

# Political Attitudes and Participation Among Young Arab Workers: A Comparison of Formal and Informal Workers in Five Arab Countries

Walid Merouani and Rana Jawad

# **POLITICAL ATTITUDES AND PARTICIPATION AMONG YOUNG ARAB WORKERS: A COMPARISON OF FORMAL AND INFORMAL WORKERS IN FIVE ARAB COUNTRIES<sup>1</sup>**

Walid Merouani<sup>2</sup> and Rana Jawad<sup>3</sup>

**Working Paper No. 1434**

**December 2020**

We are thankful to Dr Adeel Malik (University of Oxford) and Dr Ricky Kanabar (University of Bath) for their constructive remarks which shaped the current version of the paper. We would also like to acknowledge the participants of the 26<sup>th</sup> ERF conference (2020) for their comments and encouragement. All remaining errors are our own.

Send correspondence to:

Walid Merouani

Centre de Recherche en Economie Appliquée pour le Développement

[merouaniwalid@hotmail.fr](mailto:merouaniwalid@hotmail.fr)

---

<sup>1</sup> This paper was sponsored by the Economic Research Forum (ERF) and has benefited from intellectual support. The contents and recommendations do not necessarily reflect ERF's views.

<sup>2</sup> Centre de Recherche en Economie Appliquée pour le Développement (CREAD, Algeria) and Centre de Recherche en Economie et Management (CREM-CNRS, France).

<sup>3</sup> Department of Social and Policy Sciences University of Bath (United Kingdom), [R.Jawad@bath.ac.uk](mailto:R.Jawad@bath.ac.uk).

First published in 2020 by  
The Economic Research Forum (ERF)  
21 Al-Sad Al-Aaly Street  
Dokki, Giza  
Egypt  
[www.erf.org.eg](http://www.erf.org.eg)

Copyright © The Economic Research Forum, 2020

All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher.

The findings, interpretations and conclusions expressed in this publication are entirely those of the author(s) and should not be attributed to the Economic Research Forum, members of its Board of Trustees, or its donors.

## Abstract

Political participation by citizens is important to ensure good governance and the accountability of policy makers' decisions and initiatives. However, this issue may be especially difficult in contexts of high informal labour, defined in this paper as workers not enrolled in the formal social security system. This paper examines the topic of political participation among young workers in five Arab countries: Algeria, Egypt, Lebanon, Morocco, and Tunisia. It compares both formal and informal sector workers using data from the European Union's 2018 SAHWA survey (<http://www.sahwa.eu/>). Amongst other variables, the paper tests the impact of informality on political participation. It uses four proxies for political participation to compare formal and informal workers in the case study countries: (1) affiliation to a political party or movement; (2) frequency of participation in political meetings/campaigns or participation in politics via the Internet; (3) frequency of speaking about politics and economic issues with peers; (4) voting in elections (both general and local). By controlling for demographic and socio-economic variables, the analysis uses discrete choice model to test the impact of this informality on the four proxies of political participation. An important contribution of this paper is to incorporate job satisfaction into the analysis. The results indicate that informal workers are less likely to participate in key political behaviours such as belonging to political parties, participating in political meetings and speaking about politics and voting with peers. The paper proposes some key policy implications arising from the analysis.

**Keywords:** Informal workers, social security, political participation, voting, Arab countries.

**JEL Classifications:** D72. J46.

## 1. Introduction

The literature on informality is most closely associated with the study of labour markets in developing countries. It has mainly highlighted a dualist view showing the deep segmentation of labour markets between the formal and informal sectors (Do Soto, 1970; Harris & Todaro, 1970; Galiani et al, 2011). Assaad (2014) also characterizes the Arab labour markets as dualist due to the deliberate practices of their governments in using employment opportunities and benefits for political gain – also known more widely in the literature on Arab political economy as the “authoritarian bargain”. Following this segmentation perspective, many authors have studied whether informality is a voluntary choice or a strategy of last resort (Gunther et al. 2012; Merouani et al, 2018). Some have also focused attention on the demographic and socio-economic characteristics of informal and formal sector workers (Ghalianni & Weinschelbaum, 2011; Shehu & Nilsson, 2014).

However, studies about the political attitude and behaviour of informal workers are scarce (Baker, 2018). A useful contribution is found in Rudra (2002) who examines the impact of informal labour on weak social security development and the quality of democratic politics in low or middle-income countries such as India, Egypt and Jordan. However, a gap remains in terms of developing more detailed and robust analysis of the political participation of informal sector workers. This is particularly the case in the Arab economies which have some of the world’s highest rates of informal labour, reaching 75% by some estimates (UN-ESCWA) – a matter of heightened policy concern when these workers also take part in popular protests, as in Egypt in the 2011 uprisings.

Studies of the informal economy in the Arab context, let alone the political profile of the latter, remain few and far in between. Statistics provided by international agencies such as the International Labour Organisation (ILO) or the World Bank point to very high rates of informality in general but also among women, in particular. Depending on how informality is measured, estimates of informal workers in the Arab region (excluding the Gulf states) vary between 45% and 65% (Chen and Harvey, 2017). Although informal employment in the Arab region as a whole is lower than other developing world regions, some individual countries such as Morocco and Algeria as discussed in this paper have some of the highest rates in the world at nearly 70% (Gatti, 2014, cited in Chen and Harvey, 2017). The impact of informality is felt strongly in relation to political mobilisation as was seen in the 2011 Arab Spring, a matter which rekindled the vexed debate on economic justice and its links to conflict in the Middle East (Chen and Harvey, 2017). Moreover, labour markets in the Arab region are directly and indirectly shaped by fluctuations in oil prices hence, it is not important not to underestimate the geo-political significance of labour and increasingly informality in the current climate of crisis facing the region.

Hence, the main aim of this paper is to fill a major knowledge gap by studying the impact of informality on political participation in five Arab countries: Algeria, Egypt, Lebanon, Morocco and Tunisia. These are all the countries present in the SAHWA survey and as such, this paper

capitalizes on the availability of data to provide an in-depth comparative analysis. The countries are mainly low or middle-low income countries in North Africa and the Southern Mediterranean which have suffered for many years from high levels of poverty or prolonged social protest that involve large number of informal workers. These issues are pertinent to our times since according to the dualist view mentioned above, the informal economy results in part from political exclusion but may also prove to become a strategy of survival as the affected groups (mainly women and the educated youth) navigate the job market to make ends meet. In addition, it is important to note that the study of political participation entails a range of social and political behaviours that are essential to human rights and human identity. After all, political participation includes not only voting and electoral participation but also more mundane activities such as: lobbying a government official, demonstrating against an issue of concern or confronting security forces . Hence the study of political participation is the study of all aspects of social life – it is the study of everything according to Deth (2001). These matters resonate even more with youth in Arab countries who represent more than 30% of the total population there (UNDP, 2016). The 2011 uprisings and current unrest in Lebanon, Algeria and Jordan to name but a few countries are fronted by the unemployed youth, the more religious extremist of whom may well go on to join radical military factions. There are therefore, important policy implications for social protection and governance that can shed new light on the causes and consequences of civic unrest in the Arab region and informal workers fit within this wider picture of the labour market.

The paper is based on estimating discrete choice models using SAHWA survey data (<http://www.sahwa.eu/>). This survey was undertaken by the European Union in 2018 in the five Arab countries examined here and included 10,000 households. (2,000 in each country). It focused on youth (In each household one young was selected to respond the questionnaire) in the Mediterranean countries, giving particular attention to their way of life, socio-economic situation, migration, values, and political mobilization/participation The analysis presented here entails four logit models (denoted as A-D) with different dependent variables measuring political participation among formal and informal sector workers (see methods section for more detail). The results show that informality has a significant impact on political participation but that there are important differences by age, gender and confidence in the governments and political systems of the case study countries. The paper finds that young and female workers, and those who mistrust government were less likely to participate to politics. A further important contribution of this paper is to incorporate job satisfaction into the analysis.

The main findings of the four models are: Model A shows that informal workers are less likely to belong to political parties or movements; Model B shows they are less likely to participate in political meetings, campaigns or in politics via the internet<sup>4</sup>; Model C shows that they are less likely to speak about politics, state affairs and economic issues with their peers and finally, Model

---

<sup>4</sup> No additional information is provided in the survey about the internet platforms.

D shows that informality affects voting behavior whereby informal workers are less likely to vote when general/local elections are called. Furthermore, the results confirm the significant impact of socio-demographic variables on political participation, indeed, that females, younger and workers with low educational attainment are less likely to participate in politics. A further important result is the significant positive impact of trust in government and the political system more generally on political participation, which is confirmed in the four models.

The paper is organised as follows: the next section examines the wider literature on the topic; section two sets out the data and methods on which this paper is based, section three presents the empirical results and the final section sums up the key arguments of the paper and its main policy implications.

## **2. Research Context and Rationale**

The literature shows that there has been little scholarship on informality in the Arab region in comparison to other parts of the world (Solati, 2017) and that the endeavor has been led by international development agencies who have access to Arab labour market statistics. As such, this section refers to the scholarship that exists and uses this as the platform for the analytical orientation undertaken in this paper.

Current estimates of informality in the Middle East and North region as a whole are at 45% on average, with 37% of women and 47% of men noted as having informal work (Chen and Harvey, 2017). The rate is even higher for some individual countries such as Egypt and Iran. Rural employment is especially vulnerable to informality in the Arab region, though much less is known about urban informality (Solati, 2017). The overall rate of informality in the Arab region is the lowest in comparison to other developing regions of the world and is in part accounted for the large public sector employment rate (Chen and Harvey, 2017). It is important to note the direct and indirect impact of oil prices on the revenues of Arab nations and thus, the size of the public sector. This dependency creates volatility and contributes directly to the growth of informal employment in the Arab region (Chen and Harvey, 2017).

The countries chosen for this paper also have differing political contexts. In Algeria, 20 years of rule under previous President Bouteflika (1999-2019) severely limited political participation and protests in Algiers until February 2019 when the “Hirak” (social mobilization) started, leading to the dissolution of Bouteflika’s regime. Hirak has broken what can be described as a barrier of fear in Algeria and Algerians started protesting again to express their political and social needs. However, this informal mobilization at the street level did not lead to formal political participation as demonstrated in the 2020 presidential election which had a turnout of less than 40%, Also, participation rate to the last referendum elections, in November 2020, has only reached 23%. A similar situation can be found in Egypt in relation to President Mubarak’s rule although according

to Refaei (2015) participation in elections has increased. In Lebanon, a prolonged economic crisis marked by soaring of living costs and sectarian divisions has fueled riots and anti-government movements representing all segments of society. nearly every class, sector, age and gender (Nassif, 2020). This protest has led to the resignation of the prime minister Saad El Hariri in October 2019.

In Morocco, after the movement of protest in 2011 calling for better social conditions and standard of living, King Mohamed VI revised the constitution and held legislative elections. These elections have given more power to the parliament and local authorities. However, these haven't improved formal political participation because in the parliamentary elections 2016, voter turnout did not reach 43%. In the meantime, many protests have taken place as observed according by NDI [1] and MEMO [2]. In contrast, Tunisia witnessed the most successful democratic transition following the Arab uprisings. Indeed, since the dissolution of the Ben Ali regime in 2011, Tunisians have become more aware of their rights and more determined to practice them. While the different presidential and parliamentary elections that have taken place were held in a transparent manner, there has been a decrease in voting turnout between 2014 and 2019 [3]. This may reflect frustration with the traditional Tunisian parties and their failure in resolving problems of unemployment, poverty and the low standard of living. A key constituency of these countries' popular protests are the educated Middle Classes who continue to suffer from the loss of jobs or lack of opportunities and as such, are a key part of the informal economy of Arab states (Assaad, 2014). This paper will incorporate analysis of this section of the Arab populations.

Against this dire economic and political background, studies on the informal economy in the Arab context, let alone its political profile, remain few and far in between. Albadawi et al. (2008) provide a general description of Arab informal labour and analyse its causes and consequences. They argue that informality is a "complex multi-faceted phenomenon" resulting from the high cost of formal work in Arab countries resulting from complex regulatory frameworks, taxes, and other organizational burdens. Hence, Albadawi et al. (2008) argue that informality has a significant effect on economic growth, on the performance of micro- and small enterprises and on poverty. Beyond this, much of the focus of the literature is on gender differentials and the larger share that women occupy in the informal economy of the Arab world owing to patriarchal practices in the countries (Solati, 2017). The gender issue in the Arab informal about market has been examined in greater depth than informality in general. As seen in Lindsay et al. (2015), there is strong evidence on the low political participation of women compared to men in Algeria, Egypt, Libya, Morocco and Tunisia. It is also well-known that Arab women have the lowest rates of employment in the world.

In terms of the international literature, Nie et al. (1969) set the tone for a new generation of researchers when they stipulated that economic development makes a country's organizational infrastructure complex and its population more organized into different work groups (trade unions,



professional bodies), or leisure groups (youth organizations and voluntary associations), or civil society associations. This enables them to coordinate the interdependence between economic and social life and increases their political participation. Furthermore, Nie et al. recognise that social status is an influential predictor of organizational involvement and thus, of political participation.

Following Nie et al. (1969) many authors have studied the issue of political participation and its importance. Binder (1977) recognises that political participation varies according to socioeconomic status; Rudra (2002) shows that labour surplus in developing countries is the origin of the low unionization of low-skilled workers, which in turn had a negative impact on government social spending. Campbell (2002) focuses on senior citizen's political participation by analyzing social security-motivated voting and argues that while political participation by the general population increases with income, senior citizens are the exception. They are more likely to participate when their income is low as they are dependent on social security benefits from the state. Aguilar et al. (1998) challenged the issue of political participation of informal workers in Costa Rica and Mexico arguing that informal workers who are involved in occupational bodies are more likely to participate in political activities such as volunteering in political campaigns or engaging in political protest. Welch (1977) has investigated the gender gap in political participation and provides three main explanations for the low participation of women compared to men: firstly, political socialisation discourages women from participating in politics; secondly, women have more family responsibilities and thirdly, women are less likely to be in sectors that are associated with political participation. While many authors state that the socioeconomic characteristics of workers are the main determinants of political participation (Lipset 1981; Milbrath and Goel 1977; Verba and Nie 1972), Arrighi et al. (1994) argue that workers who enjoy a certain level of control and responsibility at work (namely professional and managerial positions) are more likely to participate in politics than manual or low skilled workers. These authors also make a strong link between labour union membership and participation in politics.

Elden (1981) adds to the above literature on political participation by studying satisfaction with work as a predictor of political participation. This variable forms an important pillar of the present analysis. This issue is generally ignored by the current literature except for some studies that look at the impact of life satisfaction on political participation (Flavin and Keane, 2012). Indeed, Flavin and Keane (2012) show that the populations that is satisfied with their life start to think about others' wellbeing and participate in politics in order to improve this. One other reason given by these authors as to why the general population who are satisfied with their life (including their job) engage more in politics is to secure personal gain through the political process. Not all studies on informality and political participation provide convincing results. Daenkindt et al. (2019) note that voting alone is not a sufficient measure of political participation. Indeed, Thornton's (2000) study of Mexico does not adequately explain the different impacts informality has on belonging to professional bodies, voting behavior or political support.

Notwithstanding the importance of other forms of non-formal political participation such as involvement in civic organization, participation to protest, and activism (Siemiatycki, Myer et al, 2003; Bekaj et al 2018), this paper focuses on formal political participation which refers to activities in relation to governments, politicians, or political parties. Hence, this paper seeks to present a robust analysis of the relationship between informality and formal political activity by using new and more reliable measures of political participation that are especially insightful for the Arab region. The paper makes two key contributions to the literature as follows:

- (1) By adding an Arab country perspective on informality and political participation which is missing in the existing literature
- (2) Providing a more robust measure and analysis of political participation beyond the limited scope of voting (Daenkindt et al, 2019), and adding other measures such as frequency of discussion of political topics, amongst others.

### **3. Method and Data**

#### **Methodological approach**

This paper uses logit models (four in total) to predict political participation and test the impact of each of the predictors on the four dependent variables. The first of these variables is a dummy with the value of one if respondents belong to a political party or political movement. The second dummy variable is made up of a combination of three other dummy variables asking respondents (formal and informal workers in our sample) whether they have participated in political party meetings, election campaigns or whether they participated in politics via the internet during the last 12 months. The third variable is a “Cronbach’s alpha” (Arrondel and Masson, 2004) combining three ordinary variables: (i) the frequency of speaking about politics with peers and family members about national and political affairs, (ii) the frequency of speaking about international and regional political affairs and (iii) the frequency of speaking about economic issues. The fourth dependent variable asks respondents whether they vote in elections. The variable of informality is measured in this paper using the ILO (International Labour Office) definition [4] which asks where workers are enrolled in ~~are entitled to~~ social security. The full definition as developed by the ILO for the International Labour Conference (ILC) in 2002 and endorsed by the 17th ICLS in 2003, argues that workers are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits.

Using logit models, we regress the variable of informality on the four dependent variables of political participation and we control for other sociodemographic and behavioural variables such as age, gender, education and job satisfaction. This last variable is the second key variable after the variable of informality of this article. The importance of this variable is justified by the absence

of literature treating this relationship between job satisfaction and political participation. Hence this paper adds new insights to the literature.

We estimate the following model.

$$PP_{i,k} = \beta + \gamma INF_i + \theta JS_i + \sum_{k=1}^r \phi_k SD_{i,k} + \varepsilon_i \quad (1)$$

Where  $PP_{i,k}$  is the political participation of individual  $i$ ,  $k=1$  to 4, representing the four proxy variables for political participation which this paper relies on. The formula uses a set of exogenous variables: the key predictor, in this article, is the variable of informality ( $INF_i$ ), it is a dummy equal to 1 if the respondent  $i$  declares not having social security coverage, hence, working informally. The hypothesis of this article rests on this last variable which is expected to confirm the negative impact of informality on political participation. The second key variable is job satisfaction ( $JS_i$ ) which is an ordinal variable reflecting the job satisfaction [5] of the individual  $i$ ,  $SD$  is a vector of sociodemographic control variables (age, gender, education). Finally,  $\beta$  is a constant and  $\varepsilon_i$  is an error term.

We estimate the odds ratio ( $\gamma, \theta, \phi_k$ ) for the model above. For example, we may suppose that PP is a voting variable reflecting whether the respondent declares that he/she takes part in elections. If  $\gamma = 2.66$ , this means that informal workers are 2.66 times more likely to vote than formal workers. If  $\phi_k$  is 0.73 (Odds ratio **inferior** to 1 means that the relationship between the dependent and the independent variable is negative) and SD is a gender dummy equal to 1 - if the individual  $i$  is a female - this means that females are 1.36 (1/0,73) **less likely** to vote. We run four regression models corresponding to the four variables of political participation by using SAHWA survey data.

Finally, we are aware of the potential collinearity problem in our models. To avoid it, we calculated Variance Inflation Factors (VIF) for each model. A multicollinearity problem exists only when the VIFs are higher than 10 (Mansfield and Helms, 1981). The result, reported in Table 1 of the Appendix shows that all VIFs are low hence, no multicollinearity problem exists in our models. To demonstrate the general robustness of our models, the logit postestimation tests (see Appendix: Table 2) shows that the ability of prediction of the four models varies from 64% for the fourth model to 87% for the first model. Further, we have utilized the “link test”<sup>5</sup> to detect potential specification errors (see appendix table 3). The test shows that there is no error of specification in our models and which means that we have chosen meaningful predictors. In accordance with the results of the econometric models, the paper’s concluding section proposes some policy measures to enhance political participation in the Arab region.

---

<sup>5</sup> For more details about the link test please see : <https://stats.idre.ucla.edu/stata/webbooks/logistic/chapter3/lesson-3-logistic-regression-diagnostics/>

## Data

Using the SAHWA project dataset (2018), the paper explores the following variables:

### The dependent variable: political participation

We construct four indexes of political participation: the *first index* ‘‘involvement’’ combines the variable of whether the respondents belong to political party [6] and the variable of whether the respondent belong to political movement [7]. The *second index* (participation) is made by three variables asking the survey respondents whether they participated to political campaigns [8], whether they participated in electoral campaigns [9], and whether they have participated in politics via the internet [11]. This (participation index) is dummy equal to one if the respondents have participated in one of the three political activities at least once a year. The *third index* (talk politics) is made by calculating ‘‘Cronbach's alpha’’ (for more details, see Arrondel and Masson, 2004) of three variables; the frequency of speaking about national political affairs with parents and peers [11], the frequency of speaking about international political affairs with parents and peers [12], and the variable asking about the frequency of speaking about economic issues with parents and peers [13]. The three variables of speaking about politics and economics are ordinal variable [1] Regularly [2]. Often [3]. Sometimes [4]. Rarely [5]. Never. This variable is predicted using ordered logit model. Finally, we use voting behavior as the political participation index ‘‘voting index’’. This index is measured using the following question: Do you vote when elections are called? [1] Always [2] Often [3] Sometimes [4] Rarely [5] never. We codify this variable into dummy equal to one if the responses are from 1 to 3.

### The independent variables

We regress the four indexes above on informality variable which is derived from the question asking whether the workers are covered by the social security system [14]. Informal workers are those who declare their job not covered by social security system (ILO, 1993). Following Elden (1981), Peterson (1990) and Delli et al. (1983), we use the variable of Job satisfaction as the second variable of interest in this article. It is measured, in the survey, using the following question: **Are you satisfied with your job?** [1] Very satisfied [2] satisfied [3] dissatisfied [4] Very dissatisfied. Last but not least, we control for sociodemographic variables to compare our result with the previous literature. The results of the econometric models are presented in the following section.

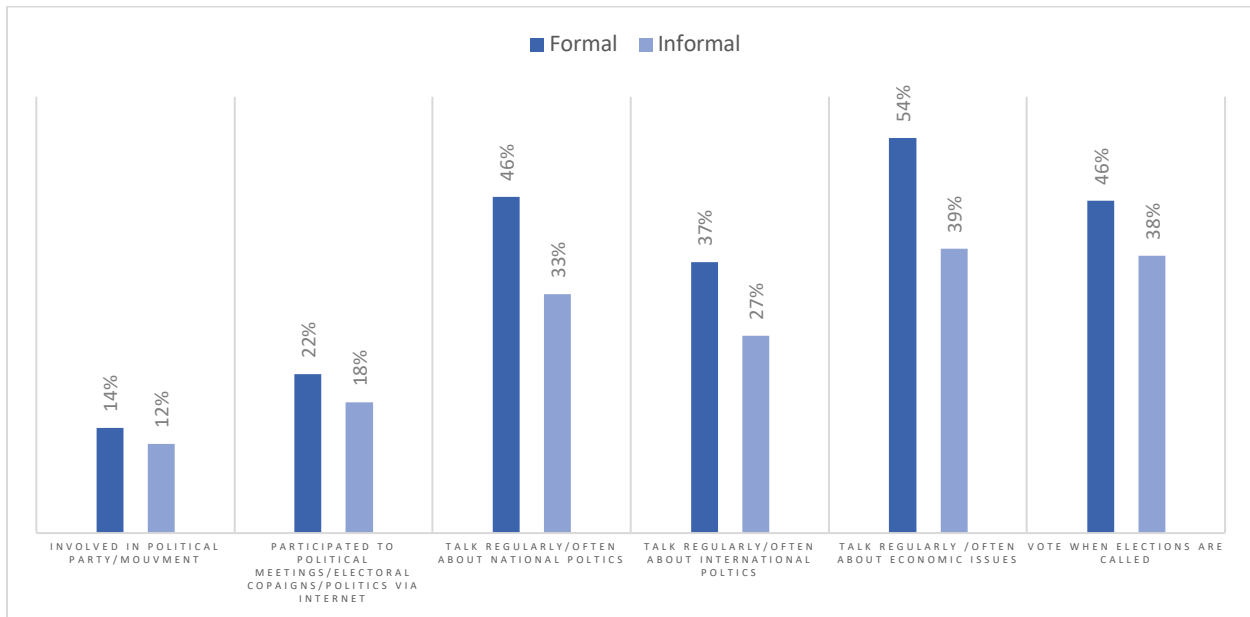
Finally, it is worth noting the limitations in the data: the SAHWA survey only includes youth aged 16 to 29 years for whom political participation is quite different from older citizens. The second limitation is the sample size which is not very large. Given that we focus only workers and the high youth unemployment rate in the respective countries. Also, using subjective questions to measure some variables such as job satisfaction could be a limitation because of some hidden information. This might be due to the context of the survey or the way the question was asked could push the respondents to hide their real level of job satisfaction. On this matter, further

research would need to be done to better understand what elements led to job satisfaction and to what extent access to social security benefits fed into this.

#### 4. Empirical analysis

We start our empirical analysis with some descriptive statistics describing the main variables of this study. After cleaning the data, the sample size was reduced to workers (2485 respondents/workers- 67% of them are informal). It's worth noting that we run weighted models. The weighting allows to make our sample representative of the general population and handle the issue of over representation or underrepresenting some groups of workers. Also, some variables could be missing for some individuals, the software automatically delete/ignore the observation (respondent). This is why this sample size change slightly from a model to another. In order to highlight the relationship between informality and political participation, we display the differences between informal and formal workers with regard to political participation in Figure 1 below.

**Figure 1: Political participation of formal and informal workers**



Source: SAHWA survey - [www.Sahwa.eu](http://www.Sahwa.eu)

The figure above displays the proportions of formal and informal workers that participate in political activities. It clearly confirms that formal workers are more likely to participate in such activities. The figure shows that 14% of formal workers are involved in political party or movement. This proportion is lower for informal workers (12%). However, the gamma test[15] (Gamma=0,09) show that the difference is not significant. The figure also shows that 22% and 18% of formal and informal workers have participated to political meetings or electoral campaigns

or have participated to politics via the internet. this difference is also non-significant according to the gamma test (Gamma=0,06). Furthermore, formal workers seem to be more likely to talk about politics and economics; 46% of them (33% of informal workers) declare they speak regularly or often about national politics with their parents and friends/colleagues (Gamma test = 0,23). Formal (37%) workers speak more frequently about international political affairs than informal workers (27%) (Gamma test = 0,19). When it comes to economic issues, 54% of formal workers declare they speak regularly or often about economics issues while only 39% of informal workers declare they speak regularly/often about economic issues (Gamma test = 0,23). Finally, we notice the difference in voting participation between formal and informal workers. The descriptive statistics shows 46% of formal workers go to the urns when elections are called. This proportion is lower (38%) for informal workers (Gamma test = 0,12)

Even if the Gamma test are not very high when we test binary relationships, the descriptive statistics above show that informal workers are less engaged in formal politics and this is observed in the five Arab countries (see Table 3 in the Appendix). However, to test the significance of the differences highlighted above, we include other variables and run four econometric models: the first one is a binary logit model which has the first index (involvement) of political participation as a dependent variable. Model B has the second index (participation) as dependent variables. Model C is an ordinal logit model, it has the third index (talk politics) as a dependent variable, and finally, Model D predicts voting behavior. These are displayed in Table 1 below.

**Table 1: Logit models predicting political participation**

VARIABLES	(Model A: Involvement) odds ratio	(Model B: Participation) odds ratio	(Model C: Talk Politics) odds ratio	(Model D: Voting) odds ratio
Informal	0.745** (0.1025)	0.664*** (0.0896)	0.650*** (0.0575)	0.819** (0.0793)
Job satisfaction	1.19 (0.17)	0.695*** (0.0848)	0.896 (0.0726)	0.767*** (0.0748)
Male	1.108 (0.161)	1.594*** (0.222)	1.214** (0.106)	1.211* (0.121)
Confidence in government &Political system	1.296*** (0.112)	1.605*** (0.125)	1.507*** (0.1000)	1.978*** (0.154)
Age		0.988 (0.0161)	1.042*** (0.0120)	1.131*** (0.0148)
Education			1.255*** (0.0537)	
Married	1.5839*** (0.2035)	1.066 (0.128)	1.274*** (0.104)	1.264** (0.117)
2.Unemployed	1.4215 (0.316)	2.114*** (0.391)	1.214 (0.174)	0.609*** (0.103)
3.Student	2.501*** (0.505)	2.918*** (0.528)	1.306* (0.198)	0.584*** (0.117)
4.Inactive	1.142 (0.462)	3.954*** (1.228)	1.019 (0.313)	0.498** (0.150)
2.Employee	0.586*** (0.0842)	0.525*** (0.0678)	0.803** (0.0743)	1.092 (0.117)
3.Family support and apprentices	0.543*** (0.12)	0.421*** (0.0861)	1.292* (0.179)	1.237 (0.192)
Urban		1.196* (0.130)	1.225*** (0.0912)	0.607*** (0.0531)
Private		0.530*** (0.0790)	0.945 (0.102)	
Constant cut1			0.743 (0.294)	
Constant cut2			2.191** (0.865)	
Constant cut3			6.711*** (2.661)	
Constant cut4			25.89*** (10.36)	

Constant	0.158*** (0.0567)	0.618 (0.349)		0.0270*** (0.0120)
----------	----------------------	------------------	--	-----------------------

Observations	2,833	2,911	2,802	2,911
--------------	-------	-------	-------	-------

Robust standard errors in parentheses [16]

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 1 above displays the output of our econometric models. Our hypothesis, of the negative impact of informality on political participation is confirmed by the four models. Indeed, informal workers may not be interested in politics given that their income and jobs don't depend on state politics. They would be indifferent toward government/policy changes because they have no interest in this area. Further, they would be fed up of the recurrent governments that have not implemented any significant policies in favour of informal workers' wellbeing. This result is in line with Campbell's (2002) self-interest hypothesis in his USA study, which argues that given that elderly or pensioner-age-low income citizens are more likely to participate in social security-related voting because their income (interest) is mainly derived from social security system. The situation is similar in the workplace - given that they have little or no interest with government and political affairs, informal workers are not eager to participate to politics. One other explanation is related to Lipset's (1981) finding which recognizes that manual and low skilled jobs don't allow workers to develop their knowledge and understanding of politics, hence, they are less likely to be formally politically active.

A Similar relationship has been argued in Amat et al. (2020). Indeed, Model A in the table above shows that informal workers are 1.34 times (1/0.745) times less likely than formal workers to be involved into political party/movement. Model B shows that informal workers are 1.50 times (1/0.664) less likely to participate to political meetings, to electoral campaigns or to politics via the internet. Model C shows, that informal workers are 1.53 times less likely to talk about political and economic issue with parents and peers. Finally, Model D shows that informal workers are 1.22 times less likely to vote comparing to the formal workers.

### **Job satisfaction**

Very few authors have paid attention to the impact of job satisfaction [17] on political behaviour. Peterson (1990) and Delli et al. (1983) are among the few authors to deal with this issue showing the significant impact of job satisfaction on political attitude and behaviour. The models above have tested the impact of job satisfaction on the probability of participating in politics. The results show that workers who are more satisfied with their job are less likely to participate to politics and state affairs which opposes Delli results who find that Dissatisfied individuals participate less to politics. Our result can be explained by the fact that workers who are satisfied with their job don't necessarily wish to change social and economic policies, hence, they don't participate in politics. Model B shows that workers who are satisfied with their job are 1.43 times (1/0.695) less likely to participate to political meeting, electoral campaigns or participate to politics via the internet. The



fourth model shows that workers who are satisfied with their job are 1.30 times (1/0,767) less likely to vote in elections.

### **Gender**

The gender dimension with regards to political participation is highly documented in developed country scholarship (Roth et al, 2018). The results of our models (B, C D) are in line with these previous studies (Roth et al, 2018, Welch, 1977). Males are more likely to participate in politics compared to females in the case study countries. Indeed, the econometric results show that males are 1.59 times more likely to participate in political meetings, electoral campaigns and in politics via the internet (Model B). The third model shows that males are 1.21 times more likely to talk about politics and economic issues with their peers. The fourth model shows that males are 1.21 more likely to vote. This low political participation of women may be due, as explained by Welch, to the fact that women have more responsibilities at home, and they have jobs that don't enhance political participation. This result is consistent with Lindsay et al (2015).

### **Confidence in government**

One other interesting predictor of political participation is how much confidence workers have in government and political system (Gronlund et al 2007). This article builds a variable of confidence in government by calculating a Cronbach's alpha for the five variables [18] namely: 1) confidence in political parties, 2) confidence in politics, 3) confidence in elected local officials, 4) confidence in government, 5) confidence in elections. The output variable was codified as follows: 1 - Not confident; 2 - Neutral; 3 - Confident. We include this output variable in our regressions above. The result shows that confidence in government and the political system enhance political participation. Model A shows that workers who are confident in government and the political system are 1.29 more likely to be involved in political party/movement. The second model shows that workers who have confidence in government are 1.6 times more likely to participate in political meetings, electoral campaigns/ participate via the internet. Model C shows both formal and informal workers who trust government are 1.50 more likely to talk about politics and economics issue with their peers (parents, friends and colleagues). Model D shows that all workers (in the sample) who have confidence in government and political system are 1.97 more likely to vote when elections are called. These results are in line with Torney-Purta et al (2004) and Sari (2012). This latter was interested especially in political participation via the internet and he found that confidence in government increases political participation via the internet.

### **Age**

Age is a classic predictor of many individual behaviours. This paper has tested the impact of age on political participation, showing a positive relationship between the two variables, which is consistent with the literature (Bennett and Bennett, 1986). However, the Age variable in our sample here has a small range since the SAHWA survey targeted only youth [19] (16-29 years old). Nevertheless, the econometric models show an interesting variation in political participation

by age. The third (the fourth) model shows that an increase of age by just 1 year also increases the likelihood of talking about politics and economic issues (voting in elections) by 1.04 (1.13) times. This result is consistent with a survey conducted by one of the authors (BBC Media action survey, Merouani, 2019).

### **Education**

The impact of education on political participation is also significant given that high level of education allows more understanding of politics and state affairs hence, more political activities/participation. This is confirmed by various previous studies (Flavin et al, 2011; Aghiri et al, 1994). The results of this article are in line with the literature showing a positive relationship between education and political participation. The output of the modelC)above shows that highly educated workers are are 1.26 times more likely to talk about political affairs and economic issues with their parents, friends/ colleagues .

### **Marital Status**

Marital status plays a role in political attitudes and orientations (Daenekindt et al, 2019; Kingston et al, 1987; Stocker et al, 1995). The result of our models (A, C and D) confirms the significant effect of marital status on political participation. Indeed, Model. A shows that married workers are 1.58 times more likely to be involved in political parties. The model C shows that married workers are 1.27 times more likely to talk about political affairs and economic issues. Model D shows that married respondents are 1.26 more likely to vote when elections are held. These results are in line with Kingston et al. (1987) who find that married workers are more likely to vote in the USA.

### **Employment status**

The result of the econometric analysis presented here shows interesting differences in political participation by occupational status. Compared to employed workers (reference variables in occupational status analysis), the unemployed are 2.11 times more likely to participate in political meetings and electoral campaigns. This can be explained by the fact that they have more free time and they would use this campaign to get access to jobs. However, when it comes to voting, employed workers are more likely to vote than unemployed, which is consistent with Sobel (1993) who supports “the spillover model.” This model argues that participation in the workplace allows workers to learn how to participate in politics. The findings in this paper also show that students are 2.5 more likely to be involved into political party movement. Also, students are 2.91 more likely to participate to political meeting/ electoral campaigns (second model). The third model shows that students are 1.30 more likely to talk about economics. However, students are 1.71 (1/0.584) less likely to vote comparing to employed workers. Finally, inactive workers are 3.95 more likely (2 times less likely) to participate to pollical meetings/electoral campaigns (to vote). The econometric analysis also shows that compared to self-employed and employer (reference variable) status, the employees in the sample are less likely to be involved in political parties/movement, according to the first model. Model B shows that employees are less likely to

participate to political meetings/ electoral campaigns or participate to politics via the internet. Model C shows that employees are less likely to talk about politics and economic issues with their friends and family members. Furthermore, the two first models show that family support and apprentices are less likely to be involved in political parties/movements. They are also less likely to participate in political meetings/electoral campaigns. However, Model C shows that family support and apprentices are more likely to talk about politics and economic issues.

### **Urban vs Rural Differences**

The urban/rural analysis shows that workers in urban areas are more likely to participate in politics according to the three first models (indexes), which is consistent with what we know from the literature and can be explained by the fact that the urban environment enhances political activities (Welch, S., 1977). However, workers in urban areas are less likely to vote. These results confirms the specific characteristic of voting activity and that focusing only on voting to measure political participation could be insufficient.

### **Private vs Public sectors**

While the literature has paid limited attention to the relationship between sector of activity and political participation, we have tested this relationship in our models. The result here shows some evidence about the impact of the sector of activity on political participation. With the exception of the second model (Model B) which shows that private sector workers are 1.88 times less likely to participate in political meetings/electoral campaigns or participate in politics via the internet, the other models do not find a significant impact by sector of activity on political participation.

## **5. Discussion and Key Policy Recommendations**

This article tackled the little-understood issue of informal workers' political participation in the Arab regional context, which is important for any successful transition to democracy, especially in the case study countries given the prolonged political unrest there which is in large part caused by economic injustices. We have highlighted the most significant predictors of political participation using advanced econometric models. With further research, these results can be used to inform social policies that seek to enhance the political participation and well-being of informal workers, especially in terms of the urban/rural divisions in Arab society.

This article shows that political participation in the case study countries is low hence, policymakers may consider the social, emotional and psychological factors influencing political participation in order to develop the best tools to help local populations to improve their political engagement. These tools maybe specific for each category of population as we have found that different categories of workers behave differently toward politics. The paper highlights an important result which is that informal workers are less likely to participate in politics and state affairs, which poses a potential policy challenge given that these categories of workers are not well understood.

Politicians in the case study countries need to consider the differential in political behavior between formal and informal workers. Engagement with informal workers could be improved through policy “nudges” such as making the political actions suitable to informal workers identities (Major, 2018. Bryan et. al, 2011). Political participation should also be made more accessible to women and youth, given that these categories have been found to be less engaged politically. Also, political participation should be made easier by providing access to information related to politics and related to policy that concern population and removing barriers like bureaucracy.

Furthermore, awareness raising campaigns that target informal workers might be important to remind and educate them about the importance of political participation for democracy and good governance. This could be done through mass media campaigns as propagated by behavioral economists (Pop-Eleches et al., 2011). In addition, successful methods for encouraging informal workers to participate in politics could be achieved using phone calls, direct emails or social media (Green & Garber, 2015). In this sense, it is worth highlighting the positive impact of mass media on political participation in the Arab country contexts as found in our previous study (Merouani, 2019).

Moving now to some of the key policy recommendation: extending social security to all workers may make them more engaged in politics. According to Campbell (2012), social security could enhance informal workers’ political participation by: (1) giving more income and free time for politics and (2) tying their well-being to government programs. As such, social security is considered an incentive for affiliated groups to be mobilized for political actions. This suggestion is important given that in one of the author’s previous article’s (Merouani et al, 2018), the SAHWA dataset was used to show that there is a part of the working population who is excluded from social security. Hence, extending social security to these categories of workers using a Beveridge-style strategy (Esping-Anderson, 1990) could enhance political participation. Indeed, , there needs to be significant other changes which need to take place like formalization of labor market. This would need a social security strategy, a strong institutional and legal frameworks, and a good governance.

Lastly, we mention areas for further research based on the findings reported in this paper. In this paper, we have tested the impact of informality on political participation showing that informal workers are less likely to be politically engaged. Based on this result we suggest that enhancing political participation could be done through some incentives such making participation easy and fitting workers identities, however, results are not casual and we could not rely only the previous studies to say that those incentives work; our future research should do experiment applying those incentives and observing if workers behave differently toward politics and voting. You could simply say that your results are not casual...

## **6. Conclusion**

This paper has tackled the important though under-studied issue of informal workers' political participation in five Arab countries: Algeria, Egypt, Lebanon, Morocco and Tunisia. We have used an original survey to build four indexes of political participation: 1) belonging to political parties, 2) participating in political meetings, 3) speaking about politics and 4) voting in local/general elections. Those indexes constitute our dependent variables and have been analysed separately using logit models and explained by informality, job satisfaction, confidence in government and some other socio demographic variable. We have displayed the results of the models and proposed some policy recommendation based on these results. We believe our findings are meaningful for new policy reforms aiming to improve political participation. The paper makes two key contributions to the literature as follows:

- (1) By adding an Arab country perspective on informality and political participation which is missing in the existing literature
- (2) Providing a more robust measure and analysis of political participation beyond the limited scope of voting (Daenkindt et al, 2019), and adding other measures such as frequency of discussion of political topics, amongst others.

## Footnotes

[1] NDI website : <https://www.ndi.org/middle-east-and-north-africa/morocco>

[2] The Middle East Monitor online article : <https://www.middleeastmonitor.com/20200224-protests-in-morocco-demanding-improvement-of-social-and-human-rights-conditions/>

[3] According to <http://www.electionguide.org/>, the voter turnout decreased from 63% and 60% ( second round) in 2014 to 48% and 54% in 2019.

[4] The informal employment definition, as developed by the ILO for discussion by the International Labour Conference (ILC) in 2002 and endorsed by the 17th ICLS in 2003, argues that workers are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, **social protection** or entitlement to certain employment benefits.

[5] Job satisfaction variable was measured in the survey using the following question: **Are you satisfied with your job?** [1] Very satisfied [2] Satisfied [3] Dissatisfied [4] Very dissatisfied

[6] Could you tell me if you belong to one of **political party** as a sympathizer, participant, donor or volunteer? The alternative of answers are the following [1] Yes, as a sympathizer [2] Yes, as a participant [3] Yes, as a donor [4] Yes, performing voluntary work [5] No [6] Never. This variable was recodified into dummy equal to 1 if the answer is equal 1 to 4.

[7] Could you tell me if you belong to one of the **Political movements that is not a political party** as a sympathizer, participant, donor or volunteer? The alternative of answers are the following [1] Yes, as a sympathizer [2] Yes, as a participant [3] Yes, as a donor [4] Yes, performing voluntary work [5] No [6] Never. This variable was recodified into dummy equal to 1 if the answer is equal 1 to 4.

[8] How often did you participate in **party political meetings or activities** before 2011? [1] Every day [2] More than once a week [3] About once a week [4] About once a month [5] A few times a year.

[9] How often did you participate in electoral campaigns before 2011? [1] Every day [2] More than once a week [3] About once a week [4] About once a month [5] A few times a year.

[10] How often did you participate politics via the internet before 2011? [1] Every day [2] More than once a week [3] About once a week [4] About once a month [5] A few times a year.

[11] Using this card, how often do you speak about the national political affairs with parents, siblings, friends and colleagues?

[12] Using this card, how often do you speak about the international political affairs with parents, siblings, friends and colleagues?

[13] Using this card, how often do you speak about economic issues with parents, siblings, friends and colleagues?

[14] Are you insured by the social security system? [1] Yes. [2] NO.

[15] The stronger is the relationship between the two variables, the closest to 1 is the value of Gamma test.

[16] Constant cut1 – This is the estimated cutpoint on the latent variable used to differentiate lowest value of dependent variables from other values when values of the predictor variables are evaluated at zero.

[17] Are you satisfied with your job? [1] Very satisfied [2] Satisfied [3] Dissatisfied [4] Very dissatisfied.

[18] These variables are a Likert scale ordered from (0) Not at all confident to (10) very confident.

[19] This is the reason why age's coefficients were not significant in the two first models.

## References

- Amat, F., Carles, B., Muñoz, J., Rodon, T., (2020). From Political Mobilization to Electoral Participation: Turnout in Barcelona in the 1930s. *The Journal of Politics*. The University of Chicago Press
- Arrighi, B., Maume, D., (1994). Workplace Control and Political Participation. *Sociological Focus*, Vol. 27, No. 2, pp. 147-159.
- Arrondel, L., Masson, A., Verger, D., (2004). Mesurer les préférences individuelles pour le présent. *Economie et Statistique*, 374 (1), 87–128
- Assaad, R. (2014). Making sense of Arab labor markets: the enduring legacy of dualism. *IZA Journal of Labor & Development*, 3:6.
- Bekaj, A; Antara, L; (2018). Political Participation of Refugees: Bridging the Gaps. International Institute for Democracy and Electoral Assistance. ISBN: 978-91-7671-148-4.
- Binder, L.,(1977). Review Essay: Political Participation and Political Development. *American Journal of Sociology*, Vol. 83, No. 3, pp. 751-760.
- Bryan,C., Waltona , G., Rogersb , T., Dwecka, C., (2011). Motivating voter turnout by invoking the self. Edited by Brian Skyrms, University of California, Irvine, CA, and approved June 22.
- Campbell, A., (2002). Christopher J. Bryana,1, Gregory M. Waltona , Todd Rogersb , and Carol S. Dwecka. *The American Political Science Review*, Vol. 96, No. 3, pp. 565-574.
- Chen, M. and Harvey, J. (2017). The informal economy in Arab nations: a comparative perspective , WIEGO, accessed on 14 July at <https://www.wiego.org/sites/default/files/migrated/resources/files/Informal-Economy-Arab-Countries-2017.pdf>
- Daenekindt, S., De Koster, W., Van der Waal, J .(2019). Partner Politics: How Partners Are Relevant to Voting. *Journal of Marriage and Family* 82 (June 2020): 1124–1134DOI:10.1111/jomf.12619
- Delli, C. M., Sigel, R. S., & Snyder, R. (1983). Does it make any difference how you feel about your job? An empirical study of the relationship between job satisfaction and political orientation. *Micropolitics*, 3, 227-251.
- Deth, J.V, (2001). Studying Political Participation: Towards a Theory of Everything. Online working paper: <https://ecpr.eu/Filestore/PaperProposal/c8b57aab-51d9-4aca-b65d-4510ccfc19a3.pdf>
- Elbadawi, I., & Loayza, N., (2008). Informality, Employment and Economic Development in the Arab World. *Journal of Development and Economic Policies*. Volume 10-No.2
- Elden, J., (1981). Political Efficacy at Work: The Connection between More Autonomous Forms of Workplace Organization and a More Participatory Politics. *American Political Science Review*. Volume 75, Issue 1 , pp. 43-58.



- Esping-Anderson, Gøsta (1990). *The three worlds of welfare capitalism*. Princeton: Princeton University Press.
- Galiani, G., and Weinschelbaum, F., (2011). Modeling Informality Formally : Households and Firms. *Economic inquiry*. Volume 50, Issue 3
- Green, D. P., and Gerber, A. S. (2015). *Get out the vote: How to increase voter turnout*. Washington, D.C.: Brookings Institution Press.
- Gunther, I., and Launov, A., (2012). Informal employment in developing countries Opportunity or last resort?. *Journal of Development Economics*. 97, 88–98
- ILO, (2003). Statistical definition of informal employment: Guidelines endorsed by the Seventeenth International Conference of Labour Statisticians (2003). Online report.
- Kingston, P., & Finkel, S. (1987). Is There a Marriage Gap in Politics? *Journal of Marriage and Family*, 49(1), 57-64. doi:10.2307/352669.
- Lindsay J. Benstead, Ellen Lust. (2015). The Gender Gap in Political Participation in North Africa. <https://www.mei.edu/>
- Lipset, Seymour Martin. 1981. *Political Man: The Social Bases for Politics*. Baltimore: John Hopkins University Press.
- Lipset, Seymour Martin and W. Schneider. 1981. *The Confidence Gap: Business, Labour, And Government*. New York: The Free Press.
- Major, B.C. (2018). Postcards for Virginia Study – Brief Report.
- Mansfield, E. R., & Helms, B. P. (1981). Detecting Multicollinearity. *The American Statistician*, 36(3a), 158-160.
- Merouani, W., (2019). The Impact of Mass Media on Voting Behaviour: the Cross Country Evidence. Working Paper N°. 1330.
- Meroauni, W., El Moudden, C., Hammouda, N-E., (2018). Social Security Entitlement in Maghreb Countries: Who is Excluded? Who is not Interested? ERF working paper N°. 1264.
- Milbrath, Lester and L. M. Goel. 1977. *Political Participation*. Chicago: Rand McNally
- Nassif, G., (2020). Women's Political Participation in Lebanon and the Limits of Aid-Driven Empowerment Lebanon Support. Access on 20/07/2020 at <https://civilsociety-centre.org/>
- Nie, N., Powell, G., & Prewitt, K. (1969). Social Structure and Political Participation: Developmental Relationships, Part I. *American Political Science Review*, 63(2), 361-378.
- Peterson, S. A. (1990). *Political behavior*. Newbury Park, CA: Sage.
- Pop-Eleches, C., Thirumurthy, H., Habyarimana, J. P., Zivin, J. G., Goldstein, M. P., De Walque, D., . Sidle, J. (2011). Mobile phone technologies improve adherence to antiretroviral treatment in a resource-limited setting: A randomized controlled trial of text message reminders. *AIDS*, 25(6), 825.
- Refaei, M. M. (2015). Political participation in Egypt: Perceptions and practice. BASEERA.

- Roth,S., and Saunders, C (2018). Gender Differences in Political Participation: Comparing Street Demonstrators in Sweden and the United Kingdom. Sociology, Vol 53, Issue 3, 2019.
- Rudra, N.,(2002). Globalization and the Decline of the Welfare State in Less-Developed Countries. *International Organization* 56, 2, pp. 411-445.
- Siemiatycki, M., Saloojee, A;; (2003). Formal and non-formal political participation by immigrants and newcomers: understanding the linkages and posing the questions. *Canadian issue*. April 2003.
- Shehu, E., Nilsson, B. (2014). Informal employment among youth: Evidence from 20 school-to-work transition surveys. Printed by the International Labour Office, Geneva, Switzerland
- Sobel, R. (1993). From Occupational Involvement to Political Participation: An Exploratory Analysis. *Political Behavior* 15: 339–353.
- Stocker, L., & Jennings, M. (1995). Life-Cycle Transitions and Political Participation: The Case of Marriage. *American Political Science Review*, 89(2), 421-433. doi:10.2307/2082435
- Thornton,D., (2000). Political attitudes and participation of informal and formal sector workers in Mexico *Comparative Political Studies*, Vol. 33 No. 10, December 2000 1279-1309
- UNDP. (2016). Arab Human Development Report 2016: Enabling youth to shape their own future key to progress on development and stability in Arab region; online report : [www.undp.org](http://www.undp.org)
- Verba, Sidney and Norman Nie. 1972. *Participation in America: Political Democracy And Social Equality*. New York: Harper & Row.
- Welch, S., (1977). Women as Political Animals? A Test of Some Explanations for Male-Female Political Participation Differences. *American Journal of Political Science*, Vol. 21, No. 4, pp. 711-730.

## Appendix

**Table 1: Test of multicollinearity**

Model 1		Model2		Model 3		Model 4		
Variable	VIF	VI F	Variable	VI F	Variable	VIF	Variable	VI F
		8.		1.		1.		1.
Informal		31	Informal	35	Informal	41	Informal	23
		3.		1.		1.		1.
Gender		48	Job satisfaction	12	Job satisfaction	13	Job satisfaction	12
Confidence in gouvernement		4. 98		1. 07		1. 11		1. 07
		6.	Confidence in	1.	Confidence in	1.	Confidence in	
Education		87	gouvernement	01	gouvernement	01	gouvenment	1
				1.		1.		1.
Occupationnel statuts			Age	27	Age	35	Age	27
		1.		1.		1.		1.
Unemployed		15	Married	14	Education	28	Married	14
		1.				1.		
Student		12	Occupational status		Married	14	Occupational status	
		1.		1.				1.
Inactive		08	Unemployed	1	Occupational status		Unemployed	1
				1.		1.		1.
Job position			Student	11	Unemployed	11	Student	11
		3.		1.		1.		1.
Employee		91	Inactive	05	Student	17	Inactive	04
Family support and apprenties		1. 53				1. 05		
		2.	Job position		Inactive		Job position	
Urban		6	Employee	46	Job position		Employee	45
			Family support and apprenties	1. 44		1. 46	Family support and apprenties	1. 44
				1.	Family support and apprenties	1.		1.
			Urban	07		43	Urban	07
				1.		1.		
			private	15	Urban	08		
						1.		
					Private	16		
<b>Mean VIF</b>		<b>3.</b>	<b>Mean VIF</b>	<b>1.</b>	<b>Mean VIF</b>	<b>1.</b>	<b>Mean VIF</b>	<b>1.</b>
		<b>5</b>		<b>18</b>		<b>21</b>		<b>17</b>

**Table 2: Postestimation test of the overall reliability of the models<sup>6</sup>**

Model 1			Model 2			Model 4		
----- True -----			----- True -----			----- True -----		
Classified ~D	D	Tot al	Classified ~D	D	Tot al	Classified ~D	D	Tot al
+	0	0	+	34	29	+	482	269
		283			284			751
-	358	2475	-	514	2334	-	708	1452
		3			8			0
Total	358	283	Total	548	291	Total	1190	291
2475		3	2363		1	1721		1
Classified + if predicted Pr(D) >= .5			Classified + if predicted Pr(D) >= .5			Classified + if predicted Pr(D) >= .5		
True D defined as POL61 != 0			True D defined as POL62 != 0			True D defined as voteb != 0		
Sensitivity			Sensitivity			Sensitivity		
Pr( + D)			Pr( + D)			Pr( + D)		
0.00			6.2			50		
%			0%			%		
Specificity			Specificity			Specificity		
Pr( ~D)			Pr( ~D)			Pr( ~D)		
100.			77			37		
00%			%			%		
Positive predictive			Positive predictive			Positive predictive		
value Pr( D +)			value Pr( D +)			value Pr( D +)		
.			97			18		
%			%			%		
Negative predictive			Negative predictive			Negative predictive		
value Pr(~D -)			value Pr(~D -)			value Pr(~D -)		
87.3			95			22		
6%			%			%		
False + rate for true			False + rate for true			False + rate for true		
~D Pr( +~D)			~D Pr( +~D)			~D Pr( +~D)		
0.00			1.2			63		
%			3%			%		
False - rate for true			False - rate for true			False - rate for true		
D Pr( - D)			D Pr( - D)			D Pr( - D)		
100.			80			50		
00%			%			%		
False + rate for			False + rate for			False + rate for		
classified + Pr(~D			classified + Pr(~D			classified + Pr(~D		
+)			+)			+)		
.			46.			35.		
%			03			82		
%			%			%		
False - rate for			False - rate for			False - rate for		
classified - Pr( D -			classified - Pr( D -			classified - Pr( D -		
)			)			)		
12.6			18.			32.		
4%			05			78		
%			%			%		

<sup>6</sup> The model 3 is an ordered logit and post estimation test is different than the three other models. Rely on the individual significance of the coefficients/odds ratio which show estimation is good.

---

	<b>87.</b>		<b>81.</b>		<b>66.</b>
	<b>36</b>		<b>35</b>		<b>44</b>
<b>Correctly classified</b>	<b>%</b>	<b>Correctly classified</b>	<b>%</b>	<b>Correctly classified</b>	<b>%</b>

---

**Table 3: Link test for specification error.**

## Model 1

POL61	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
hat	-.1507216	.7973796	-0.19	0.850	-1.713557 1.412114
hatsq	-.3234902	.2202543	-1.47	0.142	-.7551807 .1082003
cons	-.950118	.6955347	-1.37	0.172	-2.313341 .4131049

## Model 2

POL62	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
hat	1.158168	.2334352	4.96	0.000	.7006433 1.615693
hatsq	.0656583	.0917202	0.72	0.474	-.11411 .2454267
cons	.0650355	.1506443	0.43	0.666	-.2302218 .3602928

## Model 3

POL64SS	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
hat	.8620588	.3201186	2.69	0.007	.2346378 1.48948
hatsq	.0436394	.0997983	0.44	0.662	-.1519616 .2392404
/cut1	-.3943537	.2452265			-.8749889 .0862814
/cut2	.6869151	.2451025			.2065231 1.167307
/cut3	1.806147	.2461307			1.32374 2.288554
/cut4	3.157376	.2480662			2.671175 3.643577

## Model 4

voteb	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]
hat	.988299	.0793062	12.46	0.000	.8328618 1.143736
hatsq	-.0190917	.0662509	-0.29	0.773	-.148941 .1107575
cons	.0064056	.0504824	0.13	0.899	-.092538 .1053492

**Table 4: Percentage of formal and informal workers participating to political activities by country**

	Involved in political party/movement	Participated in political meeting/electoral campaigns/politics via the internet	Speak about national politics regularly/often	Speak about international politics regularly/often	Speak about economic issues regularly/often	vote when election are called						
<b>Country</b>	<b>Formal</b>	<b>Informal</b>	<b>Formal</b>	<b>Informal</b>	<b>Formal</b>	<b>Informal</b>	<b>Formal</b>	<b>Informal</b>	<b>Formal</b>	<b>Informal</b>	<b>Formal</b>	<b>Informal</b>
<b>Algeria</b>	6.1	6.08	21.4	27.66	38	37.19	37.11	39.82	46.72	39.3	55.	38.3
<b>Egypte</b>	8.5	4.21	8.51	8.24	47.51	32.48	31.21	19.7	44.68	34.8	73.	63.1
<b>Lebanon</b>	20.29	22.49	25	16.63	55.3	34.96	38.53	28.61	72.06	54.0	28.	15.6
<b>Morocco</b>	34.34	25.67	53.54	37.97	28.28	23.26	29.29	20.59	26.26	24.0	35.	30.7
<b>Tunisia</b>	6.9	4.41	7.59	4.96	48.73	36.91	44.93	31.68	53.16	44.0	33.3	3