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# UNVEILING THE DRIVERS OF SAVING BEHAVIOR: INSIGHTS FROM DIRE DAWA CITY ADMINISTRATION

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**Abstract:** In today's world, everyone is striving to secure the future, and saving plays a crucial role in the development of an individual's life. This paper explores the factors that influence the saving behavior of public sector employees. The purpose of this study is to investigate the potential determinants of saving behavior among public sector employees to improve their life status. A mixed research design was applied to examine the causal relationship between saving behavior and its determinants. A multi-stage random sampling technique was used to select respondents. Structured questionnaires, written in both English and Amharic, were distributed to various levels of public sector employees working in the Dire Dawa city administration. Data was collected from 331 employees through direct distribution at their workplaces.
Qualitative data was analyzed through narration, while quantitative data was analyzed using frequencies, percentages, tabular presentations, graphs, and other descriptive techniques. A binary logit model was applied to analyze the determinants of saving behavior among the respondents. The results revealed that 60.12% of the respondents do not save, while the remaining 39.88% are engaged in saving activities. Key determinants of saving behavior identified include income, commitment, mass media advertisement, consumption expenditure, political instability, incentives, and access to finance. Notably, commitment and consumption expenditure were found to negatively and significantly influence saving behavior. However, addiction was found to have no statistically significant impact on the saving decisions of public employees.

**Key words:** Determinants, Public employees, saving behavior

## 1. Introduction

This study examines determinants of saving behavior among government employees in Dire Dawa, Ethiopia. With many new private banks forming, insights into mobilizing employee savings could aid deposit growth and profitability while fostering an entrenched saving culture in society (Daniel, 2016). Understanding factors that motivate public sector saving is vital, given the sector's economic role.

Policymakers and financial institutions have therefore increasingly emphasized mobilizing financial savings, which can be more directly influenced than aggregate savings and provide lendable funds (Tsega & Yemane, 2014). Various incentives like prize-linked savings accounts and expanded branch networks have aimed to promote a saving culture (Daniel, 2016).

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Saving is a critical macroeconomic variable with significant implications at individual, household, and national levels (Raut & Virmani, 1989). It represents income not consumed immediately, contributing to aggregate saving and investment - key drivers of future economic growth. For individuals, saving safeguards against uncertainties and enables improved future lifestyles.

Developing countries like Ethiopia face persistent savings-investment gaps, hindering their ability to finance growth from domestic savings (Deaton, 2005; Rogg, 2006). Traditionally, savings decisions reflected longer-term income estimates rather than current income (Kefle, 2012). In Ethiopia, informal mechanisms like accumulating physical assets, equbs and idirs served saving needs historically, though low institutional support constrained overall saving rates (Bogale et al., 2017).

### 1.1 Objectives of the Study:

The primary aim of this research is to analyze the factors influencing saving behavior among governmental employees within the Dire Dawa city administration.

**Specific Objectives:**

- To assess the impact of income on the saving decisions of public employees.
- To explore the relationship between commitment and saving decisions among public employees.
- To examine the influence of political instability on the saving decisions of public employees.
- To evaluate the effect of consumption expenditure on the saving decisions of public employees.
- To analyze the impact of addiction on the saving decisions of public employees.
- To assess the role of incentives in influencing the saving decisions of public employees.
- To determine the effect of the availability of credit associations on the saving decisions of public employees.
- To investigate the influence of mass-media advertisement on the saving decisions of public employees.

## 2. Literature Review:

### 2.1 Theoretical and Empirical Review:

The concept of saving and saving behavior has piqued the interest of scholars across various disciplines, resulting in the development of several theories and hypotheses aimed at unraveling the complexities underlying this phenomenon. Among the prominent theories that have emerged are the Life-Cycle Hypothesis, the Permanent Income Hypothesis, the Relative Income Hypothesis, the Precautionary Saving Hypothesis, the Buffer Stock Theory, and the Ricardian Equivalence Hypothesis.

The Life-Cycle Hypothesis, proposed by Modigliani and Brumberg in 1954, suggests that individuals base their consumption patterns on a constant percentage of their anticipated lifetime income. This theory emphasizes the importance of saving for retirement and smoothing consumption over the course of an individual's life cycle. It posits that individuals will accumulate savings during their working years to finance consumption during their retirement years.

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The Permanent Income Hypothesis, introduced by Milton Friedman in 1957, implies that individuals will spend money at a level consistent with their expected long-term average income, referred to as "permanent" income. This hypothesis suggests that temporary fluctuations in income are unlikely to significantly impact consumption and saving behavior, as individuals are more influenced by their permanent income expectations.

In contrast, the Relative Income Hypothesis, proposed by James Duesenberry in 1949, suggests that an individual's satisfaction from consumption is dependent on their relative position within the income distribution, rather than the absolute level of consumption. This theory implies that individuals tend to increase their consumption as their income rises relative to others, potentially leading to a reduction in savings.

The Precautionary Saving Hypothesis, introduced by Hayne E. Leland in 1968, proposes that individuals save not only for future consumption smoothing but also to secure themselves against future economic uncertainties, such as income fluctuations or unexpected expenses. This hypothesis recognizes the inherent uncertainty present in individuals' lives and the need to maintain a buffer of savings to mitigate potential financial shocks.

Building upon this concept, the Buffer Stock Theory, developed by Christopher D. Carroll in 1997, suggests that individuals hold assets (savings) to smooth out and secure their future consumption levels against unpredictable fluctuations in future income. This theory emphasizes the importance of maintaining a precautionary buffer of savings to ensure a consistent standard of living in the face of income volatility.

Finally, the Ricardian Equivalence Hypothesis, proposed by David Ricardo in 1820, asserts that individuals will increase their saving in anticipation of future tax increases to pay off government debt. This hypothesis suggests that individuals will offset the impact of debt-financed government spending on consumption and interest rates by increasing their savings, effectively neutralizing the intended stimulative effects of such fiscal policies.

While these theoretical frameworks provide valuable insights into the potential drivers of saving behavior, empirical research has sought to validate and explore these concepts in various real-world contexts. Recent empirical studies have focused on examining the factors influencing saving decisions and patterns across different regions and populations.

International studies have investigated the determinants of saving behavior in countries such as Pakistan, India, and Malaysia. Factors such as GDP growth rate, exports, service quality, religious beliefs, knowledge, social influences, gender, age, family size, income, wealth, education, peer pressure, parental socialization, self-control, consumption expenditure, liabilities, marital status, urban/rural residence, dependency ratio, and income shocks have been identified as significant influences on saving decisions.

Closer to home, several studies have explored the determinants of saving behavior in Ethiopia. Research conducted in towns like Boditi, Benishangul Gumuz Regional State, and Wolaita Sodo has revealed that factors such as household head age, sex, marital status, education, credit availability, annual income, interest rates, family size, distance from financial institutions, distance from markets, annual consumption expenditure, employment status, field of study,

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and income level significantly impact the probability of saving and saving rates among households and individuals.

### 2.2 Conceptual Framework:

Based on the theoretical and empirical literature, a conceptual framework for understanding saving behavior was developed. In this framework, saving behavior was considered the dependent variable, influenced by various explanatory variables that has been categorized into different perspectives, such as demographic, socioeconomic, and institutional factors.


**Figure 2.1 Conceptual Framework (Developed by the Researcher)**

These variables are expected to exert varying degrees of influence on the saving behavior of individuals. The availability of credit associations, incentives, income, and mass media advertisement may positively influence saving behavior, as these factors provide access to resources, motivation, and awareness regarding the importance of saving.

On the other hand, addiction, consumption expenditure, political instability, and commitment may negatively influence saving decisions. Addiction can divert resources away from saving, while high consumption expenditures leave less disposable income available for saving. Political instability can create uncertainty and discourage long-term financial planning, while competing commitments may diminish the prioritization of saving.

## 2. Research Design & Methodology:

### 3.1 Research Approach and Design:

The study adopted an explanatory research design to look at the cause-and-effect relationship between variables. It employed a mixed methods approach, utilizing both quantitative and qualitative methodologies to increase the quality of the research.

### 3.2 Data Types and Sources

The study used both primary and secondary data sources. Primary data was collected through surveys of a sample of government employees in the Dire Dawa regional city administration. This was cross-sectional data including both qualitative and quantitative information. Secondary data was obtained from published documents, reports, journals, books, and literature related to the topic.

### 3.3 Method of Data Collection

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A structured, self-administered questionnaire was used to collect the primary data. The questionnaire had two sections - the first covered demographic information, while the second focused on factors intended to affect the saving behavior of government employees using multi-item scales based on literature review. The questionnaire was drafted in English, translated to Amharic, and administered by visiting different government organizations.

**3.4 Population and Sampling Technique**

The population was urban government employees in the Dire Dawa region, totaling around 14,718 individuals. A multi-stage random sampling technique was used, first selecting the city administration purposively, then the urban area employees, those employed in government institutions, and finally using simple random sampling to select respondents.

**3.5 Sample Size and Design**

To determine the sample size, the following formula was used:

n = (z^2 * p * q * N) / (e^2 * (N-1) + z^2 * p * q)

Where: n = sample size

N = total population (14,718 urban government employees)

z = 1.96 (for 95% confidence level)

p = sample proportion (0.5 for maximum sample size)

q = 1 - p = 0.5

e = margin of error (0.05)

Substituting the values:

n = (1.96^2 * 0.5 * 0.5 * 14,718) / (0.05^2 * (14,718-1) + 1.96^2 * 0.5 * 0.5)

= 14,135.16 / 37.75

= 374.44 ≈ 375

Therefore, the total sample size taken was 375 urban public employees.

**3.6 Data Analysis and Presentation**

The empirical data was analyzed using STATA version 15, a widely recognized statistical software in scientific research, enhancing the validity of the study's findings (Saunders et al., 2009). Specifically, a logistic regression analysis was conducted to examine the impact of various factors on the saving behavior of government employees, where saving behavior was the dependent variable, and its determinants were the independent variables.

**3.7 Model Specification**

When the dependent variable is binary, as in the case of saving behavior (1 for saving, 0 for not saving), logistic regression models like logit or probit are appropriate analytical methods (Zegeye, 2018). The logit model was chosen due to its simplicity and the direct interpretability of the log-odds transformation (Gujarati, 2004).

The logit model specifies the probability of saving (Pi) as a function of the cumulative distribution function, which depends on the explanatory variables (Xi):

Pi = E (Y = 1 | Xi) = 1 / (1 + e^(-z))

Where z = β1 + β2X2 + β3X3 + ... + βkXk

Although Pi is a non-linearly related to Xi and the parameters (β), taking the natural log of the odds ratio linearizes the model:

ln(Pi / (1 - Pi)) = L = β1 + β2X2 + β3X3 + ... + βkXk

L, the log of the odds ratio, is linear in both Xi and the parameters, enabling estimation using maximum likelihood methods. Consequently, the researcher employed the logit model to analyze the probability of saving or not saving among public workers and its determinants.

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## 4. Results:

### 4.1 Descriptive Statistics:

**Determinants of Saving Behavior**

**Table 1: Descriptive Analysis of Determinants of Saving Behavior**

| ***Variable*** | **Observation** | **Mean** | **Std. Dev.** | **Min** | **Max** |
|---|---|---|---|---|---|
| | | | | | |
| *IncM* | 331 | 3.190937 | 0.4060632 | 2.2 | 4.4 |
| *Com.* | 331 | 3.2714 | 0.5236248 | 2 | 4.33 |
| *MM_adv* | 331 | 3.14864 | 0.468029 | 1.8 | 4.2 |
| *Pol* | 331 | 2.901813 | 0.5458075 | 1.5 | 4.25 |
| *Add* | 331 | 3.34139 | 0.5571109 | 2 | 4.8 |
| *Acc_Fi* | 331 | 3.06143 | 0.4727448 | 1.83 | 4.16 |
| *Con_Ex* | 331 | 2.925076 | 0.5242654 | 1.6 | 4.4 |
| *Inct* | 331 | 3.208459 | 0.524018 | 1.75 | 4.5 |

Source: Survey result, 2024

The descriptive analysis reveals insights into the determinants of saving behavior among the respondents. The mean scores suggest that income level (3.19), commitment (3.27), mass media advertisements (3.15), addictions (3.34), access to financial institutions (3.06), and incentives (3.21) were generally perceived as important factors influencing saving behavior. However, respondents were relatively neutral or slightly disagreed about the impact of political instability (2.90) and consumption expenditure (2.93) on their saving habits.

The standard deviations, ranging from 0.41 to 0.56, indicate moderate variations in responses, suggesting that the extent of these factors' influence may differ across individuals based on their personal circumstances and priorities. For instance, while most respondents acknowledged the importance of income in determining their ability to save, some individuals may have different levels of commitment or priorities when it comes to saving, as reflected in the higher standard deviation for the commitment factor (0.52).

**Observation responses for Explanatory Variables**

**Table 2:** Observation response for Income, Commitment, mass media advertisement and political instability Variables

| **Variable (Income)** | **Obs.** | **Mean** | **Std. Dev.** |
|---|---|---|---|
| My income is sufficient to make saving. | 331 | 3.102719 | 1.018775 |
| I make saving when I got an extra income | 331 | 3.042296 | 1.049398 |
| I make a planned saving from my monthly income | 331 | 2.981873 | 1.064426 |
| I don't save because my income is not sufficient to myself & my family. | 331 | 3.045317 | 1.070712 |
| When my income is increased my level of saving also increased | 331 | 3.564955 | 0.8762065 |
| | | | |
| **Variable (Commitment)** | **Obs.** | **Mean** | **Std. Dev.** |

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| | | | |
|---|---|---|---|
| I have many dependents so that I do not save | 331 | 2.906344 | 1.1496 |
| I have a responsibility to take care of my Childs | 331 | 2.864048 | 1.08 |
| I do make expenditure for educating my child and myself. | 331 | 2.945619 | 1.0015 |
| I support my families (parents) financially. | 331 | 3.081571 | 0.8924 |
| I expend money to my Family (parents) health. | 331 | 3.036254 | 1.0753 |
| I have religious commitments. | 331 | 2.975831 | 1.0529 |
| | | | |
| **Variable (Mass Media Advertisement)** | **Obs.** | **Mean** | **Std. Dev.** |
| I have seen/hear many advertisements on mass media Which are related to saving. | 331 | 3.450151 | 0.930831 |
| Mass-media advertisement has made a positive influence on my saving behavior. | 331 | 2.957704 | 1.017138 |
| After I have seen advertisement, I think about saving. | 331 | 3.108761 | 1.018145 |
| Am very attracted by the advertisement made by financial Institutions. | 331 | 3.039275 | 0.95741 |
| I open a saving account after I have seen mass media Advertisement. | 331 | 3.145015 | 1.016589 |
| | | | |
| **Variable (Political Instability)** | **Obs.** | **Mean** | **Std. Dev.** |
| In my area there is an existence of political instability | 331 | 3.039275 | 1.006779 |
| I made high expenditure on instability time to acquire goods and services compares to stable time. | 331 | 2.951662 | 1.168736 |
| I transfer much of my income to saving at the time of political instability. | 331 | 3.277946 | 1.155263 |
| Political instabilities have a positive influence on my level of saving | 331 | 3.326284 | 1.077633 |

**Source:** Survey result, 2024

The result showed insights into various factors influencing the saving behavior of the respondents. While there is moderate agreement that income level and commitments like family responsibilities influence their ability to save, there are individual differences in attitudes and circumstances. Mass media advertisements appear to have a positive influence, with most respondents acknowledging that such ads made them think about saving, attracted them to financial institutions, and even prompted some to open savings accounts.

Interestingly, political instability also seems to positively affect saving behavior, with respondents agreeing that they tend to transfer more income to savings during times of instability, possibly as a precautionary measure. However, there are variations in responses, reflecting the multidimensional nature of saving habits, which are shaped by a combination of economic, social, and psychological factors unique to each individual's circumstances.

**Table 3:** Observation response for Addiction, Access to Finance, Consumption Expenditure and Incentive

| **Variable (Addiction)** | **Obs.** | **Mean** | **Std. Dev.** |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| I made a daily expenditure to chew chat. | 331 | 3.145015 | 0.92284 |
| I frequently use alcoholic drinks. | 331 | 3.39577 | 1.14038 |
| Drinking of alcohols negatively influence my saving. | 331 | 3.338369 | 0.994078 |
| I always involve in money expenditure activities with my friends | 331 | 3.41994 | 1.34235 |
| I have a habit to enjoy all the weekend with my friend's in bars. | 331 | 3.039275 | 1.070952 |
| | | | |
| **Variable (Access to Finance)** | **Obs.** | **Mean** | **Std. Dev.** |
| Ease access to financial institutions influence me to save. | 331 | | 2.94864 |
| I frequently go to banks for depositing money other than withdrawing. | 331 | | 2.984894 |
| I receive my salary through bank; that influence me to save. | 331 | | 3.054381 |
| I am a member of credit association in my organization. | 331 | | 3.178248 |
| I have taken a borrowing from credit association because of my saving. | 331 | | 2.92145 |
| The money I borrowed forced me to save. | 331 | | 2.73716 |
| | | | |
| **Variable (Consumption Expenditure)** | **Obs.** | **Mean** | **Std. Dev.** |
| I have a little or no difficulty in managing my money. | 331 | 3.02719 | 1.039748 |
| I have an ability to prepare my own monthly budget requirement. | 331 | 2.903323 | 1.153265 |
| I have a habit of making plan, for my monthly expenses; and usually I follow my plan. | 331 | 3.009063 | 1.060264 |
| I often expend much of my income in consumable goods. | 331 | 3.024169 | 1.058596 |
| My income and my consumption expenditure have a positive relation. | 331 | 2.915408 | 1.154217 |
| | | | |
| **Variable (Incentive)** | **Obs.** | **Mean** | **Std. Dev.** |
| I make a lot of saving because of the incentives given by financial institutions. | 331 | 2.990937 | 1.060264 |
| My habit of saving is changed because of incentives given by financial institutions. | 331 | 2.912387 | 1.087754 |
| I win a prize because of my saving. | 331 | 2.903323 | 1.147997 |
| I frequently prefer to save on financial institutions, which are offering incentives. | 331 | 2.981873 | 1.064426 |

**Source:** Survey result, 2024

The data revealed considerations into factors like addictions, access to finance, consumption expenditures, and incentives that influence saving behavior. Addictions such as chewing chat (mean 3.15), drinking alcohol (mean 3.40), and socializing activities (means 3.42-3.04) seem to negatively influence savings according to the respondents. Easy access to financial institutions (means 2.95-3.18) and receiving salary via banks (mean 3.05) facilitate saving habits. However, borrowing from credit associations does not necessarily encourage saving

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(means 2.92-2.74). Most respondents report little difficulty managing money (mean 3.03) and making monthly budgets (mean 2.90-3.01), but still tend to spend on consumables (mean 3.02). While incentives from financial institutions do not seem to strongly motivate saving (means 2.99-2.90), some prefer institutions offering incentives (mean 2.98).

**4.2 Measurement of Model Validity and Model Specification Test:**

The Hosmer-Lemeshow test and the Link test are diagnostic tests used to assess the goodness-of-fit and specification of a logistic regression model.

**Hosmer-Lemeshow Test:**

**Table 4: Result of Hosmer Lemeshow Test**

| | |
|---|---|
| ***number of observations*** | **331** |
| *number of covariate patterns* | 331 |
| *Pearson chi2(322)* | 294.79 |
| *Prob > chi2* | 0.8594 |

**Source:** Survey result, 2024

The Hosmer-Lemeshow test is a statistical test that assesses whether the observed event rates match the expected event rates in subgroups of the model population. The test is based on the chi-square distribution, and a non-significant p-value (typically greater than 0.05) indicates a good model fit.

In this case, the Hosmer-Lemeshow test statistic is 294.79 with 322 degrees of freedom, and the p-value is 0.8594. Since the p-value is greater than 0.05, we fail to reject the null hypothesis that the model fits the data well. This suggests that the logistic regression model is a good fit for the data.

**Model Specification Test**

**Table 5: Link Test**

| **Logistic regression** | | | | | | |
|---|---|---|---|---|---|---|
| **SavB** | Coef. | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| **_hat** | 1.002635 | 0.1314968 | 7.62 | 0.000 | .7449062 | 1.260364 |
| **_hatsq** | -0.0202697 | 0.0459047 | -0.44 | 0.659 | -.1102413 | 0.069702 |
| **_cons** | 0.0528298 | 0.2407177 | 0.22 | 0.826 | -.4189682 | 0.524628 |

**Source:** Survey result, 2024

The Link test is a specification test used to evaluate the linearity assumption of the logistic regression model. It creates two new variables: _hat (the predicted values) and _hatsq (the squared predicted values). If the model is correctly specified, the _hat variable should be significant, and the _hatsq variable should be insignificant.

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In this case, the coefficient for _hat is 1.002635, which is statistically significant (p-value = 0.000), indicating that the predicted values are a good fit for the observed data. The coefficient for _hatsq is -0.0202697, which is not statistically significant (p-value = 0.659), suggesting that there is no evidence of a nonlinear relationship between the dependent variable and the linear predictor.

### 4.3 Inferential Analysis:

#### 4.3.1 Regression Analysis:

Regression analysis is a way of predicting an outcome variable from one predictor variable (simple regression) or several predictor variables (multiple regressions) (Field, 2009). Even if the variables are multiple if the dependent variable is dummy variable the regression model were changed to logistic regression model. For the analysis of determinants of saving behavior, a binary logistic regression model was applied. Saving behavior as previously defined is a dummy dependent variable explained through either saving or not saving with the attitude of public sector employees. Saving behavior as a function of these two groups is determined by factors influencing each of these groups.

**Table 6: Result of Logistic regression**

| **Logistic regression** | | | | **Number of obs =** | **331** |
|---|---|---|---|---|---|
| | | | | LR chi2(8) = | 188.14 |
| | | | | Prob > chi2 = | 0.000 |
| **Log likelihood = -128.5324** | | | | Pseudo $R^2$ | 0.4226 |
| **SB1** | Odds Ratio | Std. Err. | z | P>z . | [95% Conf. Interval] |
| **Income** | 10.07475 | 4.870867 | 4.78 | 0.000 | 3.905727 25.98765 |
| **commitmme** | 0.4406382 | 0.1638966 | -2.2 | 0.028 | 0.212557 0.913459 |
| **Massmedia** | 4.022276 | 1.612694 | 3.47 | 0.001 | 1.833118 8.825783 |
| **Polinsta** | 6.494688 | 2.500333 | 4.86 | 0.000 | 3.053948 13.81195 |
| **Addiction** | 0.7838973 | 0.2516573 | -0.76 | 0.448 | 0.417826 1.470697 |
| **Accesstofin** | 3.844439 | 1.457124 | 3.55 | 0.000 | 1.828982 8.080839 |
| **Consumexp** | 0.4986602 | 0.1656368 | -2.09 | 0.036 | 0.260056 0.956187 |
| **Incentive** | 4.558274 | 1.738452 | 3.98 | 0.000 | 2.158568 9.625759 |
| **_cons** | 4.42E-10 | 1.17E-09 | -8.15 | 0.000 | 2.48E-12 7.86E-08 |

**Source:** Survey result, 2024

The log likelihood value of -128.5324 provides an indication of the overall fit of the logistic regression model to the data. A higher log likelihood value suggests a better fit, as it represents the log of the probability of observing the sample data given the parameter estimates.

The pseudo-R-squared value of 0.4226 suggests that the independent variables included in the model (income, commitment, mass media exposure, political instability, and addiction, access to finance, consumption expenditure, and incentives) account for approximately 42.26% of the variation in the saving behavior of public sector employees. While this value does not directly

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translate to a specific percentage of variance explained, it indicates that the model has a reasonably good fit and captures a substantial portion of the variation in the dependent variable.

The logistic regression model examined the effects of various factors on the saving behavior (SB1) of public sector employees. The overall model was statistically significant (LR chi-square = 188.14, p-value < 0.001), indicating that the independent variables reliably predict saving behavior.

The logistic regression analysis revealed several key factors influencing the saving behavior of public sector employees in the study area. Firstly, income emerged as a strong positive predictor, with the odds of saving increasing by a factor of 10.07 for every unit increase in income level, holding all other variables constant ($p < 0.001$). This finding aligns with Appiah (2015) and Abdelfattah (2015) indicating that higher incomes facilitate greater saving propensities among individuals.

The results also highlighted the contrasting effects of commitment and mass media exposure. While increased commitment levels, such as family responsibilities, were associated with lower odds of saving by a factor of 0.44 ($p = 0.028$), exposure to mass media advertisements promoting saving had a positive influence, increasing the odds of saving by a factor of 4.02 ($p = 0.001$). These findings suggest that while personal commitments may hinder saving behaviors, effective marketing and awareness campaigns could potentially counterbalance this effect. In addition, Narges and Laily (2011) support this result.

Another notable finding was the positive association between political instability and saving behavior. Contrary to expectations, the presence of political instability increased the odds of saving by a factor of 6.49 ($p < 0.001$), potentially reflecting a precautionary motive among public employees during times of uncertainty. The finding of Tizita (2017) supports the finding.

Access to financial institutions and the availability of incentives also emerged as significant predictors. Better access to finance increased the odds of saving by a factor of 3.84 ($p < 0.001$), while the presence of incentives offered by financial institutions, such as interest rates or tax benefits, increased the odds of saving by a factor of 4.56 ($p < 0.001$). These results underscore the importance of institutional factors in promoting saving behavior. This finding leads credence to the findings of Gonzalez and Ozcan (2008) and Fasoranti (2007).

Conversely, higher consumption expenditure was found to negatively impact saving behavior, with a one-unit increase in expenditure reducing the odds of saving by a factor of 0.50 ($p = 0.036$). This finding aligns with economic theory, which suggests that increased consumption may leave fewer resources available for saving.

Interestingly, the effect of addiction on saving behavior was not statistically significant in this study, indicating that addictive behaviors may not play a substantial role in determining saving decisions among public sector employees in the given context.

### 4.3.2 Marginal Effect Analysis:

In order to demonstrate how much public employees' saving behavior changes in response to changes in these important factors, the marginal effect following logistic regression was estimated. These seven significant variables—income, commitment, consumption expenditure, incentive, mass media advertisement, political instability, and access to financing—have

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marginal impacts (dy/dx) of roughly 0.286, -0.10, -0.08, 0.188, 0.17, 0.23, and 0.16, respectively, as shown in the following table.

The findings indicate several factors that influence the saving behavior of public employees. A 1 birr increase in income raises the probability of saving by 0.286 percent. Conversely, the responsibility of helping others (commitment) reduces the likelihood of saving by 0.10 percent. Additionally, a 1 percent increase in consumption expenditure decreases the probability of saving by 0.08 percent. Financial institutions' promotions in mass media positively affect saving decisions, with a marginal effect of 0.17 percent. Incentive packages from financial institutions can improve saving behavior by 0.188 percent. Interestingly, political instability positively affects saving behavior, increasing the likelihood by 0.23 percent. Lastly, the proximity of financial institutions to public employees' residences increases the likelihood of saving by 0.16 percent.

**Table 7**: **Marginal Effect Analysis**

| **Average marginal effects** | | | | | **Number of obs. =** | **331** |
|---|---|---|---|---|---|---|
| **Model VCE: OIM** | | | | | | |
| **Expression: Pr(Sav_B), predict()** | | | | | | |
| **dy/dx w.r.t.: Inc Com MM.adv Polins Add Acc_Fi Con_Ex Inct** | | | | | | |
| | | Delta-method | | | | |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| **Income** | 0.28669 | 0.05207 | 5.51 | 0.000 | 0.184634 | 0.388746 |
| **Commitment** | -0.10171 | 0.04502 | -2.26 | 0.024 | -0.18995 | -0.01347 |
| **Mass-media** | 0.172738 | 0.0463 | 3.73 | 0.000 | 0.081991 | 0.263484 |
| **Polinsta** | 0.232202 | 0.041365 | 5.61 | 0.000 | 0.151128 | 0.313275 |
| **Addiction** | -0.03022 | 0.039706 | -0.76 | 0.447 | -0.10804 | 0.047606 |
| **Access to finance** | 0.167125 | 0.043591 | 3.83 | 0.000 | 0.081688 | 0.252563 |
| **Consumption expenditure** | -0.08636 | 0.040219 | -2.15 | 0.032 | -0.16518 | -0.00753 |
| **Incentive** | 0.188263 | 0.043123 | 4.37 | 0.000 | 0.103743 | 0.272782 |

**Source:** Survey result, 2024

### 4.3.3 Hypotheses Testing

The results indicate a highly significant relationship between income and savings, showing that as income increases, individual savings rise. Additionally, the analysis reveals that the dependent variable, saving behavior, is significantly influenced by various independent variables. Consumption expenditure and commitment are negatively related to the saving decisions of public employees, indicating a significant inverse relationship. However, addiction shows a negative but insignificant relationship with saving behavior. On the positive side, mass media advertisements, political instability, access to finance, and incentives all have a significant and positive impact on the saving behavior of public employees.

**Table 8:** Hypothesis Result

| ***Working Hypothesis*** | **Variable** | **Expected result** | **Actual result** | **Decision** |
|---|---|---|---|---|
| $H_1$: | Income | Significant and positive effect | Significant and positive | Accepted |

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| | | | | |
|---|---|---|---|---|
| *$H_2$:* | Commitment | Significant and negative effect | Significant and negative | Accepted |
| *$H_3$:* | Political instability | Significant and positive effect | Significant and positive | Accepted |
| *$H_4$:* | Addiction | Significant and negative effect | Insignificant and negative | Rejected |
| *$H_5$:* | Consumption Expenditure | Significant and negative effect | Significant and negative | Accepted |
| *$H_6$:* | Access to finance | significant and positive effect | Significant and positive | Accepted |
| *$H_7$:* | Incentives | significant and positive effect | Significant and positive | Accepted |
| *$H_8$:* | Mass-media advertisement | significant and positive effect | Significant and positive | Accepted |

**Source:** Survey result, 2024

**Conclusion:**

This study assessed the determinants of saving behavior among public employees in the Dire Dawa city administration using a cross-sectional survey research design. Multiple random sampling was employed to select respondents, and data was collected through structured questionnaires. Out of 375 distributed questionnaires, 331 were returned and analyzed. The data was examined using logistic regression and cross-tabulation.

The findings revealed that 60.12 percent of the respondents do not save. There is a significant association between age, monthly income, and the decision to save. Logistic regression results indicated that commitment and consumption expenditure negatively and significantly influence the decision to save, while addiction is negatively but insignificantly related to saving behavior. Conversely, five other variables, including mass media advertisement, political instability, access to finance, and incentives, have a positive and significant effect on the saving decisions of public employees.

The purpose of this study was to explore the determinants and their effects on the saving behavior of public employees. Testable hypotheses were formulated to achieve this purpose, emphasizing the importance of identifying the factors that influence saving behavior. Given the limited number and scope of studies in the public sector, this specific research area was chosen.

The study confirmed that public sector employees' lack of savings is not solely due to their income; various factors significantly contribute to their saving practices. Regression analysis demonstrated the causal effect of these factors on the saving decisions of public employees, highlighting the need to address multiple determinants to enhance saving behavior effectively.

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