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Merouani, Walid; Jawad, Rana

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Article

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

Walid Merouani ^{1,2,*} and Rana Jawad ³

- ¹ Center for Research in Applied Economics for Development, Algiers BP197, Algeria
² Centre for Research in Economic and Management, University of Caen, 1400 Caen, France
³ Department of Social & Policy Sciences, University of Bath, Bath BA2 7AY, UK
* Correspondence: merouaniwalid@hotmail.fr

Abstract: Informal employment has long been a feature of Arab economies and as such, better understanding of the political participation of informal workers is important, especially given their involvement in social uprisings, such as during the Arab Spring in 2011. This paper tests for the first time the impact of informality of labour on political participation in five Arab countries: Algeria, Egypt, Lebanon, Morocco, and Tunisia. By using the European Union's 2015–2016 SAHWA survey and logistic regression models, we are able to show evidence of an association between political participation and informality through the negative impact of the latter on four indicators of political participation: affiliation to political parties/movements; frequency of participation in political activities; frequency of speaking about politics; and voting in elections. Furthermore, the paper confirms that age, gender and education are significant predictors of political participation in the countries analysed. We argue that these findings have relevant policy implications.

Keywords: informal workers; social security; political participation; voting; Arab countries



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1. Introduction

Over the last four decades, international scholarship on informal employment has grown substantially and now considers this type of work as a permanent feature of the global economy, especially in developing and transition economies (Teobaldelli and Schneider 2013). Informality has been studied extensively in a range of disciplines (Anthropology, Sociology, Economics) seeking in the main to define and measure it (Gërxhani 2004). However, much less is known about the political characteristics of informal workers, particularly their attitudes, values and behaviours (Baker and Velasco-Guachalla 2018; Başbay et al. 2018). This is perhaps to be expected given that it is only in recent years that scholars have begun to recognize informality as a rather common form of economic activity with some authors also advocating for greater policy support of informal workers' entrepreneurial spirit and community self-help initiatives (Williams et al. 2007).

Micro-level data about the political attitudes and behaviours of informal workers have become more readily available in the last decade and a healthy literature has emerged building on the work of Schneider (2004) and others around the direct association between democratic development and worker's political participation. Within the modest scholarship on the political profile of informal workers in developing country contexts (Balasubramanian and Sarkar 2020; Başbay et al. 2018; Rudra 2002; Thornton 2000), the Arab region remains an exception, an issue reflecting the marginal place of the Middle East more generally in political science scholarship (Cammatt and Kendall 2021).

For the first time, this paper provides a critical mapping of the political attitudes and behaviours of Arab informal workers and compares them to formal workers. This research focus makes a new contribution to the strand of scholarship which studies the

causes and characteristics of informality in relation to political and economic development, and has tended to classify informal workers as lacking political voice or residing in a “shadow economy” due to lack of effective democratic institutions (Gërxhani 2004; Schneider 2004). Indeed, the present focus on largely authoritarian Arab countries sheds new light on the agency of informal sector workers in these contexts and builds on an earlier literature around post-communist economies, which argued that informality poses a political challenge to dictatorships due to its prevalence in the local economy (Gërxhani 2004). To this end, although the evidence provided in this paper shows a strong negative association between informality and key variables of political participation, it does not totally negate the interest or engagement of informal workers in political affairs. Hence, this paper explores the relationship between informality and political participation and will answer the following research question: Do formal workers participate in politics more than informal workers?

This paper provides further scope to explore the variety of political profiles which the informal sector takes in a range of Arab political and economic settings. Arab countries are an especially important sub-region to study since, second to Sub-Saharan Africa, they have the highest levels of unemployment, informality, extreme working poverty and the lowest levels of social insurance coverage in the world (UNDP & ILO 2012; ILO 2020). In addition to this, they are vulnerable to political turmoil. The ILO (2020) estimates that around 85.1 per cent of youth in Arab states are in informal employment compared to 61.1 per cent for the adult population. Individual countries such as Morocco and Algeria have some of the highest rates in the world at nearly 70% (Gatti 2014, cited in Chen and Harvey 2017). In the political sphere, it is known that informality is a driver not only of civil unrest such as during the 2011 Arab spring and more recent uprisings in Lebanon, Jordan and Algeria, but also a factor in the recruitment of disenfranchised youth to militant religious groups.

The paper is based on estimating discrete choice models using SAHWA survey data (<http://www.sahwa.eu/>, accessed on 1 January 2022). This survey was undertaken by the European Union in 2015–2016 in the five Arab countries examined here and included 10,000 households (2000 in each country). This paper focuses on youth (in each household one young member was selected to respond to the questionnaire) in the Arab countries, giving particular attention to their way of life, socio-economic situation, views on migration, values and political mobilization/participation, as well as their importance for predictive research and for the designing of policy options for the future. The analysis presented 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 is an interesting difference by age, gender and confidence in the governments and political systems of the case study countries. Young female workers who mistrust government are also less likely to participate in politics. An innovative contribution of this paper is to incorporate job satisfaction into the analysis to show that informal sector workers enjoy marginally higher levels of work satisfaction than their formal counterparts.

The paper is organised as follows: Section 2 examines the wider literature on informality and political behaviour; Section 3 sets out the data and methods on which this paper is based, Section 4 presents the empirical results and Section 5 discusses the key implications, including some policy considerations.

2. Literature Review and Research Context

Following Williams et al. (2007, p. 403), informal employment is defined “as the paid production and sale of goods and services that are unregistered by or hidden from the state for tax and/or benefit purposes but which are legal in all other respects”. An additional qualification is needed, drawing from De Soto’s (1989) seminal study, which is that informality can be the result of workers “exiting” the formal sector due to cost–benefit factors

such as avoidance of taxation, or of exclusion from the formal sector due to the business practices or regulatory obligations imposed on the formal economy. The paper does not deal with the concept of “precarious employment” (Matilla-Santander et al. 2021) since this does not characterize the profile of the workers included in the SAHWA survey.

During the COVID-19 pandemic, informal sector workers, especially youth and women have been identified as the hardest hit categories in the Arab region and in urgent need of state interventions (UNESCWA 2020). New literature is beginning to highlight the importance of targeted social assistance benefits for informal sector workers (Bassier et al. 2021). However, events like the Arab Spring of 2011, as well international scholarship on other world regions like Mexico and India shows that informal sector workers have always been ready to mobilise according to their political interests and take advantage of state institutional weaknesses to reclaim public space. This may occur through mass street protests or organised cooperatives (Thornton 2000; Balasubramanian and Sarkar 2020).

In this paper we explore these issues in more depth in the Arab region. First, it is helpful to briefly situate the paper in the political context of each country. The countries discussed here share the common characteristic of centralized and semi-authoritarian states exercising strict controls over political and economic activity, with the exception of Lebanon which has a sectarian-based system of power sharing and a largely deregulated economy. In Algeria, 20 years of rule under previous President Bouteflika (1999–2019) severely limited political participation and protests in the capital city of Algiers until February 2019 when the “Hirak” (social mobilization) started, leading to the dissolution of Bouteflika’s regime. However, this informal mobilization at the street level did not lead to active political participation as demonstrated in the 2020 presidential election and November 2020 referendum which had a turnout of less than 40% and 23%, respectively. This seems very low if we compare to turnouts in European elections¹, but rather normal in many other regions. The former percentage was typical in US elections at least for some time. Yet, from the point of view of democracy such percentages are too low to demonstrate confidence in the formal processes of democracy, or to offer alternatives to violent, informal political participation. In Egypt, participation in elections has increased since the dissolution of the Mubarak regime however, the current climate is again characterized by political disaffection among large swathes of the population (Refaei 2015). In Lebanon, a prolonged political and economic crisis marked by soaring living costs and sectarian divisions continues to fuel riots and anti-government protest. The country is at impasse and although agreement has been reached on a new government with possible general elections taking place in 2022, the country has regressed immensely following the 2020 Port of Beirut explosion and now a crippling currency and fuel oil crisis.

In Morocco, despite King Mohamed VI’s initiative to revise the constitution and hold legislative elections in 2011, the formal levels of political participation did not improve as shown in the parliamentary elections of 2016 when voter turnout was just below 43%. Many protests have taken place as observed by NDI² and MEMO³. In more positive contrast, Tunisia witnessed the most successful democratic transition following the 2011 Arab uprisings. 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 2019⁴. 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 population group of all 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).

Moving to the current state of academic scholarship on informality in the Arab region, this remains scant with hardly any attention given to the political characteristics of informal workers. Leading authors such as Assaad (2014) and Elsayed and Wahba (2019) have focused on the macro-level economic indicators of informality rather than the political profile of informal workers themselves. 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 economy has been examined in greater depth than informality in general. As seen in Benstead and Lust (2015), there is strong evidence about 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.

Assaad (2014) has characterized Arab labour markets as dualist in the political sense, due to the deliberate practices of Arab governments in using employment opportunities and related benefits for political gain—also known more widely in the literature on Arab political economy as the “authoritarian bargain”. In this sense, formal sector jobs, especially in the public sector are a tool for political co-option and informal work is a symptom of political exclusion or an indefinite survival strategy for youth and women especially. Egypt has received relatively more scholarly attention in this regard though the focus remains on the nature and scope of informality in the economic sense (Elsayed and Wahba 2019). One recent study has included Egypt in a comparative analysis (Başbay et al. 2018), arguing that there is a strong correlation between informal work and low levels of political participation. This supports earlier studies such as by Elbadawi and Loayza (2008) who note that informality is a “complex multi-faceted phenomenon” resulting from the high cost of formal work in Arab countries, complex regulatory frameworks, taxation systems and other organizational burdens.

In terms of the international literature where the theoretical framing of informality has been most studied, Nie et al. (1969) set the tone for a new generation of researchers focusing on micro-level analysis: 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. recognised 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) recognized that political participation varies according to socioeconomic status. Welch (1977) 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. Aguilar et al. (1998) challenged the issue of political participation of informal workers in Costa Rica and Mexico by arguing that informal workers who are involved in professional associations are more likely to participate in political activities such as volunteering in political campaigns or engaging in political protest. Rudra (2002) showed 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. On the other hand, Campbell (2003) has focused on senior citizen’s political participation by analysing 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.

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 and Maume (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. Elden (1981) built on this literature by studying satisfaction with work as a predictor of political participation. This variable forms an important pillar of the present analysis which is generally ignored in the current literature (Flavin and Keane 2012). Indeed, Flavin and Keane (2012)

show that the populations that are satisfied with their life are more likely 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. Indeed, [Thornton's \(2000\)](#) study of Mexico does not adequately explain the different impacts informality has on belonging to professional bodies, voting behaviour or political support. More recent studies include, [Holland and Hummel \(2022\)](#), who argue that recent studies switched from analysing informality as a dependent variable to thinking about how informality influenced a range of political outcomes; the authors provide a roadmap to understanding the political consequences of informality in Latin America by and suggest a new definition of informality. This definition consists of using an index of informalities that classify workers individuals as less to more formal. [Hummel \(2021\)](#) finds that informal workers organize and join workers organizations in many countries, particularly when government encourage them to do. [Başbay et al. \(2018\)](#) also claim to distinguish between voting participation and other forms of political participation, but do not effectively show how they do this. [Daenekindt et al. \(2019\)](#) note that voting alone is not a sufficient measure of political participation. One interesting study is from [Baker and Velasco-Guachalla \(2018\)](#) how failed to show a significant impact of informality on political participation in Latin America. Using microdata and three proxies of informality (Vote turnout, political engagement-mobilization, and policy preferences/preference for noncontributory over contributory social protection), the empirical result showed that informality has (a small) negative impact on political participation only in few countries, and the regional aggregated results were not in favour of arguing a negative impact of informality on political participation. The authors explained those results by the revisionist nature of informality and the integrated labour market in Latin America. The authors argue that those results could be different in other regions, which this article will confirm in the Arab region. Another study by [Baker and Dorr \(2022\)](#) has conducted a meta-analysis, showing that results of the previous quantitative studies, on the impact of informality on voting in Latin America, are mixed and there is a need to do a summary of the overall finding. The authors argue that the impact of informality on voting turnout is negative, but the magnitude of the effect is small.

In this article, we address this issue by testing the impact of informality on voting behaviour but also on other forms of political participation such as belonging to political parties, participation in political meetings and discussing politics with peers. Notwithstanding the importance of other forms of non-formal political participation such as involvement in civic organization, participation in protest, and activism ([Siemietycki and Saloojee 2003](#); [Bekaj and Antara 2018](#)), this paper focuses on formal political participation which refers to activities in relation to governments, politicians, or political parties. Those political activities are important to know to foster as they could be an alternative to violent informal political participation

In sum, the main aim of this paper is to present a robust analysis of the relationship between informality and political participation by using new and more reliable measures of political participation that are especially insightful for the Arab region. These are explained in the next section. The paper would add to the wider world literature on informal work and political attitudes but for now, we highlight the following key contributions to the academic and policy literature as follows:

1. Understanding political participation is critical for Arab governments to address population needs. To the best of our knowledge, this is the first paper to give attention to informal workers' political participation in Arab countries and how this could be enhanced. As such, this contributes a progressive step towards the formalization of labour and achievement of Sustainable Development Goal (SDG) 8 on decent jobs.
2. The paper provides an Arab region perspective on informality and political participation which is missing in the existing literature. This in turn advances scholarship on

a politically important region of the world and raises the issue of whether political participation in developing country contexts simply takes on particular forms rather than being largely absent (Teobaldelli and Schneider 2013).

3. The paper provides a more robust analysis of political participation beyond the limited scope of voting (Daenekindt et al. 2019) and adds other measures such as affiliation to a political party, participating in political meetings, and frequency of discussion of political topics.

3. Data and Methods

3.1. Data

As mentioned above, the paper is based on estimating discrete choice models using SAHWA survey data (<http://www.sahwa.eu/>, accessed on 1 January 2022). This survey was undertaken by the European Union in 2015–2016 in the five Arab countries examined here (Algeria, Morocco, Egypt, Tunisia and Lebanon) and included 10,000 households. (2000 in each country). Random (stratified) sampling methods have been used making the sample representative of the youth population (15–29 years old). The surveys focused on youth (one young member in each household was selected to respond the questionnaire, using Kish method) in the case study countries, giving particular attention to their way of life, socio-economic situation, migration, values, and political mobilization/participation. The analysis explores the following variables:

3.2. The Dependent Variables

The 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 dependent variables is a dummy with the value of one if respondents belong to a political party or political movement⁵. The second dependent variable is dummy, made up of a combination of three other dummy variables asking respondents whether they have participated in political party meetings, election campaigns or whether they participated in politics via the internet during the last 12 months⁶. The third dependent variable build relying in three other variables⁷, it is a dummy equal to 1 if the respondent talks regularly, often or sometimes at least about one of the issues: National political affairs; International and regional political affairs; Economic issues. The fourth dependent variable asks respondents whether they vote in elections⁸.

3.3. The Independent Variables

Informality is the main predictor of political participation in this paper. The variable of informality is measured using the International Labour Organisation's (ILO 2003b) definition which asks *whether workers are enrolled in social security schemes*; they are informal workers who are not affiliated to social insurance system. The full definition of informality 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 (ILO 2003a, p. 2).

Furthermore, we include in our regression other independent variables such as job satisfaction⁹ which may be an interesting predictor of political participation (Elden 1981; Peterson 1990; Delli Carpini et al. 1983), in addition to other sociodemographic variables in order to compare our results with the existing literature This is presented in the next section.

4. Method

Using logit models, we regress the four dependent variables of political participation on the variable of informality, and we estimate the following model:

$$PP_{i,k} = \beta + \gamma INF_i + \sum_{k=1}^r \varnothing_k SD_{i,k} + \varepsilon_i$$

$$PP_{i,k} = \Lambda\left(\beta + \gamma INF_i + \sum_{k=1}^r \varnothing_k SD_{i,k}\right)$$

in which

$$\Lambda(z) = \exp(z) / [1 + \exp(z)]$$

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. SD is a vector of sociodemographic control variables (age, gender, education, etc). Finally, β is a constant and ε_i is an error term.

We estimate the odds ratio (γ , \varnothing_k) for the model above. 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 A1 of the Appendix A shows that all VIFs are low hence, no multicollinearity problem exists in our models.

We end this section by noting the limitations in the data: the SAHWA survey only includes youth aged 16 to 29 years for whom political participation is might be different from older citizens. The second limitation is the sample size which is not very large. Given this, we focus only on workers and the high youth unemployment rate in the focus countries. In addition, the reliance on subjective questions in the SAHWA survey to measure certain variables such as job satisfaction could be a limitation because of the possibility of hidden information and differing perceptions of satisfaction. This might be due to the context of the survey or the way in which the question is posed.

5. Empirical Analysis

The empirical analysis starts with descriptive statistics about the main variables of this research. After cleaning the data, the sample size was reduced to workers (2485 respondents/workers, 67% of whom are informal). It is worth noting that we run weighted models. The weighting helps make our sample representative of the general population and addresses possible over- or under-representation of some groups of workers. This is why this sample size changes 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.

The figure above displays the proportions of formal and informal workers who 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 a political party or movement. This proportion is lower for informal workers (12%). However, the gamma test¹⁰ (Gamma = 0.09) shows that the difference is not significant. The figure also shows that 22% and 18% of formal and informal workers, respectively, have participated in political meetings or electoral campaigns or have participated in political activities 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 with 46% of them (in contrast to 33% of informal workers) declare they speak regularly or often about national politics with their parents and friends/colleagues (Gamma test = 0.23). Formal workers (37%) speak more frequently about international political affairs than do informal workers (27%) (Gamma test = 0.19). When it comes to economic issues, 54% of formal workers declare they speak regularly or often about economic 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 also show 46% of formal workers vote during elections. This proportion is lower (38%) for informal workers (Gamma test = 0.12).

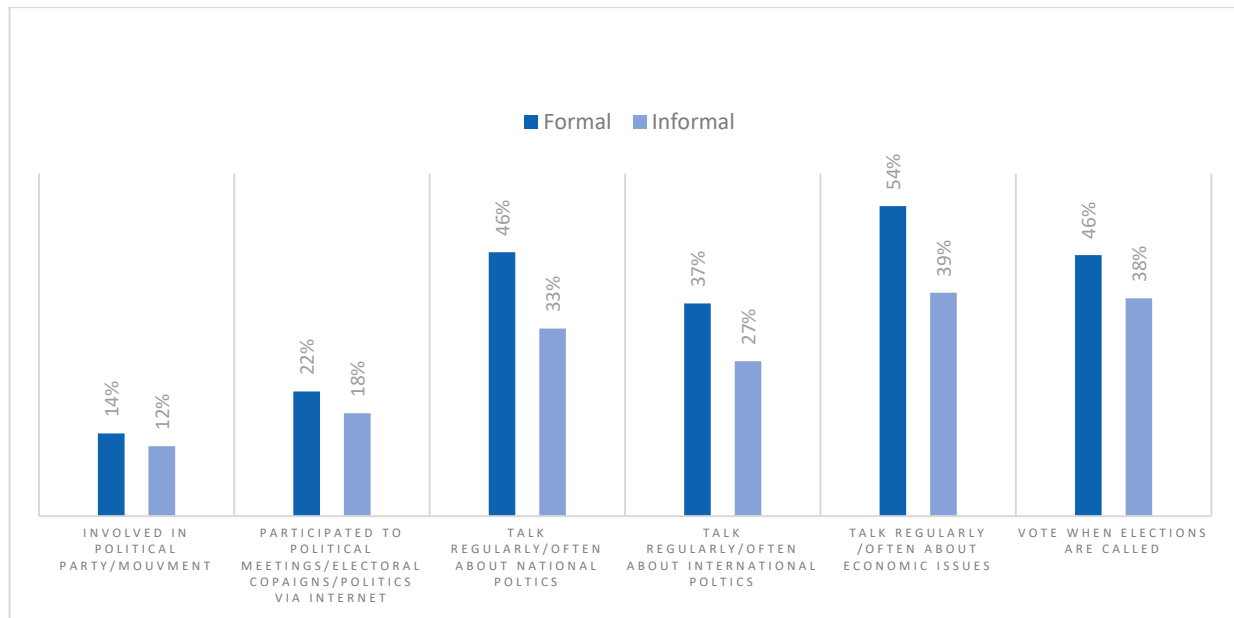


Figure 1. Political participation of formal and informal workers. Source: SAHWA survey—www.Sahwa.eu accessed on 10 June 2021.

Even if the Gamma test is not very high, the descriptive statistics above show that informal workers are less engaged in formal politics, and this is observed across the five Arab countries (see Table A3 in the Appendix A). However, to test the significance of the differences highlighted above, we include other variables and run four econometric models: Model A 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 behaviour. These are displayed in Table 1 below.

Table 1 displays the output of our econometric models. Our hypothesis about the negative impact of informality on political participation is confirmed by the models. Indeed, informal workers may not be interested in politics given that their income and jobs do not depend on formal government politics. This may imply that they are indifferent to government or policy changes because they perceive these as not having a direct impact on their lives. Furthermore, these workers may feel alienated by the inaction of successive governments to improve their wellbeing. This result is in line with Campbell's (2003) self-interest hypothesis in his USA study, which argues that elderly or pensioner-age low-income citizens are more likely to participate in social security-related voting because their income (and therefore political interest) is mainly derived from the formal social security system. Further parallels between our results can be found in the work of Lipset (1981), Rudra (2002) and Amat et al. (2020) who show that manual and low skilled jobs do not allow workers to develop their knowledge and understanding of politics, hence, they are less likely to be formally politically active.

Table 1. Logit models predicting political participation.

Variables	(Model A: Involvement)	(Model B: Participation)	(Model C: Talk Politics)	(Model D: Voting)
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Informal	0.900 (0.146)	0.705 ** (0.0993)	0.740 ** (0.0919)	0.740 *** (0.0835)
Job Satisfaction	0.919 (0.148)	0.636 *** (0.0859)	0.945 (0.104)	0.886 (0.0939)
Male	1.262 (0.228)	1.650 *** (0.268)	1.239 * (0.156)	1.072 (0.129)
Confident in government & political institutions	1.546 *** (0.159)	1.616 *** (0.148)	1.263 *** (0.108)	1.656 *** (0.137)
Age	0.995 (0.0188)	0.961 ** (0.0159)	1.012 (0.0142)	1.180 *** (0.0173)
Married	1.566 *** (0.225)	1.146 (0.144)	1.477 *** (0.164)	1.175 (0.122)
Education	1.230 *** (0.0972)	1.070 (0.0715)	1.312 *** (0.0708)	1.331 *** (0.0710)
2. Employee	0.769 * (0.122)	0.660 *** (0.0901)	0.947 (0.123)	0.706 *** (0.0864)
3. Contributing family workers and apprentices	0.978 (0.245)	0.739 (0.160)	1.191 (0.225)	0.732 * (0.129)
2. Industry	1.235 (0.372)	0.744 (0.177)	1.083 (0.211)	0.822 (0.155)
3. Construction	1.654 (0.511)	0.952 (0.219)	1.352 (0.257)	0.777 (0.150)
4. Health Services	0.889 (0.376)	0.631 (0.212)	1.705 * (0.525)	1.041 (0.271)
5. Education sector	1.236 (0.439)	1.342 (0.379)	1.173 (0.313)	0.590 ** (0.150)
6. Trade	1.034 (0.291)	0.589 ** (0.126)	1.105 (0.195)	0.616 *** (0.110)
7. Other commercial services	1.403 (0.386)	0.679 * (0.140)	1.690 *** (0.311)	0.737 * (0.129)
8. Administration, non-commercial services	0.725 (0.242)	0.573 ** (0.137)	1.222 (0.262)	0.666 ** (0.135)
Urban	1.175 (0.169)	1.179 (0.149)	0.932 (0.0996)	0.765 *** (0.0793)
2. Egypt	0.739 (0.202)	0.269 *** (0.0516)	0.448 *** (0.0682)	2.772 *** (0.411)
3. Lebanon	3.786 *** (0.968)	0.884 (0.140)	1.515 ** (0.252)	0.279 *** (0.0411)
4. Morocco	5.918 *** (1.545)	2.441 *** (0.426)	0.418 *** (0.0706)	0.669 ** (0.119)
5. Tunisia	0.822 (0.247)	0.183 *** (0.0422)	1.098 (0.179)	0.911 (0.135)
Constant	0.0214 *** (0.0157)	1.043 (0.650)	1.122 (0.587)	0.0114 *** (0.00591)
Observations	2805	2805	2805	2805

Robust standard errors in parentheses¹¹ *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Indeed, Model A in the table above shows that informal workers are 10% times less likely than formal workers to be affiliated with a political party or movement, but the effect was not statistically significant. Model B shows that informal workers are 30% less likely to participate in political meetings, electoral campaigns or internet-based politics. Model C shows that informal workers are 26% less likely to talk about political and economic issues with parents and peers. Finally, Model D shows that informal workers are 26% less likely to vote compared to the formal workers. We now discuss the independent variables in more detail.

5.1. Job Satisfaction

Very few studies have addressed the impact of job satisfaction on political behaviour. [Peterson \(1990\)](#) and [Delli Carpini et al. \(1983\)](#) are among the few authors to deal with this issue showing the significant impact of job satisfaction on political attitudes and behaviours. 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 jobs are less likely to participate in politics and take an interest in state affairs which opposes [Delli Carpini et al. \(1983\)](#) who finds that dissatisfied individuals participate less in politics. The results reported here can be explained by the fact that workers who are satisfied with their jobs do not necessarily wish to change social and economic policies, hence, their low levels of political participation. Model B shows that workers who are satisfied with their job are 37% less likely to participate in political meetings, electoral campaigns or online politics. The other models do show similar effect, but the results were not statistically significant.

5.2. Gender

The gender dimension with regard to political participation is well-documented in developed country scholarship ([Roth and Saunders 2018](#)). The results of Models B and D are in line with these previous studies ([Roth and Saunders 2018](#); [Welch 1977](#)). Males are more likely to participate in politics compared to females in the five case study countries. Indeed, the econometric results show that males are 1.65 times more likely to participate in political meetings, electoral campaigns and online politics (Model B). Model C show a significant gender impact on the likelihood of talking politics (odds ratio = 1.23). Model D does not show a significant gender difference in the likelihood of voting. This low political participation of women may be due, as explained by [Welch \(1977\)](#), to women having more care responsibilities at home, and jobs that do not enable political participation. This result is consistent with [Benstead and Lust \(2015\)](#).

5.3. Confidence in Government

One other interesting predictor of political participation is how much confidence workers have in government and the political system. This article builds a variable of confidence in government by calculating a Cornabach's alpha for five variables¹² 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 enhances political participation. Model A shows that workers who are confident in government and the political system are 1.54 more likely to be involved in a political party/movement. Model B shows that workers who have confidence in government are 1.61 times more likely to participate to political meetings, electoral campaigns/participate via the internet. Model D shows that workers who have confidence in government are 1.26 times more likely to talk about politics with their peers. Model D shows that all workers who have confidence in government and the political system are 1.65 more likely to vote at elections. These results are in line with [Torney-Purta et al. \(2004\)](#) and [Sharoni \(2012\)](#). The latter author was especially interested in political participation via

the internet, and he found that confidence in government increases political participation via the internet. The interpretation of those results is quite challenging. It may be possible to argue that people who do not trust government have a greater motive to change things politically. At the same time, those who trust government may think that change is indeed possible, since they trust. We argue here that later research could differentiate between support of government decisions (which could reduce participation) and confidence in the genuineness of the democratic processes (which gives a rational reason for participation).

5.4. 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 has a small range since the SAHWA survey targeted only youth¹³ (16–29 years old). Nevertheless, the econometric models show an interesting variation in political participation by age. Model B shows that an increase in age by just 1 year decreases the likelihood of participation to political meetings, electoral campaigns or internet-based politics, by 10%. However, Model D shows that an increase in age by just 1 year also increases the likelihood of voting in elections by 1.18 times. This result is consistent with a survey conducted by one of the authors (BBC Media action survey, Author A 2019).

5.5. Education

The impact of education on political participation is also significant given that a high level of education allows more understanding of politics and state affairs hence, more political activities or participation. This is confirmed by various previous studies (Flavin and Keane 2012; Arrighi and Maume 1994). The results of this article are in line with the literature showing a positive relationship between education and political participation. The output of Model A above shows that higher level of education increases involvement in political parties by 1.23 times. Model C shows that highly educated workers are 1.30 times more likely to talk about political affairs and economic issues with their parents, friends and colleagues. Model D shows that highly educated workers are 1.33 times more likely to vote.

5.6. Marital Status

Marital status is also known to play a role in political attitudes and orientations (Daenekindt et al. 2019; Kingston and Finkel 1987). The results of our models (A, C and D) confirm the significant effect of marital status on political participation. Indeed, Model A shows that married workers are 1.56 times more likely to be involved in political parties, and Model C shows that married workers are 1.47 times more likely to talk about political affairs and economic issues. These results are in line with the literature showing that married people vote more often than unmarried (Kingston and Finkel 1987; Leighley and Nagler 2013).

5.7. Employment Status

The result of the econometric analysis presented here shows interesting differences in political participation by employment status.

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 or movements, as shown in Model A. Model B shows that employees are less likely to participate in political meetings and electoral campaigns or participate in politics via the internet. Model D shows that employees are less likely to vote. Furthermore, Models D shows that contributing family workers and apprentices are less likely to be vote when election are held.

5.8. Urban vs. Rural Differences

While it is not statistically significant, the effect of living on the urban area on political participation is positive according to the model A and B, which is consistent with what we know from the literature (Parker et al. 2018) and can be explained by the fact that the urban environment enhances political activities (Welch 1977). However, workers in urban areas are 25% less likely to vote. These results confirm the specific characteristic of voting activity and that focusing only on voting to measure political participation could be insufficient.

5.9. Sectorial Analysis

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. Model B shows that compared to agriculture sector workers (reference variable), workers in trad sector, in commercial services and those in administration/non-commercial sector are less likely to participate to political meetings. Model C shows that workers in Health services and those working on commercial services are more likely to talk about politics. Model D shows that workers of the education sector, those working in the trade sector, in commercial services and administration/non-commercial services are less likely to vote than workers who work in the agricultural sector.

5.10. Cross Country Comparison

Last but not least, the cross-country comparison shows that comparing to Algeria (reference variable) workers in Lebanon and Morocco are 3.78 and 5.91 times, respectively, more likely to be involved in political parties/movements (Model A). The Model B shows that workers in Egypt and Tunisia are 74% and 82% less likely to participate to politics comparing to workers in Algeria. However, workers in Morocco are 2.44 times more likely to participate. Model C shows that workers in Egypt and Morocco are 55% and 58% less likely to talk about politics, however, in Lebanon workers are 1.51 times more likely to talk about politics. Finally, Model C shows that workers in Egypt are 2.77 times more likely to vote. However, in Lebanon and Morocco, workers are 72% and 33%, respectively less likely to vote compared to workers in Algeria.

Furthermore, we have run the four models for each country separately (See Tables A3–A6 in the Appendix A); the findings show that while the impact of informality on political participation was not statistically significant for all countries and all indices, the results highlight the negative trend in the impact of informality on political participation. Indeed, the impact of informality on “involvement” index was negative in three out of five countries. The impact of informality on the “participation” index was negative in four out of five countries (statistically significant in Lebanon). The impact of informality on the “talk politics” index was negative in four out of five countries (statistically significant in Lebanon). The impact of informality on “voting” index was negative in four out of five countries (statistically significant in Algeria and Lebanon). Concerned about the low sample size in each country, we have run logistic regressions including only informality variable as predictor of political participation (see Appendix A Tables A7–A10). The findings were more in favour of the negative effect of informality on political participation. For instance, the effect of informality on voting turnout was negative and statistically significant in all the four countries. Finally, we believe that the reduced sample size, when working at the country level, does not allow to have statistically significant result and this multilevel analysis will require further research and more effort regarding data collection.

Finally, we have completed a robustness check for the four models. We investigate how the results are affected when one or more of the variables previously identified as potential determinants of political participation are omitted (Barslund et al. 2007). The four regressions have been run 64 times¹⁴ having informality as core variable (included in all 64 regressions) and the other variables as a testing/secondary variables. The negative impact of informality has been confirmed. Indeed, while the effect was not statistically

significant¹⁵ when using involvement index as a dependent variable (Model A), the effect of informality on this variable was negative in 58 out of 64 models. The Model B shows that informality has a negative and statistically significant effect on participation index, and this has been confirmed through the 64 regressions. A negative and statistically significant effect of informality on talk politics index (Model C) has been confirmed through the 64 regressions. Finally, the model D shows that informality have negative effect on voting likelihood in 51 out of 64 regressions and this effect was statistically significant in 23 out of 64 regressions.

6. Conclusions and Key Policy Implications

The Arab region has long been criticized for its lack of productive and inclusive growth (ILO 2022), a factor directly fuelling the increase in informal employment and political discontent there. This article has tackled the little understood issue of informal Arab workers' political participation which is an important public policy matter for the region and yet remains poorly addressed in the academic literature. It is also important to note the particularly harmful impact of the current COVID-19 pandemic on informal workers (UNESCWA 2020) which has highlighted the long-standing social inequalities and gaps in social protection systems in the Arab countries. In the wake of the pandemic, the International Monetary Fund (IMF) issued a new reminder in its 2020 regional economic report of the need to address the informal work challenge in the Middle East. The report emphasised the scarring effect of informality as well as its direct linkages with soaring levels of social inequality. Some positive policy action has taken place, for example in Egypt and Morocco (IMF 2020) social protection reforms have extended benefits to informal sector households. Egypt's major non-contributory cash transfer programmes, Takaful and Karama, (which follow previous government attempts at "financial inclusion") are notable here, as well Morocco's new digital measures to extend health insurance and cash assistance to informal workers (Morocco World News 2021). Against this backdrop of multidimensional crises in the Arab region, the discussion now considers the conceptual and policy implications of our findings.

The paper has examined the most significant predictors of political participation using econometric models. With further research, these results can be used to inform policies that seek to enhance the political participation and well-being of informal workers, especially given the urban/rural divisions in Arab society. The paper highlights an important result which is that informal workers are less likely to participate in politics and state affairs, and this poses a potential policy challenge given that these categories of workers are not well understood yet they are frequently involved in protests and riots. Rural workers also remain politically disengaged according to our analysis, reflecting a long-standing problem of regional imbalance in the Arab countries and lack of adequate government policy to support the agricultural sectors through social protection benefits or productive labour market policies. Similarly, women continue to participate at much lower levels than men at a time when they form a large proportion of the informal workforce and, in comparison to global averages, are least likely to be employed.

Although the paper has robustly tested the effect of informality on political participation and showed that informal workers are less likely to be politically engaged, it has not proved causality which gives further merit to the analysis of the political characteristics of young informal workers in the Arab region. In particular, further research seeking to examine causality may need to better account for possible unobservable factors or latent variables (such as individual personality traits, cultural or emotional drivers and access to social capital) that determine political participation among youth in Arab countries.

Overall, the results show that the trends in the Arab region correspond with the international literature in terms of there being lower levels of political participation among informal workers (Başbay et al. 2018; Thornton 2000; Schneider 2004) however, we have been able to show for the first time that informal Arab workers are not totally disengaged

from formal political activities. This is a significant finding that merits further investigation especially in the conflict-prone contexts of the Arab countries.

Moving now to some of the key policy implications arising from this study, first we note that policymakers may need to address the social, emotional and psychological factors influencing political participation in order to develop interventions that help local populations increase their political engagement. These interventions may be adapted to meet the social context of each category of population as our analysis shows that different categories of workers behave differently toward politics. In addition, we argue that government policy in the case study countries needs to consider the differential in political behaviour between formal and informal workers. Based on this result, we suggest that enhancing political participation could be achieved through incentives or 'policy nudges' that facilitate political participation and are more aligned with workers' identities. However, the literature is inconclusive on the effectiveness of these incentives or policy nudges (Major 2018; Bryan et al. 2011) and further research is needed to better assess the causal relationships between incentives and workers' political behaviours.

Political participation should also be facilitated for women and youth, given that these categories have been found to be less engaged politically in this paper. Access to information about political participation and the removal of legal or bureaucratic barriers to free association could help in this regard. Accordingly, awareness raising campaigns that target informal workers might play a role in educating informal workers about the importance of political participation for democracy and good governance. This could be conducted through mass media campaigns as propagated by behavioural economists (Pop-Eleches et al. 2011). In this vein methods for encouraging informal workers to participate in politics could be undertaken by using phone calls, direct emails or social media (Green and Gerber 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 a previous study by one of the authors (Merouani 2019).

The above examples constitute direct means by which government interventions can encourage or facilitate political participation among informal workers. One question that remains is whether increased political participation of informal workers is desirable for Arab governments in the first place. Indeed, the track record of some countries in the region cautions against the feasibility of these measures, for example Egypt has tightened its civil society laws in recent years.

Hence, it is also worth considering the indirect policy measures that may serve to enhance the political participation of informal workers. Notable policy recommendations that suit the Arab regional context have been outlined by Chen and Harvey (2017): (1) promoting formal employment through pro-employment macroeconomic and sectoral policies that encourage sustainable micro, small and medium enterprises (MSMEs); (2) promoting formalization by reducing the cost of transition to formality through policies and a regulatory environment that remove barriers to formalization, while protecting workers' rights and increasing the benefits of being formal by promoting a greater awareness of the advantages that come with formalization (such as business development services for MSMEs, access to the market, credit programmes, and training); and (3) promoting decent work in the informal economy by developing a national social protection floor for all, with minimum wage and health and safety incentives, as well as organizing workers from the informal economy to form production conglomerates or cooperatives.

Indeed, extending social security rights or even targeted social assistance benefits (especially in the current COVID-19 pandemic) to informal workers may promote greater political engagement, rather than civic unrest or detachment (Bassier et al. 2021). According to Campbell (2003), social security could enhance informal workers' political participation by: (1) giving more income and free time for politics, and (2) connecting their well-being to government programmes. These propositions are important given that in one of the author's previous article's (Merouani et al. 2021), the SAHWA dataset was used to show that there is a part of the working population that is excluded from social security.

Although this paper cannot fully engage with the broader debate on formalization of the labour market, it is worth highlighting here that Arab labour markets are over-regulated (Elsayed and Wahba 2019) and overdue governance reforms could better address the aspirations of informal workers, not least because they make up such a large proportion of the working population in Arab countries. As argued in Chen and Harvey (2017) the aim of policy should be the integration of informal employment into the economy in order to facilitate economic growth and better access to social protection by informal workers. Understanding and activating the political engagement of informal workers holds the key to these policy reform processes.

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 a range of other socio demographic variables. The findings clearly show the negative impact of informality on political participation. Further we have also verified the effect of other sociodemographic variables on their ability to predict political participation. Although only establishing association between the variables, the data reported here open a robust pathway for further rigorous causal analysis. The findings are important in charting a new field of study focusing on the political profile of informal workers in the Arab region who constitute an important population that is of relevance both to the advancement of international scholarship on informality as well as policy reforms in Arab countries aiming to improve political participation and social cohesion. These issues are especially important now due to the combined impact of conflict and the COVID-19 pandemic in the Middle East.

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Appendix A

Table A1. Test of multicollinearity.

Model 1		Model2		Model 3		Model 4	
Variable	VIF	Variable	VIF	Variable	VIF	Variable	VIF
Informal	8.31	Informal	1.35	Informal	1.41	Informal	1.23
Gender	3.48	Job satisfaction	1.12	Job satisfaction	1.13	Job satisfaction	1.12
Confidence in government	4.98	Gender	1.07	Gender	1.11	Gender	1.07
Education	6.87	Confidence in government	1.01	Confidence in government	1.01	Confidence in government	1
Occupational status		Age	1.27	Age	1.35	Age	1.27
Unemployed	1.15	Married	1.14	Education	1.28	Married	1.14
Student	1.12	Occupational status		Married	1.14	Occupational status	
Inactive	1.08	Unemployed	1.1	Occupational status		Unemployed	1.1
Job position		Student	1.11	Unemployed	1.11	Student	1.11
Employee	3.91	Inactive	1.05	Student	1.17	Inactive	1.04
Contributing family workers and apprentices	1.53	Job position		Inactive	1.05	Job position	
Urban	2.6	Employee	1.46	Job position		Employee	1.45
		Contributing family workers and apprentices	1.44	Employee	1.46	Contributing family workers and apprentices	1.44
		Urban	1.07	Contributing family workers and apprentices	1.43	Urban	1.07
		private	1.15	Urban	1.08		
				Private	1.16		
Mean VIF	3.5	Mean VIF	1.18	Mean VIF	1.21	Mean VIF	1.17

Table A2. Percentage of formal and informal workers participating to political activities by country.

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	
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Algeria	6.11	6.08	21.4	27.66	38	37.19	37.11	39.82	46.72	39.38	55.46	38.3
Egypt	8.51	4.21	8.51	8.24	47.51	32.48	31.21	19.7	44.68	34.81	73.76	63.19
Lebanon	20.29	22.49	25	16.63	55.3	34.96	38.53	28.61	72.06	54.04	28.53	15.65
Morocco	34.34	25.67	53.54	37.97	28.28	23.26	29.29	20.59	26.26	24.06	35.35	30.75
Tunisia	6.96	4.41	7.59	4.96	48.73	36.91	44.93	31.68	53.16	44.08	50	33.33

Table A3. Logistic regression on the involvement index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Morocco)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Informal	0.630 (0.333)	0.802 (0.357)	1.134 (0.273)	0.845 (0.283)	1.180 (0.629)
Job Satisfaction	1.827 (0.842)	0.801 (0.340)	0.582 ** (0.158)	0.945 (0.294)	0.916 (0.407)
Male	0.466 (0.246)	0.398 * (0.208)	2.182 *** (0.545)	1.290 (0.480)	1.432 (0.865)
Confident in government & political institutions	1.406 (0.341)	1.617 ** (0.357)	8.258 *** (3.580)	0.891 (0.185)	1.801 * (0.614)
Age	1.105 * (0.0618)	0.965 (0.0707)	1.010 (0.0301)	0.924 ** (0.0337)	0.968 (0.0717)
Married	0.415 (0.233)	2.248 (1.118)	1.933 *** (0.440)	2.057 ** (0.619)	0.721 (0.395)
Education	0.864 (0.244)	1.646 * (0.489)	1.158 (0.145)	1.147 (0.166)	2.153 *** (0.529)
2. Employee	0.819 (0.445)	0.951 (0.808)	0.757 (0.168)	1.325 (0.404)	0.977 (0.624)
3. Contributing family workers and apprentices	1.481 (0.949)	4.990 * (4.489)	0.733 (0.318)	1.411 (0.934)	0.393 (0.363)
2. Industry	1.049 (1.286)	3.906 ** (2.562)	0.665 (0.429)	0.907 (0.491)	5.116 (6.004)
3. Construction	2.859 (3.071)	2.048 (1.663)	2.384 (1.545)	0.994 (0.596)	3.145 (3.554)
4. Health Services	0.673 (0.992)	0.720 (0.818)	0.831 (0.634)		2.865 (3.885)
5. Education sector	0.325 (0.569)	3.149 (3.197)	0.851 (0.534)	2.087 (1.759)	5.381 (7.137)
6. Trade	1.476 (1.590)	0.781 (0.651)	1.141 (0.646)	0.811 (0.361)	1.938 (2.409)
7. Other commercial services	1.709 (1.899)	3.199 (2.509)	0.954 (0.528)	1.283 (0.631)	3.992 (4.747)
8. Administration, non-commercial services	0.308 (0.426)	5.018 ** (3.522)	0.611 (0.396)	0.551 (0.317)	
Urban	2.922 ** (1.558)	1.328 (0.554)	0.969 (0.222)	1.240 (0.376)	1.478 (0.856)
Constant	0.00569 ** (0.0127)	0.0109 * (0.0278)	0.00996 *** (0.0139)	1.465 (1.786)	0.00116 ** (0.00337)
Observations	549	658	731	347	455

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4. Logistic regression on the participation index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Morocco)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Informal	1.063 (0.363)	0.889 (0.408)	0.358 *** (0.0937)	0.685 (0.202)	0.785 (0.437)
Job Satisfaction	0.795 (0.207)	0.869 (0.299)	0.329 *** (0.0903)	0.846 (0.248)	0.738 (0.328)
Male	0.964 (0.306)	1.944 (0.974)	2.237 *** (0.580)	1.458 (0.572)	2.837 (1.908)
Confident in government & political institutions	1.963 *** (0.272)	1.572 ** (0.294)	9.527 *** (3.548)	0.781 (0.162)	0.768 (0.369)
Age	1.025 (0.0365)	0.991 (0.0473)	0.969 (0.0323)	0.866 *** (0.0304)	0.899 (0.0669)
Married	0.830 (0.230)	0.624 (0.232)	1.020 (0.235)	1.916 ** (0.532)	1.081 (0.565)
Education	0.785 (0.119)	0.893 (0.139)	1.331 ** (0.171)	1.034 (0.153)	2.789 *** (0.773)
2. Employee	0.867 (0.259)	1.047 (0.569)	0.366 *** (0.0887)	0.940 (0.267)	2.573 (2.164)
3. Contributing family workers and apprentices	0.996 (0.420)	1.193 (0.834)	0.578 (0.259)	0.830 (0.500)	1.731 (1.522)
2. Industry	0.629 (0.340)	1.094 (0.658)	0.552 (0.346)	1.285 (0.648)	0.510 (0.354)
3. Construction	1.253 (0.519)	0.767 (0.469)	0.817 (0.535)	1.185 (0.704)	0.355 (0.259)
4. Health Services	0.924 (0.532)	0.497 (0.601)	0.665 (0.506)		
5. Education sector	0.591 (0.431)	3.472 (3.148)	1.078 (0.651)	1.843 (1.564)	1.266 (1.050)
6. Trade	0.674 (0.288)	1.150 (0.678)	0.484 (0.268)	0.846 (0.371)	0.291 (0.252)
7. Other commercial services	0.626 (0.270)	1.536 (0.893)	0.460 (0.248)	0.733 (0.329)	0.911 (0.587)
8. Administration, non-commercial services	0.680 (0.346)	1.032 (0.710)	0.548 (0.330)	0.513 (0.268)	0.501 (0.391)
Urban	1.713 ** (0.433)	1.589 (0.483)	0.960 (0.233)	0.847 (0.271)	1.029 (0.516)
Constant	0.157 (0.227)	0.0511 (0.109)	0.434 (0.554)	55.44 *** (65.56)	0.0345 (0.0914)
Observations	549	658	731	347	490

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A5. Logistic regression on the “talk politics” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Morocco)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Informal	0.613 (0.199)	0.861 (0.218)	0.319 *** (0.107)	1.384 (0.445)	0.875 (0.256)
Job Satisfaction	0.663 * (0.165)	1.266 (0.245)	0.868 (0.286)	1.027 (0.308)	0.954 (0.226)
Male	2.299 *** (0.692)	0.820 (0.226)	1.020 (0.272)	1.017 (0.373)	1.370 (0.369)
Confident in government & political institutions	1.184 (0.196)	1.057 (0.135)		1.320 (0.251)	1.935 ** (0.590)
Age	1.004 (0.0359)	1.030 (0.0292)	0.995 (0.0327)	0.963 (0.0329)	1.071 ** (0.0373)
Married	1.267 * (0.180)	1.161 (0.112)	1.363 ** (0.188)	1.532 *** (0.208)	1.430 *** (0.186)
Education	2.588 *** (0.788)	0.984 (0.203)	1.876 ** (0.520)	1.319 (0.375)	1.740 * (0.547)
2. Employee	0.773 (0.236)	0.795 (0.262)	0.805 (0.236)	1.069 (0.304)	0.868 (0.300)
3. Contributing family workers and apprentices	1.530 (0.707)	0.765 (0.318)	1.036 (0.494)	0.488 (0.336)	1.794 (0.770)
2. Industry	0.623 (0.327)	1.350 (0.448)	1.588 (0.927)	1.280 (0.654)	0.835 (0.386)
3. Construction	1.528 (0.743)	0.914 (0.292)	4.471 ** (3.146)	0.911 (0.520)	1.116 (0.529)
4. Health Services	0.628 (0.381)	1.454 (0.733)	10.33 ** (11.84)		1.288 (0.980)
5. Education sector	1.538 (1.033)	0.673 (0.372)	2.584 (1.666)	1.901 (1.642)	0.466 (0.287)
6. Trade	0.879 (0.433)	0.781 (0.246)	3.318 ** (1.810)	1.412 (0.616)	0.716 (0.324)
7. Other commercial services	1.235 (0.601)	1.969 ** (0.678)	4.799 *** (2.550)	3.521 *** (1.639)	0.604 (0.283)
8. Administration, non-commercial services	0.828 (0.454)	1.473 (0.555)	3.761 ** (2.361)	2.049 (1.069)	0.330 * (0.188)
Urban	0.936 (0.250)	0.626 ** (0.117)	0.926 (0.251)	1.414 (0.419)	1.036 (0.266)
Constant	2.308 (3.195)	0.906 (0.950)	5.955 (8.475)	0.209 (0.250)	0.170 (0.222)
Observations	549	658	683	347	515

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6. Logistic regression on the “vote turnout” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Morocco)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Informal	0.544 ** (0.145)	0.906 (0.249)	0.445 *** (0.117)	0.889 (0.275)	1.013 (0.257)
Job Satisfaction	0.770 (0.173)	1.057 (0.212)	0.674 (0.271)	0.706 (0.211)	1.263 (0.278)
Male	0.699 (0.179)	1.652 * (0.482)	1.597 * (0.427)	1.327 (0.492)	0.815 (0.195)
Confident in government & political institutions	1.605 *** (0.214)	1.706 *** (0.272)	5.861 *** (2.171)	1.160 (0.219)	1.620 ** (0.395)
Age	1.124 *** (0.0332)	1.174 *** (0.0371)	2.052 *** (0.206)	1.033 (0.0354)	1.190 *** (0.0387)
Married	1.188 (0.293)	0.933 (0.201)	1.654 ** (0.387)	1.096 (0.309)	0.979 (0.248)
Education	1.033 (0.133)	1.446 *** (0.148)	1.163 (0.162)	1.291 * (0.181)	1.668 *** (0.208)
2. Employee	0.777 (0.199)	0.818 (0.304)	0.512 ** (0.146)	0.815 (0.237)	1.020 (0.322)
3. Contributing family workers and apprentices	0.654 (0.260)	0.603 (0.273)	2.173 (1.110)	0.397 (0.275)	1.251 (0.465)
2. Industry	0.371 ** (0.161)	0.612 (0.224)	0.880 (0.577)	3.236 * (1.992)	1.254 (0.501)
3. Construction	0.433 ** (0.168)	0.424 ** (0.152)	1.456 (0.977)	2.266 (1.494)	1.215 (0.495)
4. Health Services	0.262 *** (0.134)	0.679 (0.377)	1.781 (1.280)	8.723 ** (8.618)	1.991 (1.022)
5. Education sector	0.268 ** (0.158)	0.466 (0.290)	0.917 (0.606)	3.668 (3.168)	0.788 (0.453)
6. Trade	0.323 *** (0.128)	0.560 (0.207)	0.820 (0.488)	2.718 ** (1.357)	0.666 (0.279)
7. Other commercial services	0.375 *** (0.143)	0.725 (0.284)	0.650 (0.374)	3.551 ** (1.887)	0.817 (0.331)
8. Administration, non-commercial services	0.550 (0.249)	0.373 ** (0.160)	0.542 (0.349)	2.830 * (1.543)	1.102 (0.566)
Urban	0.948 (0.212)	0.470 *** (0.0912)	0.798 (0.206)	1.000 (0.294)	0.692 (0.175)
Constant	0.277 (0.318)	0.0183 *** (0.0198)	6.91e-10 *** (2.07e-09)	0.0564 ** (0.0689)	0.00164 *** (0.00198)
Observations	549	658	731	352	515

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7. Logistic regression on the “involvement” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Tunisia)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	ODDS Ratio	Odds Ratio	Odds Ratio
EMP315	0.994 (0.357)	0.442 ** (0.166)	1.140 (0.205)	0.718 (0.188)	0.679 (0.279)
Constant	0.0655 *** (0.0392)	0.226 ** (0.147)	0.223 *** (0.0658)	0.621 (0.293)	0.104 *** (0.0716)
Observations	558	687	749	473	521

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A8. Logistic regression on the “participation” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Tunisia)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
EMP315	1.549 * (0.347)	0.937 (0.323)	0.598 *** (0.109)	0.595 ** (0.145)	0.679 (0.267)
Constant	0.190 *** (0.0730)	0.103 *** (0.0653)	0.557 ** (0.158)	1.507 (0.670)	0.122 *** (0.0807)
Observations	558	687	749	473	521

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A9. Logistic regression on the “talk politics” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Tunisia)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
EMP315	0.818 (0.190)	0.620 ** (0.129)	0.244 *** (0.0623)	0.720 (0.174)	0.711 (0.171)
Constant	4.936 *** (1.938)	4.048 *** (1.564)	62.35 *** (29.10)	2.011 (0.893)	6.359 *** (2.732)
Observations	558	687	749	473	521

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A10. Logistic regression on the “vote” index by country.

	(Algeria)	(Egypt)	(Lebanon)	(Tunisia)	(Tunisia)
Variables	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
EMP315	0.552 *** (0.105)	0.597 ** (0.127)	0.465 *** (0.0844)	0.559 ** (0.143)	0.511 *** (0.101)
Constant	2.292 *** (0.723)	4.836 *** (1.914)	0.859 (0.237)	1.263 (0.588)	1.892 * (0.647)
Observations	558	687	749	473	521

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Notes

- See for example <https://www.europarl.europa.eu/election-results-2019/en/turnout/> (accessed on 1 February 2022).
- NDI website: <https://www.ndi.org/middle-east-and-north-africa/morocco> (accessed on 1 February 2022).
- The Middle East Monitor online article: <https://www.middleeastmonitor.com/20200224-protests-in-morocco-demanding-improvement-of-social-and-human-rights-conditions/> (accessed on 1 February 2022).
- According to <http://www.electionguide.org/>, the voter turnout decreased from 63% and 60% (second round) in 2014 to 48% and 54% in 2019.

- 5 The question was worded as follows: “Could you tell me if you belong to [Political party; Political movement that is not a political party], as a sympathiser, participant, donor or volunteer? 1. Yes, as a sympathizer; 2. Yes, as a participant 3. Yes, as a donor 4. Yes, performing voluntary work 5. No 6. Never”.
- 6 The questions were worded as follows: Using this card, how often have you participated [a-Participate in party political meetings or activities; b-Participate in electoral campaigns; c-Political participation via the internet] in the past 12 months? 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 6. Never. The dummy is equal to 1 if the respondent picked one of the 5 first alternatives in at least one of the three questions (a, b and c).
- 7 Using this card, how often do you speak about [National political affairs; International and regional political affairs; Economic issues] with the following person [Mother, Father, Brothers/sisters, Friends, Wife/husband, Colleagues/**classmates**, **others**]? 1. Regularly 2. Often 3. Sometimes 4. Rarely 5. Never. The alpha Cronbach is calculated combining the all the questions/alternatives.
- 8 Do you vote when elections are called? 1. Always 2. Often 3. Sometimes 4. Rarely 5. Never. We grouped the two first alternative into one category for people who vote (participate to politics).
- 9 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.
- 10 The stronger is the relationship between the two variables, the closest to 1 is the value of Gamma test.
- 11 Constant cut1—This is the estimated cut point 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.
- 12 These variables are a Likert scale ordered from (0) Not at all confident to (10) very confident.
- 13 This may be the reason why age’s coefficients were not significant in the two first models.
- 14 This reflects the number of possible combinations between the testing/secondary variables.
- 15 Student test has been used to test the significance of the coefficients, for the robustness check.

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