

# Elections and Subjective Well-Being in Sub-Saharan Africa\*

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## Abstract

In Sub-Saharan Africa, some scholars identify ethnicity as a cause of instability and poor economic growth, which is due to worse public policies. [Eifert, Miguel, and Posner \(2010\)](#) show that ethnic identification is more prominent during competitive election periods in comparison to other identifying categories such as gender, religion, and class/occupation. This paper utilizes data from 12 Sub-Saharan African countries and over 40,000 respondents taken from the Afrobarometer. It asks if individual subjective well-being changes in the run up to competitive elections. We find strong evidence that individual subjective well-being does change. It is positively related to the proximity to an election and this proximity effect depends on the competitiveness of the election. We further investigate the background mechanisms behind this positive relationship i.e.: to what extent does well-being of the individual change if the party that the individual supports wins the election, and is there a change in well-being of the individual before and after the election? In addition, we document that ethnic identification also has a positive impact on individual well-being after controlling for electoral cycle variables. Policy makers might internalize these positive externalities driven from politically-induced ethnic identification.

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*Keywords:* Sub-Saharan Africa; ethnicity; subjective well-being; election; Afrobarometer.

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# 1 Introduction

Ethnic identity is an important determinant of people's lives in Sub-Saharan Africa. It affects who they trust, conduct business with, and vote for. Moreover, it can influence individuals regarding their overall well-being. It is often debated in the literature whether the importance of ethnic identity is driven by social or political affairs. Some scholars argue that ethnic identification comes from culture; that is, how people have lived throughout the centuries. Others argue that it is a political construct; political parties in many African countries use ethnic identities as a tool to gain access to political power. Using the Afrobarometer<sup>1</sup>, Eifert, Miguel, and Posner (2010) show that ethnic identification is more prominent during election periods in comparison to other identifying categories such as gender, religion, and class/occupation. Ethnic attachments become even stronger if elections are in a competitive environment. More specifically, they show that respondents are 1.8 percentage points more likely to identify ethnically for every month closer the country is to a competitive presidential election. This suggests that ethnic identities in Africa are strengthened by political competition.

Competitive elections can cause considerable violence and widespread destruction of property, most of which is ethnically motivated. In ethnically diverse countries, political parties have used ethnic identity to mobilize voters and to establish political alliances, leading in some cases to violent ethnic conflicts. For instance, in Kenya, which is an ethnically diverse society, the 2007's presidential election resulted in the loss of 1,200 lives and the displacement of over a quarter of a million people. That election was one of the most competitive in the history of the country. This raises the questions about how competitive elections affect individual subjective well-being<sup>2</sup> when they are proximate and since competitive elections increase the salience of ethnic identification, how ethnic identification is related to subjective well-being after controlling for electoral cycle variables.

The first main interest of the paper is to investigate whether individual subjective well-being

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<sup>1</sup>Afrobarometer surveys are conducted in 35 African countries and are repeated on a regular cycle. It measures social, political, and economic atmosphere of countries. See Section-4.2 for more information.

<sup>2</sup>Throughout the text, "happiness" and "subjective well-being" are used interchangeably and refer to an evaluation of one's own life considered as a whole.

decreases when competitive elections are approaching. Due to the intense environment of competitive elections, the general tendency is to expect to observe a fall in the individual well-being in time the survey is to an election and further that this decrease is greater in a competitive election than a landslide election, which leads us to our first hypothesis. As an exercise under this hypothesis, we elaborate underlying mechanisms of the relationship that we will explain further in more detail.

The second main interest explored in the paper is the issue of subjective well-being of the individual and its relationship with the ethnic identification. Since the salience of ethnic identification is from political competition, this leads to expect that the higher the identification is, the lower is the individual well-being, stated as our second hypothesis. In addition, as the literature indicates, ethnic diversification deteriorates income distribution and creates poverty. In this respect, communities that are higher in diversification have lower levels of individual well-being.

These expectations are worth to test because the challenge facing Sub-Saharan African countries is how to keep the momentum of reforms going and at the same time improve the well-being of the people in order to avert social and political instability. Moreover, recent literature suggests that happiness and life satisfaction are also positively correlated with productivity that will boost economic growth [Zelenski, Murphy, and Jenkins (2008), Oswald, Proto, and SgROI (2014)]. In order to implement policies, one should also take into consideration the factors to which the individual well-being is related.

One factor that some political scientists and economists identify as a cause of instability and poor economic growth is ethnicity. There is considerable literature documenting an inverse relationship between social heterogeneity and economic growth [Easterly and Levine (1997); Montalvo and Reynal-Querol (2005)].<sup>3</sup> Easterly and Levine (1997)'s famous "growth tragedy" is primarily based on the strong link between ethnic heterogeneity and slow growth in Sub-

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<sup>3</sup>A high level of ethnic diversification tends to affect economic growth and development processes such as trust and transaction costs [Leigh (2006); Knack and Keefer (1997)], provision of public good [Kimenyi (2006); Fosu, Bates, and Hoeffler (2006)], contact and contracts [Bates (2000)], and the level of investment [Mauro (1995)].

Saharan Africa (SSA).<sup>4</sup> However, this study has been criticized for employing ethnic fractionalization—known as ELF (ethno-linguistic fractionalization)—as a measure of ethnic diversity. The main criticism pertains the assumption upon which ELF is built [Posner (2004); Alesina, Devleeschauwer, Easterly, Kurlat, and Wacziarg (2003); Fearon (2003); Roeder (2004)]. However, there are several other studies that prove the negative link by using different indexes. Montalvo and Reynal-Querol (2005) utilize the index of polarization and conclude that polarization increase the probability of conflict. Esteban and Ray (2011) show that ethnic conflict is a linear combination of ethnic polarization, ethnic fractionalization, and the Greenberg-Gini index of intergroup differences. The weights of the linear combination correspond to the relative importance of public and private goods in the conflict. Specifically, the impact of polarization increases with conflict over public goods, while the impact of fractionalization increases with the private component of conflict. In their following paper, Esteban, Mayoral, and Ray (2012) show that a measure of polarization constructed using linguistic distances is a robust predictor of conflict. In this paper, we analyze the ethnicity with a different approach; primarily we try to estimate the relationship between well-being and the electoral cycle factors—where ethnic identification is more salient—and then the relationship between well-being and ethnicity.

We test these hypotheses with several well-being questions, provided by the Afrobarometer across 12 African countries. We find strong and robust evidence that political competition increases individual-level subjective well-being. The change in well-being is related to how close in time the survey is to an election and this proximity effect depends on the competitiveness of the election. Subjective well-being increases more in a competitive election period, in which the margin of victory is near zero compared to a landslide election. For every month closer a country is to a competitive election, on an average the individual-level subjective well-being demonstrates a 0.015 standard deviation increase. Since ethnic attachments grow stronger with political competition, we would expect to observe a positive relationship between ethnic attachment and subjective well-being. This is exactly the pattern: individuals who identify

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<sup>4</sup>They have documented that moving from an ethnically homogeneous country to one with a diversity of ethnic communities corresponds to a decrease in annual economic growth rates of more than two percent. These findings have been applied to Africa due to the high ethnic diversification of these countries.

themselves ethnically have a higher subjective well-being than those who identify categories such as religion, gender, and class/occupation.

There are several possible mechanisms that account for these relationships. The first step in investigating this is to test the effects of winning elections on individual subjective well-being. [Pierce, Rogers, and Snyder \(2015\)](#) examine the immediate hedonic impact of electoral loss and victory to well-being. They conclude that elections strongly affect the well-being of partisan losers (for about a week), but minimally impact partisan winners. Moreover, [Kahneman, Diener, and Schwarz \(1999\)](#) suggest that partisan identity has considerable implications for the growing literature on well-being in economics, psychology, and other fields. The results show that winning the national election increases subjective well-being. A second possibility may be that individual subjective well-being increases as election day approaches, but then starts to fall gradually. We find that the proximity —before and after the election— is positively related to subjective well-being, but the impact before the election is greater than that after the election. The third one may be focused on whether there is any link between public expenditure and individual well-being. We find that the public expenditure on defense increases the individual-level subjective well-being. A fourth possibility may be that having participated in politics can increase subjective well-being. [Stutzer and Frey \(2006\)](#) show that in Switzerland engaging directly in the democratic process through referenda increases life satisfaction. Discussing politics and interested in public affairs have a positive impact on subjective well-being in SSA. The fifth and last mechanism that voting in free and fair elections improves the well-being of the individual. In addition of these mechanisms, ethnic identification might be seen as a group to which one wishes to belong. At election time politicians who play the ethnic card strategy might be increasing individual well-being via group/team effect.<sup>5</sup>

This paper also documents how individual-level variables are related to subjective well-being. Overall, being older, employed, having higher education, living in urban areas, and having higher income have a positive impact on subjective well-being. Education especially has an enormous influence on the happiness level of the individual.

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<sup>5</sup>The scope of this paper is to understand the effects of elections, and is a call for further research.

The econometric framework employs the same model as that of [Eifert et al. \(2010\)](#), which tries to capture the effects of proximity, the competitiveness of national elections, and the interaction of both variables, while controlling for large sets of individual variables such as gender, age, age-squared, rural/urban areas, education levels, employment status, and economic conditions. The Afrobarometer enables employing country fixed effects that control for country-level features, including unobservable characteristics that can not be measured since they have been collected not only across multiple countries but also at multiple points in time for the same countries. This creates a major advantage in testing the election variables that vary within countries across survey rounds.

The literature on subjective well-being and elections is very limited. So far there are two methods to analyze the relationship between elections and subjective well-being. One is to use daily polls surveys to have an access of ten days before/after elections [[Pierce, Rogers, and Snyder \(2015\)](#)]. The other method is to use a panel dataset [[Powdthavee, Dolan, and Metcalfe \(2008\)](#)]. They test whether subjective well-being affects voting intentions, and the result of the election affects subjective well-being by using the British Household Panel Data (BHPS).<sup>6</sup> They find evidence that subjective well-being can affect voting intention but no evidence indicates that the results of three recent elections have had any effect on subjective well-being in the United Kingdom. They make use of the general elections in the UK in May 1997, June 2001, and May 2005. The BHPS takes place between September and December every year. Therefore, the wave before an election is six to nine months, and the wave after the election is roughly three to six months. The Afrobarometer is a cross-sectional dataset and the easiest way to capture the impact of elections on the subjective well-being is to create a variable such as “electoral proximity”. Since it is a cross-section dataset, we cannot follow the individuals: however, there is something of an indication as to the average impact every month closer to the election on individual-level subjective well being.

Competitive elections and ethnic identification produce a higher level of individual well-being. These results should be taken into consideration when implementing policies opposed to po-

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<sup>6</sup>The BHPS provides information on individual, household, and job/employer-related characteristics from 1991 to 2008 in England, Scotland, Wales, and Northern Ireland.

litically induced ethnic identification. Ethnicity can help to develop society, both socially and economically, by mobilizing people to initiate development projects in their communities. [Glennerster et al. \(2013\)](#) show that ethnically diverse communities have levels of collective action that are statistically indistinguishable from homogeneous communities in post-war Sierra Leone, one of the worlds poorest and most ethnically diverse countries. Moreover, [Habyarimana et al. \(2007\)](#) explore the impact of ethnic diversification in a laboratory environment. Their policy oriented conclusion is that generating higher levels of public good in heterogeneous communities does not require the segregation of ethnic groups. The challenge is to generate effective cooperation in diverse societies. Institutions are important for conducting effective policies to overcome high level of ethnic identification.

The plan of the paper is as follows. Section 2 provides an overview of the dataset, justifies the construction of dependent and independent variables, and explains the details of the econometric model. Section 3 presents the estimates, and discusses in detail the results summarized above. Section 4 concludes.

## 2 Data and Methodology

### 2.1 Data and Summary Statistics

The paper utilizes the Afrobarometer from Round 1 to Round 4 - the latest survey round available. The Afrobarometer measures the social, political, and economic atmosphere in Africa at an individual-level with a cross-sectional approach. The survey collects detailed information about the respondents' individual characteristics, views about democracy, governance, livelihoods, economic concerns, social capital, conflict and crime, their participation in the electoral process, and perceptions about national identities. Each survey employs the same sampling methodology and includes a large, nationally representative sample of individuals.

Twelve Sub-Saharan African countries are used in this study<sup>7</sup>: Botswana, Ghana, Lesotho, Malawi, Mali, Namibia, Nigeria, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.<sup>8</sup>

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<sup>7</sup>Number of observations in the regressions varies depending on the availability of the variable in rounds.

<sup>8</sup>See Table (4.1) for detailed information of countries and survey years.

The survey that we employ spans from 1999 and 2009 covering almost ten years of information from each country. In order to account for country fixed effects, all countries exist in each survey round. To achieve national representativeness, appropriate weights and clustered samplings have been used. Weights are calculated as  $1/(\text{number of observations for that country})$ .

The Afrobarometer includes several candidates for well-being:

1. *Your Present Living Conditions* - “In general, how would you describe your own present living conditions?”
2. *Your Living Conditions in 12 Months* - “Looking ahead, do you expect the following to be better or worse?: Your living conditions in twelve months time?”
3. *Your Living Conditions Compared to 12 months Ago* - “Looking back, how do you rate the following compared to twelve months ago?: Your living conditions?”
4. *Mental Health* - “In the last month, how much of the time: Have you been so worried or anxious that you have felt tired, worn out, or exhausted?”
5. *Your Living Conditions Compared to Others* - “In general, how do you rate your living conditions compared to those of other in your country?”
6. *Ethnic Group Economic Conditions* - “Think about the condition of your ethnic group. Are their economic conditions worse, the same as, or better than other groups in this country?”

The first three questions’ responses are based on a five point scale with 1 representing “very bad”, 2 “fairly bad”, 3 “neither good nor bad”, 4 “fairly good” and 5 “very good”. “Mental health” question is also reported based on a five point scale ranging from 1 (never) to 5 (always). “Your living conditions compared to others” and “ethnic group economic conditions” are ranked on a five point scale on which 1 indicates “much worse” and 5 indicates “much better”.

To streamline the interpretation and draw a general conclusion, we analyze hypotheses with three different dependent variables to create indices. We create summary indices aggregating information across related outcomes of similar subjective well-being questions [Kling, Liebman, and Katz (2007)]. The main motivation for this grouping is to improve the statistical ability to detect effects that are consistent across specific outcomes when these specific outcomes also have idiosyncratic shocks. Following the methodology of Kling, Liebman, and Katz (2007), we create summary indices based on specific outcomes, in which specific outcomes are normalized by subtracting the mean of the group and then dividing by the standard deviation of the group. Formally,  $X_i$  is the  $i$ -th of  $I$  outcomes; let  $\mu_i$  be the group mean and let  $\sigma_i$  be the standard deviation of the group. The normalized outcome is  $X_i^*=(X_i-\mu_i)/\sigma_i$ . The summary index is  $X^*=\sum_i X_i^*/I$ . Overall, the summary index is defined as the weighted average of z-score of its components. The z-scores are normalized scores based on the group mean and standard deviation. As stated in the Table (4.1), each component of the index has a mean of zero and a standard deviation of one.

The first outcome is for “your living conditions” which is a combination of the first three questions. These questions respectively evaluate the individual’s current situation, future condition and the comparison of current and past living conditions, in an attempt to measure well-being in a time perspective. In this respect, they are from the same domain, which enables aggregate information across related outcomes. The mean of “your living conditions in 12 months” is higher than the other two living condition variables, most probably due to the individual’s high expectations and aspirations for the future. The mean of comparison of current and past living conditions using “your living conditions compared to 12 months ago” is higher than the current living conditions, which might roughly be interpreted as an indication that the people are becoming happier. The second outcome is the combination of “mental health” with a mean of 3 and a standard deviation of 0.95. We reversed the signs for mental health, so that higher values correspond to higher subjective well-being for all outcomes. “Mental health” question can be evaluated as the General Health Questionnaire (GHQ) since the GHQ also measures whether a respondent suffers from a health problem related to anxiety or depres-

sion. The last outcome is for “your conditions compared to others”, which is a combination of the last two questions. This assumes a reference group of language/tribe/ethnic group. This assumption becomes stronger with the similar mean approximately 2.8.<sup>9</sup> Unlike other similar surveys Afrobarometer do not have a traditional happiness/life satisfaction question where one can utilize as subjective well-being measures. Thereby, we want to test whether our results are robust across different well-being questions. “Mental health” and “your living conditions compared to others” are better substitute for traditional subjective well-being questions than “your living conditions”. One can evaluate these questions as subjective well-being measures, and the latter is aimed at examining well-being of the individual.

For the individual characteristics we control for gender, age, age-squared, rural/urban areas, education levels, employment status, and economic conditions. The variables of economic conditions are the indices of the following questions, “Over the past year, how often, if ever, have you or anyone in your family gone without enough food to eat, enough clean water for home use, medicines or medical treatment, and a cash income?”. To test the relationship between subjective well-being and ethnic identification, we make use of the personal identification question; “Besides being [a citizen of X], which specific group do you feel you belong to first and foremost?” We group responses into five categories: language/ethnic group/tribe, religion, occupation/class, gender, and other. The other category stands for race, region, age, “I’m my own person”. We adopt country-fixed effect framework, which automatically controls for many other aspects of country: level of economic development, history, civil war, etc.<sup>10</sup> All regressions include round dummies and are clustered by countries.

Nearly half of the individuals in the sample are male with an average age of 37. We restrict the sample minimum age to 18, which means that all individuals have the right to vote. Approximately 37% of individuals in the sample live in urban areas. We collapse education into seven categories. Post-graduate refers to graduate studies with 0.4% of the sample meeting this criterion. Nearly 3% graduated from a university. The highest share in education falls

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<sup>9</sup>All regressions were also tested separately using the six well-being questions on the list. The results (not shown) are parallel with the indices results. They are available upon request.

<sup>10</sup>Results are robust even if dropping a single country in the dataset.

into primary and secondary school. Less than half of the sample is unemployed. As a proxy of income variable we control for economic conditions, which is an index that averages together income related variables such as how often the respondent had gone without food, water, medical care, and income. Nearly 35% of individuals in the dataset identified themselves with the occupation/class, 26% indicated that they belonged to a language/ethnic/tribe, 16% stated religion and identifying themselves in their gender group identification has the smallest number of responses at 0.4%.

Table (4.2) summarizes economic and political characteristics of sample countries. The average GDP per capita of sample countries is higher than the average of Sub-Saharan Africa, which is mainly driven by Botswana, Namibia, and South Africa. The other countries are poorer on an average in the SSA. Rates of urbanization are almost the same level as the SSA average. Utilizing at least two<sup>11</sup> round surveys brings variations in the months to election variable, which is called “proximity to the election” in the regression. In Botswana, for example, -1 means that the survey round occurred one month before the election and 15 means the survey round occurred 15 months after the election. The competition of presidential election is measured by vote margin, and is simply the vote share difference between the winner and the runner-up. The competitiveness level in sample countries is similar to the African average. Utilizing three rounds of the Afrobarometer brings more variation in the competitiveness variable since we can make use of more elections. The last column stands for the name of the ruling party during that election period. This variable is utilized for examining whether winning a competitive election changes individual-level subjective well-being.

## 2.2 Empirical Methodology

The econometric model is designed to illuminate the influence of proximity of election, competitiveness of election, and interaction of these two effects to subjective well-being. In the model  $i$  represents the individual respondent,  $c$  is for country, and  $t$  denotes the survey round as attached to individual subjective well-being  $SWB_{ict}$ . Within this setup, we can systematically analyze the extent to which individual-level subjective well-being is related to observable

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<sup>11</sup>It can be three depending on the dependent variable.

characteristics and a country’s political environment.

$$\mathbf{SWB}_{ict} = \beta_0 + \beta_1 \mathbf{X}_{ict} + \beta_2 \mathbf{C}_{ct} + \beta_3 \mathbf{p}_{ct} + \beta_4 \mathbf{c}_{ct} + \beta_5 (\mathbf{p}_{ct} * \mathbf{c}_{ct}) + \epsilon_{ict} \quad (2.1)$$

The vector  $\mathbf{X}_{ict}$  represents individual-level variables<sup>12</sup>,  $\mathbf{C}_{ct}$  for country-level factors; and  $\epsilon_{ict}$  is individual’s idiosyncratic level. The focus of the paper is on election variables,  $\mathbf{p}_{ct}$  is a proximity variable that measures months until the election in the country compared to the survey round. In Table (4.2), negative numbers indicate the most recent past election. Proximity is coded as  $-1 * \text{abs}(\text{months to/from the most recent election})$  so that larger numbers imply increasing proximity.  $\mathbf{c}_{ct}$  is a competitiveness variable and defined as vote margin, which is the gap between the vote share of the winner and the runner-up in the most recent election. The competitiveness variable is calculated from vote margin as  $-1 * (\text{vote margin})$ . Larger numbers indicate increasing competitiveness.  $\mathbf{p}_{ct} * \mathbf{c}_{ct}$  is the interaction variable of proximity and competitiveness.

The estimates we report and discuss in Section 4.3 refer directly to “marginal effects”. Formally,

$$\frac{\partial \mathbf{SWB}_{ict}}{\partial p_{ct}} = \beta_3 + \beta_5 c_{ct} \quad (2.2)$$

$$\frac{\partial \mathbf{SWB}_{ict}}{\partial c_{ct}} = \beta_4 + \beta_5 p_{ct} \quad (2.3)$$

Since the dependent variable is ordinal rather than cardinal, the ideal way to carry out analyses is through ordered probit. However, Ferrer-i-Carbonell and Frijters (2004) demonstrate that the results from cardinal analysis using OLS is very similar to those from ordinal analysis. For ease of interpretation, the equation is estimated by using OLS.<sup>13</sup>

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<sup>12</sup>See Table (4.1) for individual-level variables.

<sup>13</sup>The results of the ordered probit model (not shown) are in line with the OLS model. After controlling for individual characteristics, country, and time dummies “your living conditions” increases by 0.0173 standard deviation, “your living conditions compared to others” by 0.014 standard deviation, “mental health” raises by 0.012 standard deviation when competitive elections are near. The results are available upon request.

### 3 Results and Discussion

This section documents the empirical results and provides an extensive discussion of the impact of election variables on subjective well-being and the possible underlying mechanism of this relationship. We also stress the relationship between personal identification and subjective well-being and the influence of individual characteristics on subjective well-being. Moreover, we conduct the same exercise of [Eifert et al. \(2010\)](#) with this dataset to show the salience of ethnicity when competitive elections are near.

We estimate Equation (2.1) using the Afrobarometer controlled for individual characteristics, country, and round dummies on different well-being measures. Note that “marginal effects” are reported, which means that estimates are readily interpretable in terms of our parameters of interest.

#### 3.1 Effects of Proximity to Competitive Elections

This section provides a discussion of electoral cycle variables. All three subjective well-being measures generate almost identical results: the impact of elections on subjective well-being is positive and significant. This leads us to reject the first hypothesis. The individual well-being increases by 0.015 standard deviation when competitive elections are approaching.

Figure (4.1) shows the proximity to the closest country election on the x-axis and the predicted subjective well-being (your living conditions) on the y-axis by competitiveness of national elections.<sup>14</sup> Results are documented in two groups; high competitiveness, in which the median of the electoral margin is less than the sample median of 36 percentage points and less competitiveness (landslide elections), in which the electoral margin is more than the median sample. There are ten countries where the elections are competitive and the proximity is lower than 10 months. The relationship is clearly evident. Landslide elections—even when in the proximity of elections—yield a lower subjective well-being compared to relatively higher competitive elections. Subjective well-being becomes higher as time nears the elections. In other words,

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<sup>14</sup>Since there is a robust result among dependent variables, we conduct this analysis with only the “your living conditions” variable for the figure.

elections have a positive impact on subjective well-being of individuals in Sub-Saharan Africa but only where elections are meaningful contests for political power.

Tables (4.3.1), (4.3.2) and (4.3.3) report the tests of the first hypothesis under three specifications. All specifications include country fixed effects, weigh each observation by  $1/(\text{number of observations from that country})$  to weigh each country survey round equally and include standard errors clustered at the country level<sup>15</sup>.

The first columns in Tables (4.3.1), (4.3.2) and (4.3.3) suggest mixed results. In the case of “your living conditions” the proximity of the survey to a presidential election (in months, absolute value) on average decreases the living conditions of the individual. However, the competitiveness of that election (the margin of victory) has a positive impact on subjective well-being. “Your living conditions compared to others” has exactly opposite results; the competitiveness of the election decreases the happiness level, while happiness is increased as the election draws nearer. When competitive elections are held sooner, the mental health level of the individual decreases. However, the difference in the “electoral competitiveness” variable is minimal, especially in “mental health”, which is present only in two rounds of the survey. Specifically, six out of twelve countries experience a different election. The dataset allows analysis of “your living conditions” in three rounds, so in that case the variation becomes higher when all countries have experienced at least one different election. Given these concerns, it is wise to pay attention to interaction terms between proximity and competitiveness. After adding the interaction term to the regression (the second column of Tables ((4.3.1), (4.3.2) and (4.3.3)), positive and statistically significant coefficients of election variables among all dependent variables are obtained. More specifically, every month closer a country gets to a competitive election, on average individual-level subjective well-being increases 0.011- 0.017 in standard deviation depending on the dependent variable of well-being. Moreover, the higher the competitiveness of the election, the greater the subjective well-being of the individual. The results are confirmed in Column 3, which controls for individual-level characteristics such as age, gender, education, economic conditions, and urban or rural residence. Among all

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<sup>15</sup>The results are robust to a nonparametric bootstrap of the standard errors using resampling at the country level, which is theoretically more appropriate given the relatively small number of countries.

dependent variables, the results are quite consistent with each other, and they are identical among the last two specifications.

Our first hypothesis was expected to a fall in the individual well-being due to the intense environment of competitive elections. However, the results suggest the opposite. In the following sections, we test what could be the underlying mechanism of this results. Potentially, there could be three leading reasons: (a) People would like to be in an union, where they support the same ideology and fight for it; in our context union might be “ethnic identification”., (b) People would like to feel happy if they observe their supported party is close to win the elections., (c) Or simply participating politics in any way might give a feeling of contributing country’s political and economical affairs.

### 3.2 Effects of Ethnic Identification

Table (4.4) documents the importance of personal identification on well-being. The regressions account for individual characteristics, country and time dummies, and election variables.<sup>16</sup> As mentioned above, the personal identification question is derived from the specific question, which is available only in Rounds 1 and 2. Given the availability of the dependent variable, it is possible to run the regression only for Round 2. We also reject the second hypothesis. Having a personal identification as your ethnic group or religion has a positive and statistically significant impact on subjective well-being of the individual, controlling for electoral cycle variables. Gender also plays a role in that purpose but this result should be evaluated with caution since a low percentage of individuals identified themselves with their gender.

Identifying oneself in an ethnic group may be linked to belonging to a group/team, which in turn increases happiness levels. When we conduct the analysis without electoral cycle variables, the coefficient of ethnic identification is smaller compared to controlling for electoral cycle variables. This suggests that the more pronounced the ethnic identification, the higher is the subjective well-being of the individual. Unlike general expectations about high ethnic

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<sup>16</sup>The same regressions have been run without election variables (not shown), which is in line with the previous one. The results are available upon request.

diversification creating lower individual well-being, individuals who identify themselves as their ethnic group report higher well-being. Social heterogeneity in Sub-Saharan Africa can make use of this information for policy. It may be the case that politicians who play the ethnic card strategy in their election campaign stimulate the well-being of individuals.

When the individual evaluates their living conditions based on a time preferences, which is “your living conditions”, this is negatively related to ethnic identification. However, the other two dependent variable are in parallel with each other and positively related. There might be several mechanism behind this relationship. Several studies are argued that there are cultural differences between the ethnic groups regarding subjective well-being. Ethnic groups have different conceptions of well-being and that different factors influence their subjective well-being [Neff (2007), Agyemang et al. (2013)]. For instance, Addai and Pokimica (2010) report that ethnicity is an important determinant of perceived economic well-being of individuals in Ghana. In their analysis ethnicity tends to have both negative and positive effect on economic well-being among different ethnic groups and different sub-sample.

Religion identification yields positive relationship with all dependent variables and has statistically significant in “your living conditions” and “your living conditions compared to others”. It is a well-known fact that individuals with strong religious beliefs report a higher level of life satisfaction and greater personal happiness [Ellison (1991), Ellison, Boardman, Williams, and Jackson (2001)]. Religion is also shaped perceived economic well-being of individuals in Ghana [Pokimica, Addai, and Takyi (2012)].

### **3.3 The Salience of Ethnicity**

This subsection conducts the same exercise of Eifert et al. (2010) with our dataset. The dataset differs from their dataset in terms of sample countries —Ghana and Lesotho are included— and some individual characteristics such as the economic conditions. The main motivation is to observe whether the ethnic identification is more pronounced during competitive elections with our dataset. We run regressions using a multinomial logit model and ordinary least

square and control for individual characteristics and time and country dummies. The results in Table (4.5) are in line with Eifert et al. (2010). Every month closer to competitive elections, survey respondents are on average 1.8 percentage points more likely to identify themselves in ethnic terms.

Since 1990, the banning of ethnic parties has become the norm in Sub-Saharan Africa. In our dataset the ethnic banning countries are Tanzania and Uganda. For instance, Tanzania has used the education system and redistribution of resources to develop a sense of national as opposed to ethnic identity. The studies that show the impact of ethnic banning in parties conclude that these laws have only marginally influenced the character of the political parties [Moroff (2010)]. Ethnic banning may alter the origin of parties, resulting in ethnic-free parties. This affects voting behavior and subjective well-being. Ethnic banning can also influence the salience of ethnic identification. Tanzania has among the lowest degree of ethnic identity salience in one of the Afrobarometer survey rounds, at just 3%. Eifert et al. (2010) also show Tanzania’s outlier status. The presidential election has little impact on the share of the population that identifies themselves in ethnic terms. In Figure (4.1), one can also observe that the impact of the proximity of elections on subjective well-being is less in Tanzania compared to other countries. Tanzania’s situation is proof of the strength of ethnic identification in politics.<sup>17</sup> Miguel (2004) examines the success of nation-building policies in Tanzania, which have had a beneficial long-run impact on country’s political stability and economic development.

### 3.4 Background Mechanisms of Elections and Subjective Well-Being

It has been clearly documented that elections make people happier. This finding requires more research to understand the underlying mechanism of the positive relationship. There might be several channels but the most pronounced ones are winning elections, ex-ante and ex-post impact of elections, the effects of public expenditure such as education, health, and defense, the effects of having actively participated in politics, and trust in the national electoral

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<sup>17</sup>However, subtracting these countries in the regression of ethnic salience and the impact of elections to the subjective well-being does not alter the results. We cannot conduct analyses based in Tanzania and Uganda due to high collinearity of election variables.

commission. This part of the paper explains these leading background relationships.

*Effects of Winning Elections.* The model is tested to determine whether winning the election has an influence on subjective well-being. The dummy variable is created for that purpose utilizing the following question “Do you feel close to any particular political party or political organization? If so, which party or organization is that?” Since the winning party of this election is known, if the winning party is the same as the answer from the individual, it is scored as a one; otherwise it is scored as zero. Using the same model the results show that winning the competitive election increases individual-level subjective well-being. “Your living conditions” and “your living conditions compared to others” yield positive and statistically significant results. Winning the election is positively related with “Mental health” dependent variable but it is not statistically significant.

Individuals might think that winning the election is an economic privilege, employment opportunities, protection from possible threats in the future such as civil war, ethnic clashes etc., and easy access to health and education services. These opportunities increase the expectations and aspirations of individuals and lead to higher individual well-being. The joy of winning also increases well-being. Moreover, almost all countries in the dataset except for Malawi and Mali have had the same incumbent for at least three presidential elections. Winners might have perceived retaining the presidency as maintaining the status quo of ongoing policies, thereby raising happiness.

*Asymmetrical Effects of Elections.* Individual’s expectations and aspirations may be higher before rather than after the election and these may form one’s level of happiness. There is a strong possibility that subjective well-being increases as election day approaches but then starts to fall post-election. The model is designed for testing the symmetric effects of elections. In order to observe asymmetrical effects especially before the election, we create a dummy variable for countries in which round surveys would be completed prior to the nearest election. If the election to month variable is above (below) zero, it is referred to as “after (before) election” and carries a value of 1. The ex-ante and ex-post effects have a positive and

statistically significant relationship with individual well-being.<sup>18</sup> The impact of the electoral cycle on subjective well-being is more powerful before the election than after the election.

During election campaigns the general tendency is to conduct populist policies such as expansionary fiscal policies —cut taxes, increase government spending, and subsidize small and medium sized enterprises— by the incumbent, providing food, water or other necessities that the people need, and gifts to entertain society. Block (2002) analyzes a number of fiscal and monetary variables in Sub-Saharan Africa during and after elections and concludes that governmental spending shifts toward more visible, current expenditures and away from public investment. This temporary help may increase individual well-being. In addition, individuals want to believe that something will change within their country with the coming of the election; this hope may yield a higher subjective well-being. The leading reason for observing positive well-being after an election may be due to a decrease in the intensity of the environment. Individuals can attain relief since the uncertainty deriving from the election is over.

*Effects of Public Expenditure.* There might be a potential link between public expenditure and voter's well-being. The individual may be happy during the period of the incumbent party due to an increase in public welfare. As mentioned in the previous paragraph, governments may try to influence their popularity around elections by increasing public expenditures. Thereby, we analyze whether a change in public expenditure on education, health, and defense can have an impact on the well-being of individual. We focus on change in public expenditures by sections such as education, health, and defense instead of total change in public expenditure because politicians may change the composition of expenditure in an election year, without increasing the overall budget. We control for the change in public expenditure during the election year; when the election was held in Botswana in 1999, we account for the change in public expenditure from 1998 to 1999. We utilize the change in “government expenditure on education” for education and “government expenditure on health” for health, and defense is based on “government expenditure on military”<sup>19</sup>.

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<sup>18</sup>See Table (4.6.1) Only ex-ante effects of the electoral cycle are represented. The result of ex-post effects is available upon request.

<sup>19</sup>Data is taken from World Development Indicators.

Among three types of public expenditure, the impact of defense expenditure on individual well-being is the highest and statistically significant for satisfaction with your living conditions and satisfaction with your living conditions compared to others. The military spending is an important issue for SSA, which has been through considerable turmoil, with high levels of conflict in the region and within country, that especially increases during the election period. Individuals may feel secure when the government expenditure is higher on the military and this feeling of security may lead to increase their well-being. The relationship between health expenditure and individual well-being is only positive and statistically significant in satisfaction with your living conditions. Regarding education expenses, it is positively related with well-being however, is not statistically significant.

*Effects of Participating in Politics.* The Afrobarometer permits analyzing this mechanism in various ways. The main way is to look into whether discussing politics<sup>20</sup> and being interested in public affairs<sup>21</sup> increase individual well-being. The mean of discussing politics is 0.91 and a standard deviation of 0.72. The mean of interested in public affairs is 1.78 and a standard deviation of 1.10. In line with each other, they are positively related with individual subjective well-being.<sup>22</sup> Thirdly, we check the impact of active participation such as attending a demonstration or protest march. The last and the fourth way may be that the interaction with political party official increases well-being of the individual. The individual can feel important if he/she discusses topics related with country someone in power. Both have no significant impact on any dependent variable. However, number of responses to the questions are low; more than fifty percent of the sample never attend a demonstration, and less than ten percent of the sample get in contact with a political party official.

Individuals in low-income countries participating in politics, after the passage of an election may feel particularly valuable. These individuals make a fundamental contribution to democratic governance in their country, which can change the future of the country. Moreover, when

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<sup>20</sup>The exact wording of discuss politics is “Here is a list of actions that people sometimes take as citizens. For each of these, please tell me whether you, personally, have done any of these things during the past year. If not, would you do this if you had the chance: Discussed politics with friends or neighbors?”. It is a three point based scale, 0 refers to “No, would never do this” and 2 is “Yes, frequently”. It is available only in Round 3 and 4.

<sup>21</sup>The formal question of interested in public affairs is “How interested are you in public affairs?”. It is a four point based scale, 0 refers to “Not interested” and 3 refers to “Very interested”. It is available in all rounds.

<sup>22</sup>These variables are tested separately. Only the result of “interested in public affairs” is presented.

the electoral process is competitive and candidates or parties are forced to expose their records and future intentions to popular scrutiny, more discussion and interest in politics arises. Doing something valuable for one's country may produce a higher subjective well-being.

*Effects of Illegitimacy of Elections.* To gain a sense of the illegitimacy of elections, we control for "trust national electoral commission", which has a mean of 1.56 and a standard deviation of 1.1. The trust variable is positively and significantly correlated with subjective-well being. The higher the legitimacy in elections, the higher is the subjective well-being of the individual. Allowing people to freely choose from different alternatives in competitive elections increases political trust and those increases lead to greater subjective well-being.

In Sub-Saharan Africa, vote buying and ballot fraud are serious problems during elections. In the Afrobarometer, the only variable to control for that purpose is "trust national electoral commission". However, this variable should be evaluated carefully since conditional correlations exist. An individual who thinks that elections are free and fair probably the one who wins the election: s/he already feels content about the election result. On the other hand, the loser starts blaming the commission since s/he is not happy with the result.

### **3.5 Effects of Individual-level Variables on Subjective Well-Being**

Table (4.7) shows the relationship between individual-level subjective well-being and individual characteristics. Unlike findings in Western societies, being female is negatively correlated with mental health of the individual; however, females fare better when compared with other ethnic groups. Women in SSA are facing human rights abuses such as sexual discrimination and abuse, intimate violence, political marginalization, and economic deprivation. These may lead to have lower well-being. Older people are happier, which is in line with Western societies. Living in rural areas has a negative impact on well-being of individuals, and the coefficient becomes higher especially when respondents compare themselves to others. In SSA, those living in rural areas experience more poverty and less access to health care and education. [Sahn and Stifel \(2003\)](#) conduct a study in 24 African countries and conclude that standards of living

in rural areas almost universally lag behind in urban areas.<sup>23</sup> Education has a huge, positive and significant impact on subjective well-being of the individual. It is a well-known fact that in Western societies highly educated individuals are less happy than high school, secondary, and primary school graduates, mostly because of higher expectations and aspirations from life, especially jobwise. However, in the case of SSA, education improves the well-being of individuals. There is room to gain from policies for education to increase the well-being of individuals. Not surprisingly, being employed is positively related to all dependent variables of well-being. If a person experiences economic difficulties, this decreases the happiness level of the individual and the coefficient is higher when they compare themselves to their ethnic group. It is clearly observed that an income-comparison<sup>24</sup> argument is also valid in that region.

## 4 Concluding Remarks and Discussion

As Eifert, Miguel, and Posner (2010) stated, the source of ethnic salience comes from political competition: in other words, proximity to competitive elections increases the strength of ethnic attachments. A general consensus exists about the negative relationship between economic development and social heterogeneity based on both cross-country regressions and individual country studies. This paper brings a different angle to the discussion of election, ethnic identification, and growth. It explores these phenomena under the umbrella of well-being by asking: “How do competitive elections affect individual-level subjective well-being?”, and “Is there any relationship between ethnic identification and subjective well-being?” The results show that for every month closer a country is to a competitive election, on average individual-level subjective well-being has a 0.015 standard deviation increase. Moreover, if individuals identify themselves ethnically higher, this is positively correlated with individual-level subjective well-being. These findings are important for designing policies to increase social welfare in SSA.

These findings point to the background mechanism of this question: “Why do elections make people happier given that competitive elections in this region have a very intense environ-

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<sup>23</sup>Education, school enrollments and the ratio of girl-to-boy enrollments is much lower in rural areas than in urban areas.

<sup>24</sup>Income is evaluated relative to others (social comparison).

ment?” We look into five possible mechanisms: winning the election, the effects of forthcoming election, the impact of public expenditure on education, health, and defense, the environment of free and fair elections, and participation in politics. These mechanisms have a positive impact on the well-being of individuals. The policy maker should internalize this positive externality of election and ethnic identification on individual-level well being. As stated in [Habyarimana et al. \(2007\)](#), enforcing cooperation among individuals, in this context the same ethnic group, would make policies more effective. Our results also suggest that individuals feel happier when they are identified themselves ethnically. Thereby, combination of these results might enable us to draw a conclusion such that policies may be implemented in an ethnic group-level rather than a country-level.

The findings of the paper should be treated very cautiously regarding policy implications. These positive well-being effects occur only when elections are proximate. In the short run, these positive externalities might boost economic growth, but the long-run implications are ambiguous. Moreover, there might be some events during competitive elections which could possibly alter the subjective well-being and these may create some bias in the results.

Apart from the empirical findings this paper has three good features for analyzing hypotheses. It creates indices of well-being questions to aggregate same outcomes across domains such as time and comparison. We have grouped three well-being questions that evaluate living conditions regarding time and two well-being questions based on comparisons of respondents’ lives. A second methodological contribution is to make use of repeated country-level observations with micro-individual survey data. Since the data have been collected at multiple points in time for the same countries, it allows for variation in key parameters of interest such as the proximity of the survey to the nearest election and the competitiveness of that contest. Moreover, well-being of individuals is affected mostly by the characteristics of the social and political environment in which he or she lives. Using the feature of data, we employ a country fixed effect model to overcome country-level characteristics. Thirdly, these results are drawn from cross-national survey data rather than case studies and anecdotal evidence, which allows for generalized cross settings and creates a much stronger position.

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Table 1: SUMMARY STATISTICS-AFROBAROMETER, ROUND 1-2-3-4

Variable	Mean	Std.Dev	Available Round
<b>Dependent Variable</b>			
<b>1-Your Living Conditions</b>	0	1	2-3-4
Your Present Living Conditions	2.61	1.22	2-3-4
Nor. Your Present Living Conditions	0	1	2-3-4
Your Living Conditions in 12 Months	3.39	1.25	1-2-3-4
Nor. Your Living Conditions in 12 Months	0	1	2-3-4
Your Living Conditions Compared to 12 Months Ago	3.01	1.131	1-2-3-4
Nor. Your Living Conditions Compared to 12 Months Ago	0	1	2-3-4
<b>2- Nor. Mental Health</b>	0	1	2-3
Mental Health	3.05	0.95	2-3
<b>3-Your Conditions Compared to Others</b>	0	1	3-4
Your Living Conditions Compared to Others	2.81	1.08	1-2-3-4
Nor. Your Living Conditions Compared to Others	0.	1	3-4
Ethnic Group Economic Conditions to Others	2.8	1.017	3-4
Nor. Ethnic Group Economic Conditions to Others	0	1	3-4
<b>Individual Characteristics</b>			
Male	0.50	0.5	1-2-3-4
Age	36.79	14.89	1-2-3-4
Urban	0.37	0.48	1-2-3-4
Post-Graduate	0.004	0.06	1-2-3-4
University	0.03	0.16	1-2-3-4
High School	0.07	0.25	1-2-3-4
Secondary School	0.37	0.48	1-2-3-4
Primary School	0.36	0.48	1-2-3-4
Informal Schooling	0.03	0.18	1-2-3-4
No schooling	0.13	0.34	1-2-3-4
Employed	0.37	0.48	1-2-3-4
Interested in public affairs	1,78	1,10	2-3-4
Trust national electoral commission	1.56	1.1	2-3-4
<b>Economic Conditions</b>	0	1	2-3-4
How often gone without food	3.02	1.07	1-2-3-4
Nor. how often gone without food	0	1	2-3-4
How often gone without water	3.08	1.11	1-2-3-4
Nor. how often gone without water	0	1	2-3-4
How often gone without medical care	2.95	1.1	1-2-3-4
Nor. how often gone without medical care	0	1	2-3-4
How often gone without cash income	2.58	1.17	1-2-3-4
Nor. how often gone without cash income	0	1	2-3-4
<b>Personal Identification</b>			
Occupation/Class	0.35	0.47	1-2
Language/Ethnic/Tribe Group	0.26	0.44	1-2
Religion	0.16	0.36	1-2
Gender	0.04	0.20	1-2
Other	0.17	0.38	1-2
# of observations	60,050		

Notes: Weights are calculated as  $1/(\text{number of observations of that country})$ . Stated number of observation is for independent variables in all rounds. Number of observation for each dependent variable is noted in estimation results.

Table 2: ECONOMIC AND POLITICAL CHARACTERISTICS OF COUNTRIES

Country and Survey Year	Economic Characteristics		Political Characteristics		
	GDP per capita(\$)	%Urban	Month to Election	Vote Margin	Ruling Party
Botswana,1999	7,727	52	-1	0.31	BDP
Botswana,2003	9,366	56	15	0.25	BDP
Botswana,2005	11,177	57	-8	0.25	BDP
Botswana,2008	14,104	60	12	0.31	BDP
Ghana,1999	1,390	43	12	0.04	NPP
Ghana,2002	1,560	45	22	0.08	NPP
Ghana,2005	2,030	57	-8	0.08	NPP
Ghana,2008	2,486	50	4	0	NDC
Lesotho,2000	1,019	19	-23	0.36	LCD
Lesotho,2003	1,172	22	-10	0.32	LCD
Lesotho,2005	1,330	23	19	0.28	NIP
Lesotho,2008	1,648	25	-20	0.28	NIP
Malawi,1999	556	14	-6	0.14	UDF
Malawi,2003	561	15	12	0.08	Coalition
Malawi,2005	605	15	-13	0.08	Coalition
Malawi,2008	727	15	6	0.36	DPP
Mali,2001	727	29	16	0.92	ADEMA
Mali,2002	747	29	-6	0.3	Coalition
Mali,2005	914	31	22	0.52	ADP
Mali,2008	998	33	-20	0.52	ADP
Namibia,1999	3,872	32	3	0.66	SWAPO
Namibia,2003	4,405	34	14	0.69	SWAPO
Namibia,2006	5,998	36	-15	0.69	SWAPO
Namibia,2008	6,596	37	13	0.64	SWAPO
Nigeria,2000	1,131	42	-10	0.26	Coalition
Nigeria,2003	1,597	44	-6	0.3	PDP
Nigeria,2005	1,795	46	18	0.51	PDP
Nigeria,2008	2,149	48	-13	0.51	PDP
S.Africa,2000	6,653	57	-13	0.57	ANC
S.Africa,2002	7,195	58	19	0.57	ANC
S.Africa,2006	9,319	60	-22	0.57	ANC
S.Africa,2008	10,250	61	6	0.49	ANC
Tanzania,2001	823	23	-7	0.53	CCM
Tanzania,2003	938	23	29	0.69	CCM
Tanzania,2005	1,073	24	4	0.69	CCM
Tanzania,2008	1,313	25	28	0.36	CCM
Uganda,2000	763	12	10	0.42	YKM
Uganda,2002	866	13	-17	0.42	NRM
Uganda,2005	1,014	13	10	0.22	NRM
Uganda,2008	1,268	14	30	0.42	NRM
Zambia,1999	899	35	26	0.04	MMD
Zambia,2003	1,055	36	-17	0.04	MMD
Zambia,2005	1,073	37	13	0.14	Coalition
Zambia,2009	1,367	38	-8	0.02	MMD
Zimbabwe,1999	885	33	7	0.02	ZANU-PF
Zimbabwe,2004	314	35	-26	0.14	ZANU-PF
Zimbabwe,2005	477	36	1	0.53	ZANU-PF
Zimbabwe,2009	425	38	-14	0.05	MDC
Avr, sample	2,840	35	14	0.35	*
Avr, SSA	1,606	37	*	0.34	*

Notes: Macroeconomic variables are taken from World Development Indicators. Political variables come from African Election Database.

Figure 4.1: ELECTORAL PROXIMITY AND SUBJECTIVE WELL-BEING, BY COMPETITIVENESS OF ELECTIONS

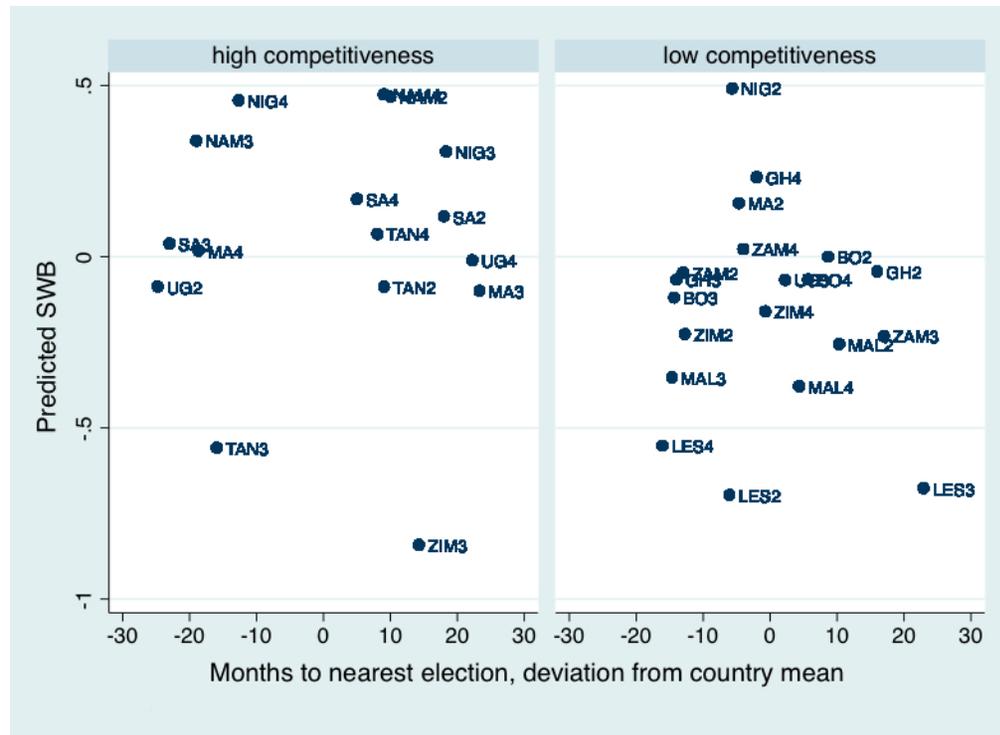


Table 4.3.1: YOUR LIVING CONDITIONS AND ELECTORAL CYCLE

Dependent Variable: Your Living Conditions

Electoral Proximity	-0.0048*** (0.0007)	0.0173*** (0.0031)	0.0172*** (0.003)
Electoral Competitiveness	0.833*** (0.0545)	1.64*** (0.123)	1.61*** (0.12)
Proximity*Competitiveness	- -	0.0288*** (0.004)	0.027*** (0.0038)
Individual Characteristics	No	No	Yes
Country Rounds	Yes	Yes	Yes
<i>Adj.R</i> <sup>2</sup>	0.1064	0.1078	0.1800
<i>N</i>	41,186	41,186	41,186

Notes: Marginal effects  $dP(Y)/d(X)$ . \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, and round dummies. Weights are  $1/(\text{number of observations of that country})$ . Competitiveness variable is calculated from vote margin like  $-1*(\text{Vote Margin})$ . Larger numbers indicate increasing competitiveness. Proximity is  $-1*\text{abs}(\text{months to/from nearest election})$ , so that larger numbers imply increasing proximity.

Table 4.3.2: YOUR LIVING CONDITIONS COMPARED TO OTHERS AND ELECTORAL CYCLE

Dependent Variable: Your Living Conditions Compared to Others

Electoral Proximity	0.0068*** (0.0009)	0.015*** (0.0093)	0.014*** (0.0009)
Electoral Competitiveness	- 0.721*** (0.08)	0.378*** (0.029)	0.357*** (0.0276)
Proximity*Competitiveness	- -	0.0178*** (0.0011)	0.017*** (0.0011)
Individual Characteristics	No	No	Yes
Country Rounds	Yes	Yes	Yes
<i>Adj.R</i> <sup>2</sup>	0.0677	0.0766	0.1763
<i>N</i>	28,844	28,844	28,844

Notes: Marginal effects  $dP(Y)/d(X)$ . \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, and round dummies. Weights are  $1/(\text{number of observations of that country})$ . Competitiveness variable is calculated from vote margin like  $-1*(\text{Vote Margin})$ . Larger numbers indicate increasing competitiveness. Proximity is  $-1*\text{abs}(\text{months to/from nearest election})$ , so that larger numbers imply increasing proximity.

Table 4.3.3: MENTAL HEALTH AND ELECTORAL CYCLE

Dependent Variable: Mental Health			
Electoral Proximity	-0.0017*	0.010***	0.011***
	(0.0009)	(0.0039)	(0.0038)
Electoral Competitiveness	-0.234***	0.212	0.365***
	(0.0812)	(0.159)	(0.154)
Proximity*Competitiveness	-	0.014***	0.018***
	-	(0.004)	(0.0044)
Individual Characteristics	No	No	Yes
Country Rounds	Yes	Yes	Yes
<i>Adj.R</i> <sup>2</sup>	0.0492	0.0495	0.1149
<i>N</i>	31,062	31,062	31,062

Notes: Marginal effects  $dP(Y)/d(X)$ . \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, and round dummies. Weights are  $1/(\text{number of observations of that country})$ . Competitiveness variable is calculated from vote margin like  $-1*(\text{Vote Margin})$ . Larger numbers indicate increasing competitiveness. Proximity is  $-1*\text{abs}(\text{months to/from nearest election})$ , so that larger numbers imply increasing proximity.

Table 4.4: PERSONAL IDENTIFICATION AND SUBJECTIVE WELL-BEING

Dependent Variable	Your Living Conditions	Your Living Condition Compared to Others	Mental Health
Language/Ethnic/Tribe Group	-0.043**	0.043**	0.108***
	(0.017)	(0.018)	(0.022)
Religion	0.07***	0.149***	0.007
	(0.019)	(0.0209)	(0.025)
Gender	-0.038	0.104***	0.095***
	(0.034)	(0.038)	(0.035)
Other	0.015	0.016	0.058**
	(0.020)	(0.023)	(0.024)
<i>N</i>	20,123	17,554	14,484
<i>Adj.R</i> <sup>2</sup>	0.1496	0.1178	0.1537

Notes: Occupation/Class is taken as a reference point. Regressions are controlled for individual characteristics, country dummies, and election variables. \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Weights are  $1/(\text{number of observations of that country})$ .

Table 4.5: THE SALIENCE OF ETHNIC IDENTIFICATION

Language/Tribe/Ethnic Group	OLS	Logit
Electoral Proximity	0.012*** (0.002)	0.018*** (0.14)
Electoral Competitiveness	0.63 (0.746)	0.643 (0.425)
Proximity*Competitiveness	0.010*** (0.0034)	0.091*** (0.022)
<i>N</i>	20,735	20,735
<i>Adj.R</i> <sup>2</sup>	0.0742	0.0696

Notes: Marginal effects  $dP(Y)/d(X)$ . \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies and round dummies. Weights are  $1/(\text{number of observations of that country})$ .

Table 4.6.1: BEFORE THE ELECTION

Dependent Variable	Your Living Conditions	Your Living Condition Compared to Others	Mental Health
Before Election	1.58*** (0.105)	1.44*** (0.248)	1.40*** (0.172)
Before Election*Electoral Proximity	0.042*** (0.003)	0.044*** (0.0097)	0.038*** (0.0057)
Before Election*Electoral Competitiveness	1.78*** (0.095)	1.26*** (0.0207)	1.37*** (0.143)
Before Election*Proximity*Competitiveness	0.051*** (0.0043)	0.039*** (0.012)	0.037*** (0.0058)
<i>N</i>	41,186	28,844	31,062
<i>Adj. R</i> <sup>2</sup>	0.1879	0.1723	0.0994

Notes: Marginal effects  $dP(Y)/d(X)$ . \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, and round dummies. Weights are  $1/(\text{number of observations of that country})$ . Competitiveness variable is calculated from vote margin like  $-1*(\text{Vote Margin})$ . Larger numbers indicate increasing competitiveness. Proximity is  $-1*\text{abs}(\text{months to/from nearest election})$ , so that larger numbers imply increasing proximity. Before the election is 1 if round survey would be before the nearest election.

Table 4.6.2: PUBLIC EXPENDITURES

Dependent Variable	Your Living Conditions	Your Condition Compared to Others	Mental Health
PE on Education	0.0758 (0.230)	0.0581 (0.135)	0.0321 (0.0784)
PE on Health	0.0648* (0.00337)	0.00692 (0.216)	0.00336 (0.0744)
PE on Defense	0.0322** (0.0158)	0.0179*** (0.00885)	0.0369 (0.181)
<i>N</i>	41,186	28,844	31,062
<i>Adj.R</i> <sup>2</sup>	0.1821	0.1780	0.1158

Notes: \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, round dummies, and election variables. Weights are 1/(number of observations of that country).

Table 4.6.3: WINNING THE ELECTION

Dependent Variable	Your Living Conditions	Your Condition Compared to Others	Mental Health
Winning Dummy	0.0401*** (0.0108)	0.030** (0.0126)	0.0010 (0.013)
<i>N</i>	41,186	28,844	31,062
<i>Adj.R</i> <sup>2</sup>	0.1821	0.1780	0.1158

Notes: \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, round dummies, and election variables. Weights are 1/(number of observations of that country).

Table 4.6.4: INTERESTED IN PUBLIC AFFAIRS

Dependent Variable	Your Living Conditions	Your Condition Compared to Others	Mental Health
Interested in public affairs	0.0285*** (0.0069)	0.0280*** (0.0082)	0.015*** (0.0079)
<i>N</i>	41,186	28,844	31,062
<i>Adj.R</i> <sup>2</sup>	0.1813	0.1765	0.1160

Notes: \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, round dummies, and election variables. Weights are 1/(number of observations of that country).

Table 4.6.5: ILLEGITIMACY OF ELECTIONS

Dependent Variable	Your Living Conditions	Your Condition Compared to Others	Mental Health
Trust National Electoral Commission	0.0410*** (0.00474)	0.0252*** (0.00542)	-0.0057 (0.00592)
<i>N</i>	41,186	28,844	31,062
<i>Adj.R</i> <sup>2</sup>	0.1799	0.1760	0.1153

Notes: \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, round dummies, and election variables. Weights are 1/(number of observations of that country).

Table 4.7: ESTIMATES FOR INDIVIDUAL-LEVEL COEFFICIENTS

	Your Living Conditions	Your Conditions Compared to Others	Mental Health
Female	-0.00660 (0.00963)	0.0198* (0.0113)	- 0.111*** (0.0114)
Age	-0.0198*** (0.00175)	-0.00720*** (0.00197)	0.00183 (0.00215)
$Age^2$	0.0170*** (0.00198)	0.00734*** (0.00219)	- 0.0165*** (0.00247)
Rural	-0.0257** (0.0107)	-0.0776*** (0.0126)	-0.0225* (0.0136)
Informal Schooling	0.0524* (0.0276)	0.143*** (0.0320)	-0.0275 (0.0387)
Primary School	0.0778*** (0.0173)	0.116*** (0.0197)	0.0647*** (0.0219)
Secondary School	0.170*** (0.0184)	0.242*** (0.0213)	0.161*** (0.0229)
High School	0.310*** (0.0235)	0.355*** (0.0273)	0.294*** (0.0287)
University	0.400*** (0.0283)	0.381*** (0.0336)	0.291*** (0.0347)
Post-Graduate	0.492*** (0.0672)	0.477*** (0.0903)	0.228*** (0.0704)
Employed	0.0694*** (0.0109)	0.0811*** (0.0130)	0.0289** (0.0128)
Economic Conditions	-0.217*** (0.00537)	-0.267*** (0.00633)	- 0.115*** (0.00648)
$N$	41,186	28,844	31,062
$Adj.R^2$	0.1800	0.1763	0.1158

Notes: \*, \*\*, \*\*\* indicate the 10%, 5%, and 1% significance levels, respectively. Standard errors, clustered at the country level, are reported in parentheses. Regressions are controlled for individual characteristics, country dummies, round dummies, and election variables. Weights are 1/(number of observations of that country).