbabwe, the study borrows from the works of Sabia, Dills, and Desimone (2013) Loya (2015). However, the models are modified to suit the Zimbabwean environment and the estimation techniques to be used. The following econometric model will be used.

$$Earnings = \beta_0 + \beta_1 Sex\ Violence + \beta_2 Educ + \beta_3 Age + \beta_4 Agesqr + \beta_5 hours + \beta_6 ttlexp + \beta_7 occupation + \beta_8 location + \beta_9 Relig + \beta_{10} tenure + \mu_i \dots\dots\dots(4)$$

Earnings is a dependent variable that represents the monthly income of an individual woman. It is a categorical variable that is measured as ranges of income that one earns monthly in Zimbabwean dollars. Earnings are coded as; 1 = \$0 to \$10,000; 2 = \$10,001 to \$20,000; 3 = \$20,001 to \$35,000 and 4 = \$35,001 and above.

Sex Violence is the explanatory variable of interest in this study, which contains multiple measures such as forced sexual activity by non-parents, sexual abuse by parents, and sexual victimisation while intoxicated or under the influence of an illegal drug (Sabia et al., 2013). The variable carries a value of one for those respondents who report having been physically forced to have any sexual activity without their consent or against their will and zero otherwise. Sabia et al., (2013) and Loya (2015) found that sexual violence negatively impacts women’s labour force participation and earnings. This variable will capture the effect of sexual violence experienced by women in their lifetime and is expected to have a negative impact on earnings.

Sex Violence₂ captures the effect of the sexual violence experienced in the past 12 months preceding the survey. Thus, the variable enters the earnings model as a dummy variable taking the value of 1 for those who experienced sexual violence and zero otherwise. The variable is expected to have a negative impact on women's earnings.

Educ (education) is visualised as investments that increase productivity and improve the individual's chances of gaining a higher occupational status, hence higher earnings (Hosney, 2016). In this study, education is a categorical variable that measures the level of formal education attained by women. The variable is coded as follows; No formal education = 0; Primary education = 1; Secondary education = 2 and Tertiary education = 3. Therefore, it is expected that a woman with a higher level of education will have a greater likelihood of earning a higher income than her counterparts.

Age and *Age_{sqr}* (square of age) are continuous variables that measure the number of years of an individual woman from birth. The variable *Age* is expected to positively impact, and *Age-squared* to negatively impact earnings.

Religion and traditional beliefs play a role in influencing earnings as they determine women's time allocation between home and the market. Given that other religions restrict women in terms of their role in society and the work environment (Hosney, 2016; Sabia et al., 2013), it is important to examine the impact of this variable on the earnings of women in Zimbabwe. Thus, the variable will be categorised as follows: Apostolic sect = 0; Traditional beliefs = 1; Other Christian churches = 3 and Other religions = 4. Therefore, religion is expected to have a negative impact on women's earnings.

Location is the area of women's residence that plays a critical role in determining the labour market outcomes. Females that live in urban areas tend to participate more in the labour market than their counterparts living in rural areas because of better access to education, more work choices, and even more enhanced working environment (Hosney, 2016; Chaudhry et al., 2010; Chikwanha and Ncube, 2014; Kanjilal-bhaduri and Pastore, 2017). In the same vein, women living in urban areas are expected to

earn higher than their rural counterparts due to higher education and economic opportunities (Chaudhry et al., 2010; Hosney, 2016). The variable is a dummy, taking the value 0 if the area of residence is rural and 1 if the area of residence is urban. Therefore, we expect women living in urban areas to have a greater chance of earning higher incomes than their rural counterparts.

Hour (working hours): Women are generally believed to be poorer as they spend more hours caring for children and dealing with other household responsibilities, which reduces the time available to engage in income-generating activities (ILO, 2018). Therefore, as the time available for women to work increases, it is expected that their income will also increase. As such, this variable is expected to impact women's earnings positively.

ttlexp (Work Experience) plays an important role in determining the increments and promotions of a woman. Women with work experience would be expected to earn more than those without experience (Chaudhry et al., 2010). Therefore, work experience is positively associated with higher earnings in this study.

Tenure (Job Tenure): The number of years that an individual has spent on current employment is considered one factor that determines earnings. Sabia, Dills, and Desimone (2013) used this variable as one of the cognitive ability control variables for the USA's labour market outcomes models. Therefore, just like work experience, job tenure is expected to impact women's earnings in this study positively.

Occupation is one of the factors that explain differentials in earnings. According to Beyer and Knight (1989), occupation may influence earnings in the following ways; i) wage differences compensate for the non-pecuniary characteristics of different jobs; ii) occupational wage differences can stem from barriers to movement and from institutional factors which hinder the market equalisation of wages; iii) since additional pay is needed to compensate for training costs incurred by workers, occupational wages differ according to the amount of vocational skill involved in the job; iv) the value of personal characteristics such as natural ability and cognitive skill can vary among occupations, and these characteristics can also assist vocational skill

acquisition. Therefore, earnings depend on one's occupational type. Following the ILO classification of occupations in which some were merged to suit the study, the variable is measured using six categories: Managerial and Professional Workers = 1, Technicians and Associate Professionals = 2, Clerks, Sales, and Craft Workers and Plant and Machinery Operators = 3, Skilled Agricultural and Fishery Workers = 4, Armed Forces Occupations = 5 and Elementary Workers = 6. Those in the managerial and professional workers category are expected to earn high income compared to other categories.

Data Management and Analysis

Since the dependent variable, earnings, has multiple categories, ordered response models (probit or logit) are the most commonly used for such dependent variables (Greene, 2003; Gujarati, 2003; Cameron and Trivedi, 2005). The ordered logit model was chosen over probit for its simplicity in interpretation. Pre-estimation and post-estimation tests are essential when running an ordered logit model. To check the linear dependence of the regressors, a correlation test is conducted using the correlation matrix and considers only the pairwise correlation. The linktest was conducted to check if there are omitted variables and/or incorrect model functional form.

Ethical Considerations

The study applied ethical guidelines prescribed by the Department of Economics and Development under the University of Zimbabwe. A formal letter was obtained from the Department of Economics and Development, granting permission to collect data and do interviews in Mashonaland West Province. Before carrying out data collection, the researcher availed information regarding the study's objectives to the respondents and ensured that the information collected would remain confidential, private, and anonymous. The respondents were informed of their right to withdraw from the study at any time, and they were free to leave some questions unanswered. After reaching an agreement, the respondents signed the consent form.

Results and Discussion

Descriptive Statistics

The first section provides descriptive statistics of the categorical explanatory variables by the earnings. Secondly, the variable is analysed against all the continuous independent variables, with the same objective of understanding how women's earnings vary by individual, group, and or environmental characteristics. The chi-square and t-tests analyse categorical independent variables and continuous independent variables, respectively.

Descriptive Statistics for Categorical Independent Variables stratified by Earnings

Table 2: Categorical Independent Variables Stratified by Earnings

Variable	Category	Earnings (%)		Total (%)	p-value
		\$20,000 and below	Above \$20,000		
SexViolence	Yes	20.41	30.67	24.86	0.122
	No	79.59	69.33	75.14	
SexViolence_2	Yes	7.14	12.00	9.25	0.274
	No	92.86	88.00	90.25	
Education	No Formal	4.08	1.33	2.89	0.000***
	Primary	46.94	12.00	31.79	
	Secondary	39.80	33.33	36.99	
	Tertiary	9.18	53.33	28.32	



Religion	Apostolic Sect	38.78	22.67	31.79	0.015**
	Traditional	8.16	2.67	5.78	
	Other Christian Churches	47.96	72.00	58.38	
	Other Religions	5.10	2.67	4.05	
Location	Rural	54.08	28.00	42.77	0.001***
	Urban	45.92	72.00	57.23	
Occupation	Managerial and Professional Workers	1.02	41.33	18.50	0.000***
	Technicians and other Associate Professionals	3.06	8.00	5.20	
	Clerks, Sales, Craft Workers, and Plant and Machinery Operators	7.14	9.33	8.09	
	Skilled Agricultural and Fishery Workers	20.41	26.67	23.12	
	Armed Forces Occupations	1.02	8.00	4.05	
	Elementary Workers	67.35	6.67	41.04	

Source: Author's Computations using survey data Significance level: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Four categorical independent variables, education (Educ), religion (Relig), location, and occupation, are statistically significantly different between women earning \$20,000 and below and those earning above \$20,000. Education is statistically significant ($p < 0.01$) in explaining the variations in earnings of women. Most women acquired secondary education (36.99%), and 14.45% of these women earn above \$20,000 compared to 22.54% who earn \$20,000 and below. Of the women who earn \$20,000 and below, most of them attained primary education (46.94%). Whereas for those who earn above \$20,000, 53.33% attained tertiary education. The statistics support the human capital theory, which states that higher educational attainment will provide opportunities for one to earn a high income.

A statistically significant ($p < 0.05$) difference in earnings across religions was found. Women who go to other Christian churches dominated both women who earn income above \$20,000 (72.00%) and those

who earn \$20,000 and below (47.96%). Most women who go to work reside in urban areas (57.23%), and the difference in location between women who earn income above \$20,000 and those who earn \$20,000 and below was statistically significant ($p < 0.01$). A greater chunk of women who earn income above \$20,000 resides in the urban areas (72.00%), while those in rural areas dominated the group that earns \$20,000 and below (54.08%). Based on occupational status, more women are employed in the elementary workers' category (41.04%), and the difference in occupational status between earning income above \$20,000 and earning \$20,000 and below is statistically significant ($p < 0.01$). Women in the elementary workers' category dominated the group of those who earn \$20,000 and below (67.35%), while those in the managerial and professional workers category dominated the group of those who earn income above \$20,000 (41.33%).

Descriptive Statistics for Continuous Independent Variables stratified by Earnings

Table 7: Continuous Independent Variables stratified by Earnings

Variable	Earnings (%)				T-test, p-value
	\$20,000 and below		Above \$20,000		
	Mean	Standard Error	Mean	Standard Error	
Age	39.06	1.3	39.32	1.15	0.8855
Age-squared	1688.61	105.91	1644.92	93.17	0.7651
Tenure	11	1.04	9.64	0.79	0.3256
Work Experience	12	1.06	11.35	0.86	0.6479
Hours	7.37	0.22	8.07	0.15	0.0153**

Source: Author's Computations using survey data

Significance Level: *** p<.01, ** p<.05, * p<.1

Women's work hours per day grouped by their earnings levels are the only statistically significant variable (p < 0.05). This means that the difference of means in hours worked per day between women who earn \$20,000 and below and those who earn above \$20,000 is different from zero. Thus, women who earn \$20,000 and below work on average fewer hours per day than their counterparts who earn above \$20,000. The variability in these statistics is higher for the group which earns \$20,000 and below, as indicated by the standard error of 0.27 compared to 0.16 for those who earn higher than \$20,000.

Regression Analysis

This section presents the results of the Ordered Logit Model in answering the impact of sexual violence on women's earnings in Mashonaland West province, Zimbabwe. Table 11 shows the results of the ordered logit model.

Table 11: Ordered Logit Model Results

Earnings	Coefficients	Standard Error	p-value
Education			
No formal education	0.921	0.814	0.258
Primary education	0	.	.
Secondary education	1.211	0.603	0.045**
Tertiary education	1.587	0.683	0.02**
Sexual Violence			
No	0	.	.

Yes	0.241	0.474	0.612
Sexual Violence_2			
No	0	.	.
Yes	-0.042	0.518	0.935
Age	0.018	0.024	0.444
Hours	0.068	0.095	0.474
ttlexp	0.001	0.038	0.978
Location			
Rural	0	.	.
Urban	1.121	0.427	0.009***
Religion			
Apostolic sect	0	.	.
Traditional beliefs	-0.496	0.729	0.496
Other Christian churches	.236	0.417	0.571
Other religions	.56	1.195	0.64
Occupation			
Managerial and Professional Workers	0	.	.
Technicians and other Associate Professionals	-1.183	1.154	0.305
Clerks, Sales, Craft Workers, and Plant and Machinery Operators	-1.995	0.781	0.011**
Skilled Agricultural and Fishery Workers	-1.942	0.579	0.001***
Armed Forces Occupations	-1.273	0.706	0.072*
Elementary Workers	-4.57	0.798	0.000***
cut1	.998	1.344	

cut2	3.574	1.43	
cut3	5.981	1.448	

Source: Model Output

Significance level: *** $p < .01$, ** $p < .05$, * $p < .1$

The ordered logit model results show that education is an important variable that influences women’s earnings. The results show that moving from a lower level to a higher level of education increases women’s chances to move into the next best higher level of income, *ceteris paribus*. These results confirm the priori expectation that education positively impacts women’s earnings. Women who attained secondary and tertiary education are 15.9% and 20.8%, respectively, less likely to earn income which is below \$10,000 compared to those with primary education. In comparison with the primary education holders, secondary and tertiary education holders are 7.1% and 8.3% more likely to be earning income in the range of \$10,001 to \$20,000, respectively. Women with secondary and tertiary education qualifications are 7.2% and 10% more likely to earn higher income in the range of \$20,001 to \$35,000, respectively, compared to those who attained primary education. Lastly, women who attained tertiary education have a 2.5% likelihood of earning \$35,001 and above compared to those with primary education.

These findings on education and women’s earnings corroborate Chaudhry et al. (2010) in Pakistan and Chegere and Karamagi (2020) in Tanzania, who found that education has a significant positive impact on female earnings. The positive impact of education on women’s earnings implies that the government should consider crafting policies that promote the attainment of higher levels of education by women in the country. More resources should be channelled towards creating an enabling environment that makes women attain an education beyond the secondary level to qualify for higher positions and better professions.

Area of residence (location) is statistically significant ($p < 0.01$) and positively influences women’s level of earnings. Compared to rural women, urban women are 13.6 percent less likely to earn less than \$10,000, but their rural counterparts are 4.4 percent more likely to earn between \$10,000

and \$20,000. Furthermore, marginal effects results show that living in cities boosts women’s chances of earning monthly incomes between \$20,001 and \$35,000 and above by 6.9% and 2.3%, respectively. These findings reflect Chaudhry et al. (2010) findings that urban women earn more than rural women in Pakistan due to greater educational, health, and employment opportunities. Because location affects women’s incomes, the government should consider making education and health services accessible and cheap for rural women. This will improve women’s lives and allow them to earn wages comparable to urban women.

Occupation positively affects women’s earnings. Women in the occupation categories of clerks, sales, craft workers and plant and machinery operators, skilled agricultural and fishery workers, armed forces occupations, and elementary workers have a higher likelihood of earning income below \$10,000 than managerial and professional workers. Women in the categories mentioned above are less likely to earn income which is above \$10,000 as compared to women who in managerial and professional work. The results of this variable confirm that management and professional workers earn more than other workers. Women in low-paying jobs tend to be less educated than men. Thus, women need to be educated and trained to be in high-paying jobs

Sexual violence is insignificant in determining women’s earnings in Zimbabwe. Both the lifetime and past 12 months experiences are insignificant, which could be attributed to the intense labour laws in Zimbabwe which protect workers against income discrimination. It could be that those with health conditions are provided with time and support to recover from whatever predicament they will be facing without losing their earnings.

Conclusion and Policy Recommendations

The study found that both categories of sexual violence had no statistically significant impact on women’s earnings. However, education has a positive impact on earnings. Higher levels of education increase women’s likelihood of earning a higher income than lower levels of education as continuous training is believed to build on one’s skills, which improve one’s prospects in the job market. Area

of residence and occupation were also significant variables that affect women's earnings. Residing in urban areas increases women's chances of earning higher incomes than their rural counterparts. In terms of occupation, it takes one to be in the managerial and professional workers category to earn income above \$10,000 in Zimbabwe. Other occupational categories are less likely to earn income above \$10,000 because most women in those categories have low levels of education. However, age, hours, work experience, tenure, and religion were insignificant in determining women's earnings.

Due to the impact of education on women's earnings, the study recommends that the government through its ministries responsible for education should develop policies that promote greater access to higher levels of education by women in Zimbabwe. For example, the government should consider making education up to secondary level compulsory and free for women and subsidising their tertiary education. Providing more education centres, including vocational study centres, particularly in rural areas, may help empower rural women and improve their chances of participating in the labour market and earning higher incomes.

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Appendices
Appendix A: Multicollinearity Tests

Variables	Age	Educ	Relig	location	Hours	occupation	ttlexp	tenure	SexViolence	SexViolence_2	Agesqr
Age	1.000										
Educ	-0.201	1.000									
Relig	-0.067	0.294	1.000								
location	-0.157	0.238	0.164	1.000							
Hours	0.023	0.167	0.107	0.234	1.000						
occupation	-0.037	-0.603	-0.195	-0.209	-0.184	1.000					
ttlexp	0.744	-0.095	-0.071	-0.116	0.159	0.013	1.000				
tenure	0.704	-0.086	-0.056	-0.114	0.157	0.043	0.923	1.000			
SexViolence	-0.033	0.111	0.111	0.119	0.214	-0.044	0.083	0.117	1.000		
SexViolence_2	-0.077	0.083	0.112	0.074	0.183	-0.104	-0.018	-0.006	0.555	1.000	
Age2	0.988	-0.226	-0.061	-0.167	0.026	-0.012	0.754	0.719	-0.011	-0.056	1.000

Appendix B: Ordered Logit Model

Earnings	Coefficients	Standard Error	p-value	95% Confidence Interval	
Education					
No formal education	0.921	0.814	0.258	-.675	2.517
Primary education	0	.	.	.	.
Secondary education	1.211	0.603	0.045	.029	2.393
Tertiary education	1.587	0.683	0.02	.249	2.925
Sexual Violence					
No	0	.	.	.	.
Yes	0.241	0.474	0.612	-.688	1.17
Sexual Violence_2					
No	0	.	.	.	.
Yes	-0.042	0.518	0.935	-1.058	.974
Age					
Hours	0.018	0.024	0.444	-.028	.064
Ttlexp	0.068	0.095	0.474	-.118	.254
Location					
Rural	0	.	.	.	.
Urban	1.121	0.427	0.009	.284	1.958
Religion					
Apostolic sect	0	.	.	.	.
Traditional beliefs	-.496	0.729	0.496	-1.925	.933
Other Christian churches	.236	0.417	0.571	-.582	1.054
Other religions	.56	1.195	0.64	-1.783	2.903
Occupation					
Managerial and Professional Workers	0	.	.	.	.
Technicians and other Associate Professionals	-1.183	1.154	0.305	-3.444	1.079
Clerks, Sales, Craft Workers and Plant and Machinery Operators	-1.995	0.781	0.011	-3.525	-.465
Skilled Agricultural and Fishery Workers	-1.942	0.579	0.001	-3.076	-.807
Armed Forces Occupations	-1.273	0.706	0.072	-2.657	.112
Elementary Workers	-4.57	0.798	0.000	-6.134	-3.005
cut1	.998	1.344		-1.636	3.633
cut2	3.574	1.43		.77	6.377
cut3	5.981	1.448		3.142	8.819
Pseudo r-squared	0.347				

Appendix C: Model Specification Test for the Ordered Logit Model –Link Test

Ordered logistic regression Number of obs = 173
 LR chi2(2) = 127.55
 Prob > chi2 = 0.0000
 Log likelihood = -117.29479 Pseudo R2 = 0.3522

Earnings	Coef.	Std.Err.	z	P>z	95%Conf.	Interval]
_hat	0.865	0.135	6.390	0.000	0.600	1.131
_hatsq	0.061	0.041	1.480	0.138	-0.020	0.143
/cut1		1.100	0.255		0.601	1.599
/cut2		3.805	0.455		2.914	4.697
/cut3		6.343	0.695		4.982	7.704

**Appendix D: Marginal Effects for the Ordered Logit Model
 . asdoc margins, dydx(*) predict(outcome(1))**

Average marginal effects Number of obs = 173
 Model VCE : Robust
 Expression : Pr(Earnings==1), predict(outcome(1))
 dy/dx w.r.t. : 0.Educ 2.Educ 3.Educ 1.SexViolence 1.SexViolence_2 Age Hours ttlexp 1.location
 1.Relig 2.Relig 3.Relig 2.occupation 3.occupation 4.occupation 5.occupation 6.occupation

		Delta-method					
		dy/dx	Std.Err.	z	P>z	5%Conf.	Interval]
Educ							
No formal education		-0.121	0.102	-1.180	0.237	-0.320	0.079
Secondary education		-0.159	0.074	-2.140	0.032	-0.304	-0.014
Tertiary education		-0.208	0.090	-2.320	0.021	-0.384	-0.032
SexViolence							
Yes		-0.029	0.056	-0.510	0.609	-0.138	0.081
SexViolence_2							
Yes		0.005	0.061	0.080	0.935	-0.115	0.124
Age		-0.002	0.003	-0.750	0.451	-0.008	0.003
Hours		-0.008	0.011	-0.720	0.472	-0.030	0.014
ttlexp		-0.000	0.004	-0.030	0.978	-0.009	0.009
location							
Urban		-0.136	0.049	-2.760	0.006	-0.232	-0.039
Relig							
Traditional beliefs		0.058	0.084	0.690	0.491	-0.107	0.223
Other Christian churches		-0.028	0.049	-0.570	0.569	-0.124	0.068
Other religion		-0.067	0.144	-0.460	0.643	-0.348	0.215
occupation							
Technicians and other Associate Professionals		0.174	0.195	0.890	0.371	-0.208	0.557

Clerks, Sales, Craft Workers and Plant and Machinery Operators	0.330	0.137	2.410	0.016	0.062	0.599
Skilled Agricultural and Fishery Workers	0.320	0.091	3.510	0.000	0.141	0.498
Armed Forces Occupations	0.191	0.115	1.660	0.097	-0.034	0.416
Elementary Workers	0.738	0.084	8.830	0.000	0.574	0.902

Note: dy/dx for factor levels is the discrete change from the base level.

.asdoc margins, dydx(*) predict(outcome(2))

Average marginal effects Number of obs = 173

Model VCE : Robust

Expression : Pr(Earnings==2), predict(outcome(2))

dy/dx w.r.t. : 0.Educ 2.Educ 3.Educ 1.SexViolence 1.SexViolence_2 Age Hours ttlexp 1.location 1.Relig 2.Relig 3.Relig 2.occupation 3.occupation 4.occupation 5.occupation 6.occupation

Delta-method						
	dy/dx	Std.Err.	z	P>z	95%Conf.	Interval]
Educ						
No formal education	-0.121	0.102	1.180	0.237	-0.320	0.079
Secondary education	-0.159	0.074	2.140	0.032	-0.304	-0.014
Tertiary education	-0.208	0.090	-2.320	0.021	-0.384	-0.032
SexViolence						
Yes	-0.029	0.056	-0.510	0.609	-0.138	0.081
SexViolence_2						
Yes	0.005	0.061	0.080	0.935	-0.115	0.124
Age	-0.002	0.003	-0.750	0.451	-0.008	0.003
Hours	-0.008	0.011	-0.720	0.472	-0.030	0.014
ttlexp	-0.000	0.004	-0.030	0.978	-0.009	0.009
location						
Urban	-0.136	0.049	-2.760	0.006	-0.232	-0.039
Relig						
Traditional beliefs	0.058	0.084	0.690	0.491	-0.107	0.223
Other Christian churches	-0.028	0.049	-0.570	0.569	-0.124	0.068
Other religion	-0.067	0.144	-0.460	0.643	-0.348	0.215
occupation						
Technicians and other Associate Professionals	0.174	0.195	0.890	0.371	-0.208	0.557
Clerks, Sales, Craft Workers and Plant and Machinery Operators	0.330	0.137	2.410	0.016	0.062	0.599
Skilled Agricultural and Fishery Workers	0.320	0.091	3.510	0.000	0.141	0.498
Armed Forces Occupations	0.191	0.115	1.660	0.097	-0.034	0.416
Elementary Workers	0.738	0.084	8.830	0.000	0.574	0.902

Note: dy/dx for factor levels is the discrete change from the base level.

.asdoc margins, dydx(*) predict(outcome(3))

Average marginal effects Number of obs = 173

Model VCE : Robust

Expression : Pr(Earnings==3), predict(outcome(3))

dy/dx w.r.t. : 0.Educ 2.Educ 3.Educ 1.SexViolence 1.SexViolence_2 Age Hours ttlexp 1.location 1.Relig
2.Relig 3.Relig 2.occupation 3.occupation 4.occupation 5.occupation 6.occupation

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
Educ						
No formal education	0.052	0.048	1.080	0.278	-0.042	0.145
Secondary education	0.072	0.033	2.190	0.029	0.007	0.136
Tertiary education	0.100	0.043	2.310	0.021	0.015	0.184
SexViolence						
Yes	0.015	0.030	0.480	0.628	-0.044	0.073
SexViolence_2						
Yes	-0.003	0.031	-0.080	0.935	-0.063	0.058
Age	0.001	0.001	0.770	0.443	-0.002	0.004
Hours	0.004	0.006	0.720	0.469	-0.007	0.015
ttlexp	0.000	0.002	0.030	0.978	-0.004	0.004
location						
Urban	0.069	0.027	2.560	0.011	0.016	0.122
Relig						
Traditional beliefs	-0.029	0.043	-0.680	0.499	-0.113	0.055
Other Christian churches	0.014	0.025	0.570	0.566	-0.035	0.063
Other religion	0.034	0.073	0.470	0.640	-0.109	0.177
occupation						
Technicians and other Associate Professionals	-0.156	0.144	-1.080	0.279	-0.438	0.126
Clerks, Sales, Craft Workers and Plant and Machinery Operators	-0.232	0.091	-2.560	0.011	-0.411	-0.054
Skilled Agricultural and Fishery Workers	-0.228	0.080	-2.870	0.004	-0.385	-0.072
Armed Forces Occupations	-0.166	0.093	-1.780	0.075	-0.349	0.017
Elementary Workers	-0.313	0.076	-4.100	0.000	-0.463	-0.164

Note: dy/dx for factor levels is the discrete change from the base level.

. asdoc margins, dydx(*) predict(outcome(4))

Average marginal effects Number of obs = 173

Model VCE : Robust

Expression : Pr(Earnings==4), predict(outcome(4))

dy/dx w.r.t. : 0.Educ 2.Educ 3.Educ 1.SexViolence 1.SexViolence_2 Age Hours ttlexp 1.location 1.Relig
2.Relig 3.Relig 2.occupation 3.occupation 4.occupation 5.occupation 6.occupation

		Delta-method				
		dy/dx	Std.Err.	z	P>z	[95%Conf. Interval]
Educ						
No formal education		0.010	0.012	0.840	0.400	-0.014 0.034
Secondary education		0.016	0.010	1.520	0.127	-0.004 0.036
Tertiary education		0.025	0.013	1.960	0.050	-0.000 0.050
SexViolence						
Yes		0.006	0.012	0.520	0.605	-0.017 0.030
SexViolence_2						
Yes		-0.001	0.013	-0.080	0.935	-0.026 0.024
Age		0.000	0.001	0.740	0.461	-0.001 0.002
Hours		0.002	0.002	0.690	0.487	-0.003 0.006
ttlexp		0.000	0.001	0.030	0.978	-0.002 0.002
location						
Urban		0.023	0.012	1.920	0.055	-0.000 0.046
Relig						
Traditional beliefs		-0.009	0.012	-0.720	0.475	-0.032 0.015
Other Christian churches		0.006	0.010	0.560	0.579	-0.014 0.025
Other religion		0.015	0.038	0.390	0.693	-0.060 0.090
occupation						
Technicians and other Associate Professionals		-0.046	0.038	-1.230	0.218	-0.120 0.027
Clerks, Sales, Craft Workers and Plant and Machinery Operators		-0.059	0.033	-1.810	0.070	-0.123 0.005
Skilled Agricultural and Fishery Workers		-0.059	0.031	-1.860	0.063	-0.120 0.003
Armed Forces Occupations		-0.048	0.030	-1.590	0.112	-0.108 0.011
Elementary Workers		-0.069	0.034	-2.030	0.042	-0.135 -0.002

Note: dy/dx for factor levels is the discrete change from the base level.

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