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THE EFFECT OF THE ARAB SPRING ON PREFERENCES FOR REDISTRIBUTION IN EGYPT

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This paper investigates the effect of the revolution that occurred in January 2011 in Egypt on the demand for redistribution in that country, which has drastically increased since that period. This shock has been an important event, enhancing freedom and the political structure. In a first step, taking into account the main determinants of preferences for redistribution in the literature, our results differ, showing a positive impact of religion and a negative impact of altruistic attitudes. In a second step, we rely on a diff-in-diff approach to estimate the effect of the revolution, using three similar countries as a control group. We find that Egyptians became much more favorable to redistribution after the Arab Spring. Moreover, the revolution effect is stronger for the poorest people and those who are interested in politics.

JEL Codes: H23, D74

Keywords: redistributive preferences, revolution, Arab Spring, freedom, political situation

1. Introduction

The attitude toward differences in incomes—like a large set of preferences—has always encompassed an important political dimension. The usual practice in explaining the different levels of support for redistribution across countries and over time is to look principally for economic indicators. Nevertheless, several papers have stressed the importance of political institutions in shaping a large set of citizen preferences: Schläpfer *et al*. (2008) have shown how political institutions participate in shaping citizen preferences for public goods, while Druckman and Lupia (2000), in turn, have described the literature clarifying how parties and campaigns affect political preferences. Madestam and Yanagizawa-Drott (2012) have shown how a political and social event such as the Fourth of July celebrations in the United States (U.S.) impacts individual political preferences. On the side of preferences for redistribution, there is little empirical evidence exploring the

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relationship between the political context and formation of support for redistribution.[1]

This paper explores the reasons for the considerable shift in individual attitudes toward redistribution in Egypt following the 2011 Egyptian revolution, when—in a very short period of time—major changes to the political and freedom scenes occurred. We rely on World Values Survey data to track the demand for redistribution and to capture the impact of the revolution by controlling the effect of time for the appropriate factors. We see in Figure 1 that the distribution of the variable presenting the demand for redistribution changed drastically between the two periods. Based on World Values Survey (WVS) data, 22 percent of the Egyptian population was in favor of redistribution in 2008; this percentage rose to 59 percent in 2012. The January 25 revolution was part of the Arab Spring, a revolutionary wave bearing several democratic ideas that started on December 17, 2010 in Tunisia and spread in different forms to many Arab countries, among them Egypt, Yemen, Libya, Morocco, Jordan, and Lebanon. In Egypt, where the most popular slogan was "Bread, freedom, social justice," the revolution succeeded, the political regime changed, and many shifts occurred at the levels of freedom and politics.

Along with studying the change in redistributive attitudes following the revolution, we examine—in a holistic way—the structure of the determinants of these attitudes in Egypt and in some other Arab countries, especially compared to the Occident. While the comparison between Europe and the U.S. was the prevailing one until recently (Alesina and Angeletos, 2003; Alesina *et al*., 2001), few studies take into account the specificities of other regions in the world (for a comparison of China and Japan, see Iida, 2015). This paper is the first, to the best of our knowledge, to explore the subject of demand for redistribution within the Middle East and North Africa (MENA) region. The Arab world has some characteristics differentiating it from the developed countries usually studied. In the first place, regarding the political situation, Arab countries are considered to this day the most repressive regimes in the world, always having the worst rankings in all freedom components (Elbadawi and Makdisi, 2010).[2] In the second place, the whole structure of Arab culture has many specificities, notably in aspects such as the particular place of religion, the relation between citizens and government, and the vital role of charitable organizations—all of which could contribute to shaping social preferences differently from other well-studied developed countries (Teti *et al*., 2017).

Our keys findings are as follows. The increasing Egyptian support for redistribution a year and half after the revolution is not explained by any of the classical determinants that we control for, which asserts the role of the political landscape and the freedom situation on the formation of preferences for redistribution. Through a difference-in-differences (hereinafter, "diff-in-diff") approach taking into account three countries sharing important characteristics with Egypt, we

[1]For example, Alesina and Fuchs-Schündeln (2007) have examined the impact of the political regime on preferences for redistribution by exploiting the effect of living under the communist regime in East Germany.

[2]See also the 2018 Freedom House report at https://freedomhouse.org/sites/default/files/FH_FITW_Report_2018_Final_SinglePage.pdf (accessed July 15, 2019).

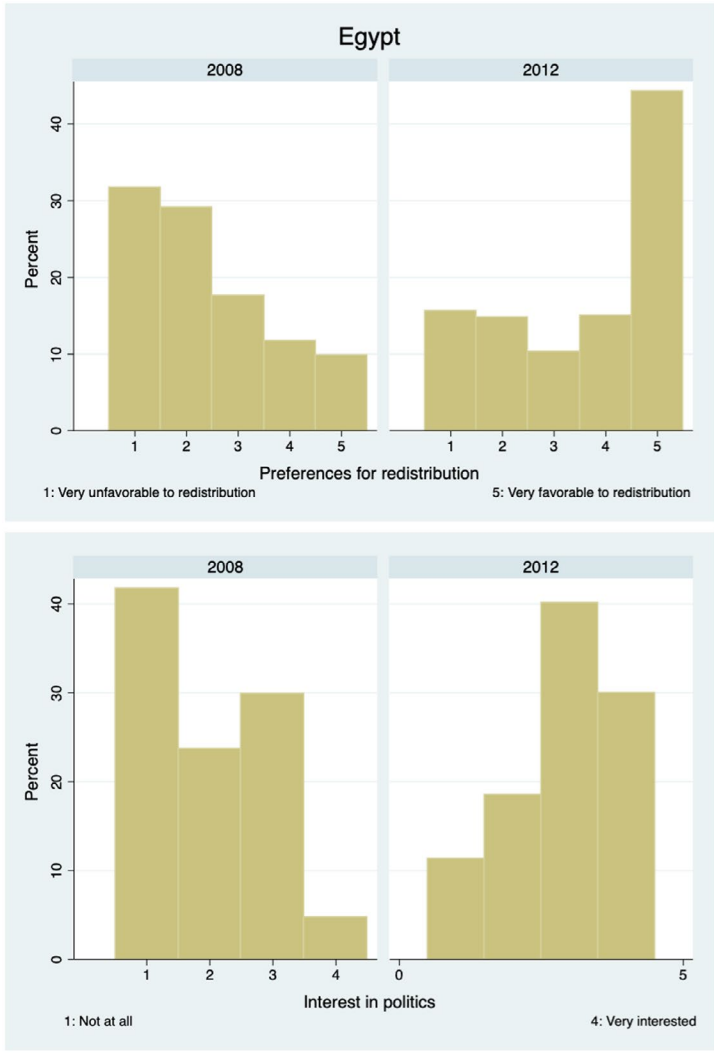

Figure 1. The Evolution of Support for Redistribution and the Interest in Politics in Egypt Between 2008 and 2012
[Colour figure can be viewed at wileyonlinelibrary.com]

show that this enhancement is not explained by an "Arab trend." Through a heterogeneous analysis, we show that the influence of the revolution appears to be stronger only for better-off individuals and for those most interested in politics; elsewhere, the effect of the revolution seems to be largely homogeneous. The other important principal finding is about the structure of determinants of demand for redistribution in Egypt and the MENA region. For Egypt, we obtain considerable similarities with the findings in the literature, especially concerning the self-interest factors; for example, a better financial situation decreases support for redistribution. However, we also uncover some particularities, such as the positive effect

of religion and the negative effect of being altruistic on preferences for redistribution. These results differ between the Arab countries, indicating the presence of disparities even inside this region regarding the formation of attitudes toward redistribution.

This study joins the growing literature on what shapes and develops preferences for redistribution. As shown in the World Inequality Report (W.I.R.; see Alvaredo *et al.*, 2018), income inequality—measured by the concentration of income in the hands of the wealthiest 10 percent—has increased since 1980 in nearly all world regions. Understanding the formation and evolution of *preferences for redistribution* is a key topic in the fight against these inequalities. At the micro level, we consider a large set of factors, such as socioeconomic position, ideological spectrum, psychological profile, and many others (Fong, 2001; Corneo and Grüner, 2002; Alesina and Giuliano, 2011). At the macro level, scholars have examined the role of some important economic indicators in explaining differences between countries and over time regarding support for redistribution. As examples, we count experiences of economic crises (Margalit, 2013; Kroeger, 2014; Olivera, 2014), levels of inequality (Kerr, 2014; Roth and Wohlfart, 2018), levels of social mobility (Alesina et al., 2018b), and waves of immigration (Dahlberg *et al.*, 2012; Alesina *et al.*, 2018a). Our contribution to this research is twofold. First, we shed light on the important role of political institutions and the freedom situation through the shock that happened in Egypt. Second, we provide an analysis of the determinants of preferences for redistribution for some MENA countries.

The remainder of the paper is organized as follows. Section 2 lays out the description of the economic, political, and freedom situation before and after the revolution in Egypt. Section 3 presents the data and the descriptive statistics concerning Egypt and some other Arab countries. In Section 4, we posit the empirical strategy chosen to obtain the results we are looking for. Section 5 presents all results concerning the determinants of demand for redistribution in Egypt, the effect of revolution controlling for these factors, the effect of revolution controlling for the Arab trend, and the differential effect of revolution. In Section 6, we discuss the nature of the shock that occurred in Egypt and the most prevalent related criticisms. Finally, Section 7 concludes.

2. Context: The Egyptian Revolution in 2011

2.1. *Events and Claims*

January 25, 2011, can be considered the effective start date of the Egyptian revolution. During the prior 6 months, several events had triggered the popular uprising. On June 6, 2010, the death of Khaled Saïd in police custody received broad press coverage, sparking a rising clamor of indignation in society. Then, the Egyptian parliamentary elections that took place at the end of 2010 were described by human rights groups as the "most fraudulent poll ever" in Egypt's history. Indeed, 91 percent of the seats were won by Mubarak's National Democratic Party (NDP). On January 1, one of the most prestigious Coptic churches was the target of a violent bombing (the so-called Alexandria Bombing). On January 6, another

story of death by torture in the buildings of the State Security Investigations Services (the highest national internal security authority in Egypt) renewed the anger that had followed Khaled Saïd's tragic death.

The success of the Tunisian revolution on January 14 was one of the trigger components of the Egyptian revolution, which gave Egyptians hope for change. Four days after, four individuals self-immolated, imitating what happened in Tunisia at the start of the Tunisian revolution. This chain of events led to a very sharp decrease in the life satisfaction indicator among Egyptians during this period (Devarajan and Ianchovichina, 2018), which was the breeding ground of the revolution.

On January 25, 2011, opposition groups—among them the "April 6 youth movement"—called for a "Day of Anger" protest. The Facebook page entitled "We are all Khaled Saïd" was a flagship of these protest groups. Demonstrations were held in different cities, drawing Egyptians from all social spheres (Bishara, 2009; Costello *et al*., 2015). The major claims were to restore human dignity and to reverse restrictions on civil liberties (Dabashi and Robinson, 2012; Telhami, 2013). The rapid mushrooming of this movement in Egypt, compared to other Arab countries, can be explained by the violent way in which the Egyptian government responded to these demonstrations (Costello *et al*., 2015), illustrated by a high number of imprisoned persons and deaths during the first days. After 16 days of demonstrations, Hosni Mubarak resigned as president.

This revolution coincided with the revolutionary wave that began in Tunisia in December 2010 and extended to many other Arab countries, a wave called the "Arab Spring." In many other countries, such as Morocco and Jordan, similar demonstrations had been held with very close demands and motivations, but without a real change in the political landscape. The success of the Egyptian revolution was the beginning of a series of changes regarding the social and political life of Egyptian citizens.

2.2. *An Improving Economic Situation in the Early 2000s*

Contrary to what might be expected, from 2000 to 2011, most economic indicators were improving (Giesing and Musić, 2019). From 2004 to the eve of the Egyptian revolution, the growth rate was always positive and quite high (between 4.09 percent and 7.15 percent). Equivalently, income inequality slightly decreased between 2004 and 2010 (Gini index[3] from 31.9 to 31.5) and the Human Development Index4 increased slightly (from 0.63 in 2005 to 0.68 in 2010).

Nevertheless, the demographic shock—between 1966 and 2011, the population jumped from 30 million inhabitants to 80 million—has created an important burden for the government with regard to financing the social security system (Giesing and Musić, 2019). Due to its communist past, this system is fairly well developed, as the state subsidizes, for instance, food and fuel and covers a large part of health insurance. The quality of these services has deteriorated somewhat as a consequence of the demographic shock, as well as the high level of corruption.

[3]World Bank, 2018; see https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed July 15, 2019).

[4]United Nations Development Programme; see http://hdr.undp.org/en/countries/profiles/EGY (accessed July 15, 2019).

Note also that, in the few months after the revolution, the economic situation was damaged but showed no significant impact on individuals' perceptions of their own financial situations (Abdou and Zaazou, 2013). In our data, the percentage of individuals unsatisfied (or very unsatisfied) with their financial situation remained stable (from 42 percent in 2008 to 44 percent in 2012).

2.3. *The Determinants of the Protests*

The determinants of the popular uprising in the Arab world in the 2010s have been investigated by many scholars. There is a consensus that, in the case of Egypt compared to other Arab countries, economic factors and inequalities played a very limited role. Devarajan and Ianchovichina (2018) even discussed an "Arab inequality puzzle" when describing this phenomenon and put forward the notion of a broken social contract in Egypt, related to a sharp decrease in overall satisfaction. Costello *et al*. (2015) found limited support for the "bread" explanations and claimed that the strongest predictor was political terror.

2.4. *Profound Changes in the Political Landscape and in the Interest in Politics*

Before the uprising only one political party—authoritarian and centrist—really existed: the National Democratic Party (NDP), presented as a single party (El-Mikawy, 1999). As an example of authoritarianism, emergency law was maintained during the entire duration of the Mubarak presidency.

A few months after the revolution, many political parties, with different economic and ideological programs, were created. These new parties succeeded very well in the legislative elections at the end of 2011 and in early 2012, collecting more than 80 percent of the votes cast. Moreover, the electoral turnout rate was very high (62 percent) compared to the 2010 legislative election (at 27.47 percent). In 2012, for the first time in the history of Egypt, a presidential election that met current international standards was held, again with a very high turnout (51.85 percent in 2012, compared to 22.95 percent in 2005). In addition, there was a referendum as well as consultative council elections. In just two years (2011 and 2012), Egyptian citizens were involved in three democratic events, and 2012 saw the end of the 30-year state of emergency.

The high electoral turnout illustrates the deep change in voting behavior in this country. This pattern is corroborated in our data by the change in the reported "interest in politics" over time, as presented in Figure 1 for years before and after the revolution.

2.5. *The Expansion of Rights and Freedom*

On the eve of the Arab Spring, Arab countries such as Egypt were considered to have the most repressive governments in the world. Amnesty International[5] criticized the Mubarak administration (the ex-general was president from 1981 to

[5]In 2010, Amnesty International called on the government to lift the state of emergency and guarantee freedom of expression, association and assembly: see https://www.amnesty.org/en/documents/mde12/024/2010/en/ (accessed July 15, 2019).

TABLE 1
Some Components of the Freedom Situation in Egypt Between 2008 and 2012

	Freedom in Egypt			
	2008	2009	2011	2012
1. Association, Assembly, and Civil Society	*3.6*	*3.6*	*5.8*	*5.8*
i. Freedom of association	2.5	2.5	5.0	5.0
ii. Freedom of assembly and demonstration	2.5	2.5	7.5	7.5
iii. Autonomy of organizations	4.4	4.4	4.2	4.2
iv. Freedom to establish organizations	5.0	5.0	6.7	6.7
2. Expression and Information	*5.6*	*5.6*	*6.3*	*6.3*
i. Press killings	10.0	10.0	7.5	8.8
ii. Laws and regulations that influence media content	3.0	3.0	3.3	2.7
iii. Political pressures and controls on media content	4.8	4.8	4.5	4.0
iv. Freedom of access to foreign information	6.7	6.7	8.8	4.0
v. State control over Internet access	3.3	3.3	7.5	7.5

Source: The Human Freedom Index (HFI) for Egypt (2016 report).

2011) several times for restrictions related to freedom of expression and assembly, and for political censorship.[6] To establish the improvement of the freedom situation after the revolution, we provide in Table 1 the Human Freedom Index (HFI) from 2008 to 2012. Freedom of association and demonstration increased from 2.5/10 to 7.5/10 (0 means no freedom at all; 10, the best freedom situation) and freedom of assembly, or freedom to establish organisations, has also rocketed.

In the same vein, Freedom House, a nongovernmental organization (NGO), increased the rating of Egypt's political rights in 2012 from "Not Free" to "Partly Free" (Vasquez and Porcnik, 2016). Freedom of information and public communication are also implicated. As an example, the report by Vasquez and Porcnik (2016) established that state control over Internet access has become much less influential, with the indicator moving from 3.3/10 to 7.5/10. This report also mentioned the increase in the number of independent television stations and the number of newspapers, and improved academic freedom.

Social networks were also used by citizens as a means for self-expression, and the new political parties based their communication on these important platforms. As an illustration, the number of Facebook and Twitter users rose very sharply in the two years after the revolution (Mourtada and Salem 2011) and "Facebook" became the most popular search query in Egypt (Wolfsfeld *et al*., 2013). Many authors have also shown the positive effect of social networks in organizing demonstrations and discussing news before the revolution (Lotan *et al*., 2011; Stepanova, 2011). This effect persisted after the revolution and played an essential role in shaping political debates and promoting democratic values (Howard *et al*., 2011).

On the other hand, as we can see in Table 1, the traditional media did not benefit from the improvement in freedom. The political pressures and controls on content did not change, which explains why citizens have turned to social networks and Internet newspapers (Howard *et al*., 2011; Dabashi and Robinson, 2012).

[6]See also the 2010 Freedom House report at https://freedomhouse.org/report-types/freedom-world (accessed July 15, 2019).

3. Data and Descriptive Statistics

3.1. *The Dataset*

To the best of our knowledge, no previous paper has investigated the determinants of preferences for redistribution in the Arab countries or the possible impact on those preferences of the Arab Spring, which was a major political shock over the whole region. To that end, we use the World Values Survey data (WVS). These data consist of nationally representative surveys conducted in almost 100 countries in six waves between 1981 and 2014. The first wave to include Arab countries was the fourth wave (1999–2014). Since we are only interested in change due to revolutions, we limit our interest to the waves before and after the Arab Spring, that is, wave 5 (2005–9) and wave 6 (2010–14). For Egypt, wave 5 was conducted between March 15, 2008 and April 5, 2008, and wave 6 was between March 1, 2012 and April 30, 2012. Even though it is not an Arab country, we also add Turkey because of the religious, geographical, and historical similarities. We have data simultaneity before and after Arab revolutions for only five countries: Egypt, Iraq, Jordan, Morocco, and Turkey.

Despite the WVS data having been used in several papers for studying redistribution preferences, we have to be aware of some limitations in this dataset (Shayo, 2009; Klor and Shayo, 2010; Alesina and Giuliano, 2011). One of them is the difference in size of the samples across countries, notably for the last wave, where the range varies between 825 observations (Morocco) and 1,477 observations (Egypt). The principal reason is that some variables suffer from a high number of missing values or the relevant questions are not even asked, which is the case for the ideological position variable in the Jordan and Morocco data; fortunately, we do not experience this problem for Egypt's variables. Another problem is that a chosen participant in each country collects the WVS data and the survey schedule is not unified.[7] If we look at waves 5 and 6, we see that they were conducted over a relatively large range of years (2005–9 and 2011–14, respectively). As far as possible, we take these limitations into consideration in our analysis.

3.2. *The Outcome Variable*

We now focus on our explained variable, namely, the one indicating individual preference for redistribution. We rely on the following question from the survey: *I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left (Incomes should be made more equal); 10 means you agree completely with the statement on the right (We need larger income differences as incentives for individual effort); and if your views fall somewhere in between, you can choose any number in between.* Responses were coded on a scale of 1 through 5, with 5 being very favorable to the statement "Incomes should be made more equal" (i.e., more favorable to redistribution). This variable has been used many times to measure support for redistribution

[7]In the political context before the revolution and the turmoil thereafter, these limitations are particularly important. Therefore, we examined the documents discussing the sampling and methodological issues, and found nothing alarming. We also checked the original questionnaire and the adopted translation ourselves.

TABLE 2
The Percentages of Individuals Who Are Favorable (or Very Favorable) to Redistribution before and after January 2011 in the Four Countries

	Individuals Favorable to Redistribution (%)	
	2007–8	2011–12
Egypt	22	59
Jordan	25	12
Morocco	36	40
Turkey	49	55

(Murthi and Tiongson, 2009; Shayo, 2009; Klor and Shayo, 2010). As we can see in Figure 1, the individuals' distribution in choices concerning demand for redistribution changed drastically after the revolution: based on these data, 21.65 percent of the Egyptian population was in favor of the redistribution in 2008 (i.e., responded 4 or 5 to the question); this percentage rose to 59.31 percent in 2012. If we look in Table 2 at the evolution of this percentage in Morocco and Turkey, we found that there was a slight increase, especially if we look at the means of this variable in these two countries. In Jordan, mean demand for redistribution decreased very slightly in 2014, even if the number of individuals declaring support for redistribution decreased strongly (from 25 percent to 12 percent).

3.3. *Summary Statistics*

In Appendix B (In the Online Supporting Information), we present some information on the main characteristics of the individuals as well as the financial situation and the attitudinal variables in the sample before and after January 2011 for Egypt, Jordan, Turkey, and Morocco. In Table B.1 in the Appendix, the first three columns refer to the period before the revolution for Egypt (at the beginning of 2008), and the last three columns refer to the period after the revolution for Egypt (14 months after the revolution). The last column in Table B.1 refers to the maximum value of the corresponding variable; for binary variables, the minimum value is always 1. The same design is done for Jordan, Morocco, and Turkey, with different fieldwork periods.

The size of the samples is between 1,000 and 1,500, except for the 2008 sample for Egypt, which includes approximately 3,000 individuals. Some variables that will be taken into account in our analysis are missing in some samples. Concerning the individual characteristics variables across countries before 2011, they have relatively close means except for the number of women, which is quite high in Egypt.

Our summary statistics suggest that the individual characteristics remain relatively stable between periods, except for those who have one child or more for Egypt and Jordan, which is smaller in Egypt and more prominent in Jordan in wave 6 compared to wave 5. The summary statistics also indicate that, on average, the financial situation did not change in Egypt between 2008 and 2012, increased in Jordan and Morocco, and slightly increased in Turkey. For the attitudinal variables, the means of some of the variables changed considerably in all countries. In Egypt, individuals became on average more ideologically right-wing, a little less

religious, more risk averse, more believing that they had control over their lives, and much more interested in politics. In Jordan, individuals became on average less risk averse and less trustful in society. In Turkey, individuals became on average more politically right-wing, slightly more risk averse, more trustful in society, and more interested in politics. In Morocco, individuals became on average more trustful in society, less believing that they had control over their lives, and a little more interested in politics. We can draw from these changes that Egypt experienced more changes than the other countries, especially in the level of degree of interest in politics. The number of individuals interested in politics in Egypt increased enormously. The different trajectories concerning the evolution of these variables over time show the need to control for these variables through an econometric approach.

For the first part of the study concerning the determinants of preferences for redistribution in Egypt, we rely on the data available for Egypt in waves 5 and 6. We also test the effects of these factors on demand for redistribution in other Arab countries in order to help us explain the results that we find for Egypt. For the second part of the study concerning the effect of the Egyptian revolution on demand for redistribution in Egypt, we rely on the data collected for Egypt, Morocco, Jordan, and Turkey for the same period.

4. Empirical Strategy

We start by investigating the usual variables known in the empirical literature to have a possible impact on preferences for redistribution—most of them presented in Section 3 by emphasizing that this literature is focused on developed countries. The latent variable y_{it}^* corresponds to the demand for redistribution of individual i at year t. We assume a linear specification, as follows:

$$y_{it}^* = \beta_1 . I_{it} + \beta_2 . S_{it} + \beta_3 . A_{it} + \beta_4 . W + \varepsilon_{it}, \tag{1}$$

where I_{it} is a vector of variables related to the individual financial situation, S_{it} is the vector of individual characteristics, A_{it} is a vector of social attitudes, W is a wave dummy, and ε_{it} is an error term that is logistically distributed. Each β_i is a parameters vector.

We do not observe y_{it}^*, but a variable y_{it} defined on an ordered categorical scale, taking values from 1 to 5 to reflect an increasing demand for redistribution. To this end, we estimate an ordered logit model (standard errors corrected for heteroskedasticity) such that

$$y_{it} = m \quad if \quad \alpha_{m-1} < y_{it}^* < \alpha_m, \qquad \text{for } m = 1, \ldots, 5,$$

where α_0 to α_4 are thresholds that have to be estimated. Such a model, estimated by maximum likelihood methods, is used to investigate the main determinants of the preferences for redistribution. The results are provided in Section 5.1.

The second estimation phase deals with studying the effect of the revolution. We propose two steps to fulfil this objective. First, the wave dummy W from 2008 and 2012 can be interpreted as a way to capture this revolution effect, as regards the magnitude of this event during the period in Egypt. This strategy is implemented

in the first part of Section 5.2. Even if the revolution is by far the most significant modification in the economic and social situation from 2008 and 2012, it is difficult to associate a dummy variable reflecting the effect of time as a perfect substitute for an unobservable revolution variable.

Hence, in a second step, we include a control group of countries not affected by the revolution, and then we implement a diff-in-diff estimation. Specifically, we use the last two data waves for four countries, comparable aside from revolution (Egypt, Turkey, Jordan, and Morocco) and we estimate the following model:

$$y^*_{ict} = \beta_1 . I_{ict} + \beta_2 . S_{ict} + \beta_3 . A_{ict} + \beta_4 . W + \beta_5 . E + \beta_6 . W . E + \varepsilon_{ict}. \quad (2)$$

The latent variable y^*_{ict} is the demand for redistribution of individual i living in country c in period t. The E is a country dummy, equal to 1 if the individual lives in Egypt and 0 otherwise. It follows that $W.E$ represents the interaction between W and E, with β_6 as the diff-in-diff estimator. We also conduct robustness checks using two waves for Egypt before the revolution instead of only one. The results are provided in the second part of Section 5.2.

Finally, in the last part of Section 5.2, we estimate the differential effect of the revolution by socioeconomic and attitudinal groups in Egypt, by introducing interactions between these groups and the period dummy W. Hence, we estimate the following model:

$$y^*_{it} = \beta_1 . I_{it} + \beta_2 . S_{it} + \beta_3 . A_{it} + \beta_4 . W + \beta_5 . W . I_{it} + \beta_6 . W . S_{it} + \beta_7 . W . A_{it} + \varepsilon_{it}, \quad (3)$$

where β_5, β_6, and β_7 are parameters for interaction groups.

5. Empirical Results

5.1. *Determinants of Preferences for Redistribution*

Literature Review

Before we present our results on the micro-level determinants of preferences for redistribution in Egypt, it is important to carry out a brief literature review covering the most interesting determinants. As we stressed above, the overwhelming majority of studies in this field have been carried out for the occidental countries, and thus the MENA perspective is relatively new.

In this literature, self-interest factors are the most influential for an individual's redistribution preferences. A large body of empirical evidence shows that the actual financial situation is one of the most important determinants. The wealthier a person is, the more he or she is supposed to be favorable to redistribution (Corneo and Grüner, 2002; Guillaud, 2013). We add to that the individual's views about the personal expected position, where a prospect of upward mobility harms demand for redistribution (Benabou and Ok, 2001; Alesina and La Ferrara, 2005). Concerning the personal perception of mobility, there is also the perception of the role of the effort and chance of determining success in life. In the literature, the more the respondent believes effort is important to success, the more he or

she is against redistribution compared to the respondent who believes that luck is more important. Two explanations can be provided. The first is related to expected personal income: the more we think effort determines success, the higher are our expectations. The second explanation is a "justice" explanation: if effort is what determines our success in life, there is no need anymore for incomes to be equal (i.e., if the individual is in a bad situation, then that is the result of the seed that he sowed) (Piketty, 1995; Ravallion and Lokshin, 1990; Fong, 2001).

After economic factors come the ideological and social attitudes and psychological factors. The literature showed that many of these attitudes are correlated with personal demand for redistribution. At the ideological level, we count political and religious convictions. Busemeyer (2013) and Pittau *et al*. (2016) have shown that being politically leftist enhances demand for redistribution compared to those declaring themselves on the right. For the religious attitude, Neustadt (2011) found that being religious reduces the support for redistribution compared to an individual who is not religious. Social attitudes are also important: Fong (2001) and Fatica (2011) explain how trusting others pushes individuals to be more favorable to redistribution compared to those who do not trust the people around them. Another social attitude is the perception of altruism: as explored by Alesina and La Ferrara (2005), being altruistic has a positive effect on demand for redistribution. Finally, in the family of psychological attitudes, scholars have studied the effect of risk aversion; Beck (1994) ran an experimental study and found that risk aversion can make the individual more favorable to redistribution based on an "insurance motive." Rehm (2009) explains, through an empirical study, how risk of job loss (where the percentage of unemployment is high) has a positive effect on the demand for redistribution. Alesina and La Ferrara (2005) find that the self-employed workers are relatively less favorable to redistribution, and according to Guillaud (2013), people employed in the public sector are more inclined to support redistribution.[8]

To all of this is added some individual characteristics such as age, gender, and education level. Although these characteristics are usually used as control variables, their effects have been studied by many scholars. The older the individual, the less he or she is likely to support redistribution (Alesina and La Ferrara, 2005; Alesina and Giuliano, 2011; Busemeyer 2013). Alesina and Giuliano (2011) found an inverted-U-curve effect: demand for redistribution declines in advanced stages of the life cycle. Women are more inclined than men to have a positive attitude toward redistribution (Alesina and Giuliano, 2011). A high level of education decreases demand for redistribution (Fong, 2001).

Determinants of Preferences for Redistribution in Egypt

After having acknowledged the determinants for demand for redistribution in occidental countries, we turn to presenting our results on the effects of some of these factors on individual preferences for redistribution in Egypt. Given the very different economic and cultural structures between occidental and Middle

[8]Alesina and La Ferrara (2005) and Guillaud (2013) use employment status as a proxy for risk aversion. They suppose, respectively, that self-employed workers are more prone to take risks and those employed in the public sector are more risk averse compared to their counterparts.

TABLE 3
Determinants of Preferences for Redistribution and the Effect of Time in Egypt: Age, Sex, Education, Children, and the Financial Situation

	(1)	(2)	(3)	(4)	(5)	(6)
Preference for Redistribution						
After revolution	1.497***	1.499***	1.491***	1.498***	1.482***	1.535***
Age						
26–39		0.160*	0.167**	0.129	0.168*	0.125
49–59		0.136	0.158*	0.0454	0.0908	0.0682
>59		0.333***	0.362***	0.255**	0.288***	0.281**
Woman			0.147***	0.0946	0.104*	0.143**
Education						
Primary school				−0.260***	−0.262***	−0.222***
Secondary level				−0.211**	−0.210**	−0.191**
University level				−0.300***	−0.306***	−0.184**
Children					-0.0986	-0.103
Financial Situation						
Dissatisfied						0.199**
Moderately satisfied						0.0823
Satisfied						−0.492***
Very satisfied						−0.832***
Observations	4,465	4,465	4,465	4,305	4,305	4,304
Pseudo R^2	0.044	0.045	0.045	0.046	0.046	0.056

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Eastern and North African countries, we expect some divergence in the effects of the studied factors. The regressions are spread over three tables: Tables 3–5. They show that while a considerable number of these factors have the same effects as in the literature, some diverge.

Sociodemographic Characteristics. In Table 3, we present results from the ordered logit regressions of preference for redistribution on sociodemographic characteristics. The coefficients on these variables are consistent with what can be found in the literature. Women, people who are illiterate or have a low education level, and elderly people, are all significantly more supportive of redistribution than their counterparts. Moreover, having one child or more yields no significant effect once financial situation is controlled for.

Economic Factors and Subjective Perceptions. As shown in column (6), individuals who are satisfied or very satisfied with their financial situation are less supportive of redistribution than those who are not satisfied.[9]

In column (1) of Table 4, we test the effect of the subjective health situation. We find, as expected, that those in bad health demand more redistribution

[9]We chose the perceived financial situation and not the income decile because we have many more missing values for the latter. Moreover, the perceived financial situation includes other economic circumstances that are difficult to test.

TABLE 4
Determinants of Preferences for Redistribution and the Effect of Time in Egypt: Health, Political Ideology, Trust, Perception of Role of Effort, and Interest in Politics

	(1)	(2)	(3)	(4)	(5)
Preference for Redistribution					
After revolution	1.508***	1.639***	1.535***	1.590***	1.489***
Bad health	0.244***				
Political Ideology					
Centrist		−0.0154			
Rightist		−0.247***			
Trust people			0.454***		
Role of Effort					
Partly having control over own life				−0.166**	
Completely having control over own life				-0.533***	
Interest in Politics					
Not very interested in politics					0.0152
Somewhat interested in politics					−0.204***
Very interested in politics					0.334***
Control variables	Group B	Group B	Group B	Group B	Group B
Observations	4,304	4,015	4,299	4,300	4,301
Pseudo R^2	0.057	0.062	0.059	0.061	0.058

Group B: Age, Woman, Education, Children, and Financial situation.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

TABLE 5
Determinants of Preferences for Redistribution and the Effect of Time in Egypt: Attend Religious Services, Altruism, and Risk Attitude

	(1)	(2)	(3)	(4)
Preference for Redistribution				
After revolution	1.560***	1.537***	1.489***	1.547***
Religious	0.245***			
Altruism				
Helping others is moderately important		-0.297**		
Helping others is important		−0.481***		
Altruism is an important quality child			−0.183***	
Risk Attitude				
Not that important to take risks				−0.0288
Not important to take risks				−0.0373
Control variables	Group B	Group B	Group B	Group B
Observations	4,301	4,300	4,304	4,300
Pseudo R^2	0.057	0.057	0.057	0.056

Group B: Age, Woman, Education, Children, and Financial situation.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

compared to those in good health. This variable also reflects a part of personal risk exposure: poor health exposes the individual's future to more risk compared to those with good health.

In line with the factors that have consistent effects in occidental countries, being leftist enhances the probability of holding favorable positions toward redistribution compared to being rightist. Trusting others—and thus potentially adopting a reciprocal attitude—also has the same positive effect, as we can see in columns (2) and (3) of Table 4.

Moreover, trusting others will push the individual to think that others will not take something if it is not their right legally, and therefore implies more favorability to redistribution compared to those having the opposite attitude (Fong, 2001; Fatica, 2011).

In column (4), we add an important factor that is considered as one of the most influential determinants of preferences for redistribution: belief about the role of effort and chance in determining the success in life. In our study, we take the following item as a proxy for this attitude: "How much freedom of choice and control you feel you have over the way your life turns out." If individuals consider that they have control over their lives, they will be more able to accept their financial situation as a result of their effort, and thus less favorable to redistribution. We find the expected result: the effect is negative, significant, and progressive. We find the same result in a considerable number of Arab countries, as we can see in the last row of Table C.1 in the Appendix.

The effects of three factors differ in Egypt from the prevalent literature: religious involvement, altruistic attitude, and risk attitude.

Religion. In column (1) of Table 5, we include the variable presenting the individual religious involvement (being an active participant in religious activities). In the literature, religious people are less favorable to redistribution compared to their counterparts; one explanation is that religious people benefit more from the services provided by religious support networks (Alesina and Giuliano, 2011; Luttmer and Singhal, 2011; Neustadt, 2011). In our study, attending religious activities has the opposite effect: the coefficient is positive, that is, attending religious services enhances the probability of supporting redistribution. However, regarding the particular role of religious support networks in Egypt, we would expect a strong negative effect compared to what we can find in Western countries. Our explanation for this unexpected result relies on the prevalence of a second important channel, which is Islamic religious education, which focuses on the importance of charity and social solidarity. Moreover, since individuals attending religious services are more exposed to this kind of dialog, their support for redistribution increases more compared to their counterparts. Another potential explanation is the strong relationship between the state and religion. The individual may consider a contribution to the state as a contribution to his community. One has to underline that we find the same significant positive effect of religion in Iraq and Lebanon.

Altruism. To test the effect of altruism, we use a proxy that indicates whether the person thinks it is important to help people, and another proxy that indicates whether the individual views unselfishness as an important quality for a child. Alesina and La Ferrara (2005) found a positive effect for the same factor for the U.S. We find in columns (2) and (3) of Table 5 that for the two proxies, being altruistic has a negative effect, and it is very significant. The explanation that we

provide is based on the complexity of the social transfers system in Egypt. Karshenas *et al*. (2014) explain the importance of the residual forms of social transfers in the Arab countries and how they cover needs not met by the social state.[10] Therefore, in this context, thinking that it is important to help people can be considered as a proxy for living in a place where this value is important, which means in more supportive surroundings. In this case, individuals are less dependent on redistributive state transfers and thus support less redistribution. If we look at the effect of these variables in other Arab countries (see Table C.1 in the Appendix), we find that the first proxy coefficient is also negative and significant in Iraq, Lebanon, and Tunisia. We find a positive significant coefficient only in Yemen and Jordan. For the second proxy, we find a positive significant effect of being altruistic only in Tunisia, which indicates that the explanation of this result lies in something specific to the Arab social structure.

Risk Attitudes. For the risk attitudes factor, we use individual answers to a question that would elicit risk aversion: *Is it important to this person adventure and taking risks? 1: Very much like me; 6: Not at all like me*. We recoded the question in an increasing way, such that 1 represents risk-averse individuals, and 3 risk-seeking individuals. We see in column (4) of Table 5 that the coefficients are negative, as expected, but insignificant. We tried to study the effect of the risk attitude by taking the occupation type (if the individual is self-employed or working in the public sector), but only for wave 6 (we do not have this information for wave 5): the effect still insignificant (regression not reported). We explain this insignificant effect by the fact that the labor market structure is very different in Egypt compared to developed countries; being in a public institution may not offer the same insurance offered by such a position in developed countries and the conditions concerning self-employment are quite different.[11] If we look at Table C.1 in the Appendix, only in Turkey and Iran do we have a significant negative coefficient for the risk aversion question.

5.2. *Effect of the Revolution on Preferences for Redistribution*

As we stated in Section 3, the distribution of respondents for the demand for redistribution has changed drastically. To estimate and quantify the effect of the revolution, we control first for the classical determinants of demand for redistribution among Egyptians, and second for the effect of time that concerns the Arab world generally. We are also interested in seeing if we have a differential revolution effect by virtue of the groups that we choose.

Revolution as a Time Effect

To estimate the effect of revolution, we estimate the effect of time, meaning the effect of living after January 2011 (2012 for Egypt) compared to living before

[10]Contrary to Western countries, where social transfers are managed almost exclusively by the state.

[11]For example, in Egypt, a large part of the population still lives in rural areas, where most jobs are considered as self-employment (or, more generally, as part of the informal sector).

January 2011 (2008 for Egypt). The variable "After revolution" represents a dummy equal to 1 if the respondent was questioned in wave 6 and 0 if the respondent was questioned in wave 5.

Tables 3–5 represent the results that we obtain by estimating the effect of the Egyptian revolution on demand for redistribution in Egypt, adding variables one by one. The baseline estimate shown in column (1), without any controls, shows that, on average, living in 2012 is associated with a 0.232 increase in the probability of being identified as very favorable to redistribution and a 0.269 decrease in the probability of being identified as very unfavorable compared with an individual living in 2008.[12] This effect is still significant and powerful and has nearly the same marginal effects after the introduction of each of the variables. We can conclude that changes in individual characteristics, the financial situation, and the attitudinal variables are not able to explain the shift in the preferences for redistribution after the revolution.

Comparison with Other Arab Countries: A Diff-in-Diff Analysis

Is the effect of time specific to Egypt, implying that it was the revolution that caused this change, or can we find the same effect for all Arab countries? To answer this question, we rely on the data for Egypt, Jordan, Morocco, and Turkey. These countries are quite close in their political and economic level, which provides us with a good control group. We find that political institutions in Jordan and Morocco share important characteristics with Egypt, such as the weak role of political parties, the oligarchic regime, the long rule of governors, the freedom situation, and so on. At the economic level, all four countries are considered middle-income economies. Moreover, for the period between 2001 and 2008, there was an increasing trend for the average of the preferences for redistribution in these four countries; if we compare the Moroccan and Jordan trends to the Egyptian trend for this period, we even have a nearly perfect parallel trend in terms of the percentage of individuals in favour of redistribution.

In the first place, we run the regression following the equation (1) for each of these four countries and we calculate the marginal effects (see Table 6). We find that the effect of time in other countries is positive and very significant. However, once we look at the marginal effects, we note the immense difference between the values of Egypt and those of other countries. For example, the probability of being very favorable to redistribution in Egypt in 2012 compared to 2008 is 26.8 percent higher, while it is only 4.5 percent higher in Jordan, 4.3 percent higher in Morocco, and 5.5 percent higher in Turkey. These positive coefficients of the time variable indicate that there is a tendency toward more redistribution in the Arab zone. One of the explanations is that the Arab Spring has touched the majority of the countries slightly, even if there was no revolution. The second explanation is that between 2008 and 2012, openness to the international world increased due to development in the level of education and access to the Internet, and thus better information on the situation of inequality became available.

[12]The marginal effects are available upon request.

TABLE 6
THE EFFECT OF TIME IN EGYPT, JORDAN, MOROCCO, AND TURKEY

	(1)	(2)	(3)	(4)	
Preference for Redistribution					
After revolution	1.606***	0.404***	0.258***	0.281***	
Control variables	Group A	Group A	Group A	Group A	
Observations	4,003	2,124	1,809	2,274	
Pseudo R^2	0.076	0.019	0.048	0.011	
	Marginal Effects of "After Revolution"				
	Very Unfavorable	Unfavorable	Neither	Favorable	Very Favorable
Egypt	−0.274	−0.060	0.032	0.071	0.231
Jordan	−0.096	0.012	0.028	0.012	0.045
Morocco	−0.033	−0.019	−0.002	0.011	0.043
Turkey	−0.030	−0.029	−0.010	0.014	0.055

All regressions include the variables of Group A: Age, Woman, Education (only for Egypt and Jordan), Children (except for Morocco), Financial situation, Bad health, Political ideology (only for Egypt and Turkey), Religious (only for Egypt and Turkey), Trust people, Child altruism, Interest in politics, Altruism (only for Egypt), and Role of effort.

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

TABLE 7
THE EFFECTS OF THE INTERACTIONS BETWEEN THE TIME VARIABLE AND THE COUNTRY OF RESIDENCE

	(1)	(2)	(3)	(4)
	Egypt*Jordan	Egypt*Morocco	Egypt*Turkey	Egypt*All
Preference for Redistribution				
After revolution = 1 × Egypt = 1	1.150***	1.348***	1.393***	1.274***
Control variables	Group A	Group A	Group A	Group C
Observations	6,416	6,075	6,437	10,896
Pseudo R^2	0.056	0.059	0.060	0.031

All: Jordan, Morocco, and Turkey. Group A: Age, Woman, Education (only for Egypt and Jordan), Children (except for Morocco), Financial situation, Bad health, Political ideology (only for Egypt and Turkey), Religious (only for Egypt and Turkey), Trust people, Child altruism, Interest in politics, Altruism (only for Egypt), and Role of effort. Group C: Age, Woman, Children, Financial situation, Bad health, Trust people, Child altruism, Interest in politics, and Role of effort. In column (1), we run a regression on the samples of Egypt and Jordan for waves 5 and 6. In column (2), we run a regression on the samples of Egypt and Morocco for waves 5 and 6. In column (3), we run a regression on the samples of Egypt and Turkey for waves 5 and 6. In column (4), we run a regression on the samples of Egypt, Morocco, Turkey, and Jordan for waves 5 and 6.

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

To obtain the effect of time while controlling for the Arab trend, we calculate the diff-in-diff estimator representing the effect of time concerning Egypt based on the estimation of equation (2). The diff-in-diff estimator is obtained by the interaction between the dummy variable equal to 1 if the individual lives in Egypt and 0 otherwise. The results are reported in Table 7. The wave numbers are displayed in the first three columns. We are looking for the diff-in-diff estimators by comparing Egypt with one of the countries alone in each column. Even if the magnitude of the coefficient became smaller, the diff-in-diff estimator is very significant. The marginal effects remain large in any case. In column (4), we see the coefficient of the diff-in-diff estimator, this time taking as a control group the three countries together. The coefficient remains very significant. We conclude that even if part of the effect of time is unspecific to Egypt, the effect of the revolution remains very strong.

In the second place, we run a placebo test that consists of comparing the effect of time on the waves before the Arab Spring. Between 2001 and 2008, when there was no revolution, the expected result for the effect of time is to have a marginal effect small enough to be compared with that of the period of the revolution. We run the same regression following equation (1) for the period 2001–8. Even if the effect of time between 2008 and 2001 is positive and very significant, the marginal effects are three times smaller than the ones for the period from 2008 to 2012 (see Table 8). This indicates that even if there was a prior trend in Egypt regarding the evolution of preferences, its effect remains incomparable to what we find for the revolution period.

TABLE 8
The Effect of Time for the Periods 2001–8 and 2008–12 in Egypt

	(1)	(2)			
	2001–8	2008–12			
Preference for Redistribution					
Between 2001 and 2008	1.027***				
Between 2008 and 2012		1.606***			
Observations	5,664	4,003			
Pseudo R^2	0.046	0.076			
	Marginal Effects of the Time Variable				
	Very Unfavorable	Unfavorable	Neither	Favorable	Very Favorable
2000–8	−0.227	0.043	0.067	0.053	0.063
2008–12	−0.274	−0.060	0.032	0.071	0.231

Controls include Group B variables except for Political ideology and Importance of help for the period 2001–8.

*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Heterogeneous Impact on Economic and Social Groups

In this extension, we want to shed light on which groups have the most forceful response to the revolution. We test this differential effect on each one of the variables that we tested. We find that the heterogeneous effect exists across financial situation groups, health situation groups, and groups based on the degree of interest in politics. We start by presenting the effect of revolution on support for redistribution for the financial situation groups. In Table 9, we use the estimation given in equation (3), where the financial situation index interacts with the wave dummy. The analysis indicates, relative to the lowest financial situation group, that the effect of the revolution becomes smaller and smaller for each group whose financial situation is better.

To obtain the marginal effects for every financial situation group, we reestimate equation (1) separately for each group. Table 10 shows that the heterogeneity of the effect goes in the direction of having a weaker positive effect for the highest financial situation group compared to the middle and the lowest financial situation groups. The probability of being very favorable increases after the revolution by 0.349 for the low financial situation, 0.301 for the average financial situation, and 0.237 for the high financial situation.[13] In turn, this suggests that the revolution increased the gap in demand for redistribution across wealth groups. One potential explanation for these heterogeneous effects could be that the changes following the revolution, such as the spreading of ideas about inequalities and social justice, were more addressed to the low and medium categories than to the high category. In the

[13]The marginal effects are available upon request.

last section, we discuss what kind of factors could generate these heterogeneous effects.

In column (2) of Table 9, we include the interaction between the wave number and the health situation. We conclude that the effect of the revolution differs significantly between individuals having good health and those having poor health: the positive effect of the revolution on demand for redistribution appears much stronger for people in poor health than for those in good health. Insofar as health status is one of the components of well-being in addition to the financial situation, this result joins the previous one.

In the same table, we include in column (3) the interaction between the wave number and the categorical variable indicating the individual's degree of interest in politics. We find that individuals who are very interested in politics were impacted much more positively by the revolution in their preferences for redistribution than individuals who are not interested in politics at all. This result shows that part of the positive effect of the revolution lies in the considerable change in the new political landscape after the revolution, discussed in Section 2. We add in column (4) the interaction with the individual age group. The youngest category seems to be the group least affected by the positive effect of the revolution on demand for redistribution, even if these coefficients are weakly significant.

After this regression analysis, we can conclude that the January 25 revolution had an enormous effect on demand for redistribution in Egypt and that this effect was heterogeneous over some economic and social groups. We discuss in the following section how this revolution could have such an impact on the evolution of preferences for redistribution in Egypt.

TABLE 9
The Differential Effect: Interactions Between Revolution and Some Determinants of Preferences for Redistribution

	(1)	(2)	(3)	(4)
Preference for Redistribution				
Financial Situation				
After revolution = 1 × Dissatisfied	−0.474**			
After revolution = 1 × Moderately satisfied	−0.764***			
After revolution = 1 × Satisfied	−0.976***			
After revolution = 1 × Very satisfied	−1.375***			
After revolution = 1 × Bad health		0.489***		
Interest in Politics				
After revolution = 1 × Not very interested			−0.0260	
After revolution = 1 × Somewhat interested			0.0685	
After revolution = 1 × Very interested			0.706***	
Age Group				
After revolution = 1 × 26–39				0.431**
After revolution = 1 × 39–59				0.340*
After revolution = 1 × >59				0.312
Observations	4,003	4,003	4,003	4,003
Pseudo R^2	0.080	0.077	0.077	0.077

Controls include Group A variables.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

TABLE 10
THE EFFECT OF REVOLUTION IN EGYPT OVER THE FINANCIAL SITUATION GROUPS

	(1)	(2)	(3)	(4)
	All	Difficult	Average	Very Good
		Financial Situation	Financial Situation	Financial Situation
Preference for Redistribution				
After revolution	1.606***	1.944***	1.740***	1.356***
Observations	4,003	1,358	1,423	1,222
Pseudo R^2	0.076	0.102	0.077	0.052

Controls include Group A variables.
*$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

6. Discussion and Robustness Checks

6.1. *The Nature of the Shock That Has Affected Demand for Redistribution*

We have established that demand for redistribution drastically changed during the period of the revolution and, through a diff-in-diff analysis, that this modification in demand cannot be dissociated from the revolution by taking the situation of comparable countries as controls. Nevertheless, the nature of the shock that has affected demand for redistribution is not fully identified through our data. We argue that the change in the political offering and the expansion of rights and freedom are the most important dimensions characterizing the revolution that have reshaped demand for redistribution.

In Section 2, we have established that the economic situation, from the early 2000s and up until the revolution, followed a slightly upward trend in both the growth rate and income inequality. Hence, the change in demand for redistribution in Egypt cannot be a consequence of an "economic shock," as has been observed, for instance, in some European countries and the U.S. after the recent economic crises (Margalit, 2013; Kroeger, 2014; Olivera, 2014). Moreover, we have found, through our regressions, that individual perceptions of the economic situation—which can be biased and thus disconnected from the real economic situation—cannot explain this change.

We have put forward in Section 2 the proposition that two major social and political changes have affected Egyptian society during the period. The first one is an improvement in freedom of information, largely through the influence of the Internet and high flow of news that became accessible. The other major change is an enlargement of the political offering through the emergence of a new and diversified political class, which was followed, in the elections held immediately afterward, by very high participation rates. Schläpfer *et al*. (2008) establish how citizen preferences can be influenced by political institutions and especially by party programs. In the same vein, Ford (2016) explains how moral narratives adopted by political and media elites can manipulate individual perceptions about welfare. What we see in Egypt is that people became very interested in politics after the revolution, and that they face a new political discourse, inspired by the revolution, with social justice as a central theme.

This political history, with an important shock during the revolution, implies that Egypt is in a very different situation compared to most Western countries in which preferences for redistribution have been investigated. Indeed, in these studies, it is implicitly assumed that individuals are aware that redistribution from the rich to the poor is among the possible prerogatives of the state. Difficult access to information, a repressive political system, and very concentrated political power for decades—as was the case in many MENA countries, including Egypt—may place citizens in a position of ignorance of even the most fundamental rights. This situation can imply incomplete preferences or a bounded rationality, in the sense that the set of choices is limited in comparison with a more democratic society.[14]

[14]Hong *et al*. (2015) have shown how unfounded beliefs or an erroneous processing of information could generate the "irrationality" of individual social welfare preferences.

One element in our data supporting this point of view is the evolution of the correlation between two important variables, the "preference for redistribution" and the "support for governing intervention."[15] In many studies dealing with developed countries, scholars take this variable as a proxy for preference for redistribution because there is, in these countries, a very high correlation with our own dependent variable. In Egypt, a strong correlation exists between the answers to these two questions, but only after the revolution. Indeed, for the 2001 and 2008 waves, the correlation was very weak. Specifically, support for government intervention was nearly the same before and after the revolution; this is not the case for support for reducing income differences. Our interpretation of this phenomenon is that before the revolution, Egyptians were not thinking of redistribution as an option when asked about state intervention due, among other things, to the lack of information.

6.2. *The Impact of the Perceptions on Corruption*

A plausible interpretation of the significant increase in demand for redistribution after the revolution lies in the fact that the Mubarak regime was very corrupt, so that people might expect, before the revolution, that the money collected to finance redistribution would simply be stolen. Hence a change in the demand for redistribution could be a consequence of the collapse of a corrupt regime, and not a change in preferences. Here, we provide some arguments that contradict this interpretation.

In a recent paper, Hauk *et al*. (2017) explain that perceived corruption influences people's preferences for redistribution through two channels that move in opposite directions. On the one hand, corruption undermines trust in government, which reduces people's support for redistribution. On the other hand, more corruption decreases the wealth of individuals with below-average wealth relative to those with average wealth, leading to a higher demand for redistribution. All in all, however, the authors find that perceiving corruption in the public sector tends to increase people's support for redistribution in Latin America.

The positive effect of trust in government on preferences for redistribution—the first channel described above—is also questionable. As an example, Edlund (1999) did not find any significant relationship between political trust and redistribution. In investigating this possible effect, the way in which demand for redistribution is approximated is also important. With a question on redistribution directly associated with the concept of taxation, Alesina *et al*. (2018b) showed, in a study including five countries, that the worse the view of government, the lower is redistributive support (especially in the U.S.). We emphasize that, in our study, the question used does not mention taxation or costly policies but refers more or

[15]This last variable comes from the following question: *Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. "Government should take more responsibility to ensure that everyone is provided for" vs. "People should take more responsibility to provide for themselves*."

less to ideology itself, more in line with preferences for more income equality Neher (2011).

Thanks to the World Value Survey database, we are able to investigate trust in government in Egypt before and after the Arab Spring. We propose here some regressions with the following objectives: (1) to verify the relationship between trust in the state and the preference for redistribution; and (2) to analyze the evolution of this perception among Egyptians before and after the revolution. The variable used comes from the following question: *The government (in your nation's capital): could you tell me how much confidence you have in it: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?* This variable is missing for the 2008 survey, so we compare the 2001 survey, when the Mubarak regime was operating, with the 2012 survey.

According to the estimation in column (1) of Table D.1 in the Appendix, where we have kept the same control variables as in our final regressions in Appendix 5, all coefficients associated with trust toward government have no significative impact, in 2001, on our dependent variable, namely, the preference for redistribution. The same regression in 2012 (column (2) of Table D.1 in the Appendix) shows that the only significant coefficient positively affecting support for redistribution is the one for people who do not trust the government at all. This result contradicts the argument that a negative perception of the government—due to corruption, for instance—negatively impacts the demand for redistribution, as hypothesized at the beginning of this paragraph.

Then, we display in Table D.2 in the Appendix two contingent tables to track the evolution of the variable "trust in government" from 2001 to 2012. It shows that the confidence did not drastically change and even tends to decrease, again a result that contradicts the hypothesis raised. To sum up, even if the fact that both perception of corruption and declining trust in government were main drivers of the Arab Spring is clearly established Giesing and Musić (2019), (1) the direct impact of these factors on the preference for redistribution is not so clear, or they run in the opposite direction, as hypothesized above, and (2) trust in government and the perception of corruption after the revolution have not significantly changed or, again, have effects running in the opposite direction, as hypothesized above.[16]

6.3. *Revolution: A Consequence, Not a Cause?*

According to our interpretation, the revolution has affected the demand for redistribution. However, one can also argue that the causality is reversed, in the sense that the revolution is just a consequence of an increasing demand for redistribution. First, note that we have not been able to find an appropriate instrumental variable to test the causality of the link between these two dimensions, due to the limited richness of our data and the complexity of the phenomenon. Nevertheless, several elements lead us to believe that the evolution of the demand for redistribution was a consequence and not a cause. The first element, as described in Section 2, is the fact the origins of the revolution are weakly linked to economic reasons.

[16]According to Transparency International, the evolution of the indicator of perception of corruption for the period concerned is as follows: 2008, 2.8; 2009, 2.8; 2010, 3.1; 2011, 2.9; 2012, 3.2.

The second element deals with the homogeneous evolution of the preferences for redistribution among several social groups. It has been established by El-Mallakh *et al*. (2018) that a large majority of the participants in the events in Egypt—which led to the successful revolution—were men (77 percent), who were middle-class, with high levels of education (46 percent). To say that the evolution of demand for redistribution occurred before the revolution and that it was one of the revolution's drivers implies that the evolution, between 2008 and 2012, of preferences for redistribution among individuals bearing these characteristics is more marked than that of their counterparts. Clearly this is not the case: as we have shown in Section 5 (in the part on the differential effect of time), there is no significant difference between the evolution of men's preferences compared with those of women, or between the highly educated compared to the less educated, and individuals with average financial status were not the most impacted.

The third argument is based on the results of our diff-in-diff inter-country analysis. Indeed, Egypt was the only country among the four where the revolution succeeded, but not the only one where demonstrations took place in nearly the same period following the revolution in Tunisia, such as in Jordan and Morocco (in the latter country, protests began in February 2011 in several cities). The Egyptian and Moroccan situations shared several common aspects at the beginning, from the triggers of these uprisings to the announced demands and slogans raised. Nevertheless, no evolution of preferences comparable to what we have seen in Egypt has been identified in Morocco. This observation tends to confirm the absence of a link between demand for redistribution and violent protests at the beginning of the revolution.

7. Conclusion

Our study sheds light on the determinants of preferences for redistribution in Arab countries and, more specifically, in Egypt. While the sociodemographic characteristics, economic factors, and subjective perceptions fit with the common findings, we find some differences between occidental and MENA countries. Cultural differences and the social structure of the society provide another interpretation of this question. We show that the effect of attending religious activities may be reversed. Another surprising result is the negative effect of having an altruistic attitude. In the countries that we study, the strong presence of religion and the sustenance of alternative forms of social transfers seem to weigh on the formation of individual attitudes. Concerning risk attitudes, we provide an explanation of why the proxy of occupation institution to measure risk attitude is not appropriate for the case of Egypt.

The most important result is the effect of the Arab Spring on preferences for redistribution in Egypt. It has been shown that none of the available factors considered as determinants of redistribution preference can explain this time effect. In our view, taking this event as a political and freedom shock explains Egyptians' radical change in attitudes toward redistribution between 2008 and 2012. Removing the Arab trend hypothesis by controlling for the evolution of preferences in analogous Arab countries strengthens the results. We show that this effect

is heterogeneous according to the financial and social situation of individuals. We think that the effect relates to the enlargement of the set of possibilities through the multiplication of political debates, increase in access to new informative tools, and the dissemination of the ideas of the young educated people who were deeply implicated in the revolution. This shock has a potentially long-lasting effect and might be a first step to the virtuous circle depicted by Acemoglu and Robinson (2013): first, regarding the logic of pluralistic political institutions, which contrasts with the reign of Mubarak over 30 years; and, second, regarding the possibility for free media to flourish and provide information to promote inclusive institutions. Nevertheless, it is essential to underline that while the virtuous circle creates a tendency for inclusive institutions to persist, it is neither inevitable nor irreversible.

Our work opens two main doors. First, we emphasize the necessity to enlarge the number of studies on determinants for redistribution from an oriental perspective. In this paper, we have limited our analysis to the essential aspects for this topic, but much more can be done. The second topic to investigate is the importance of the level of freedom and political context on the formation of individuals' support for redistribution. This theme is gaining in importance given the deterioration of the state of democracy in the world, as mentioned in the 2018 report "Democracy in crisis" by Freedom House. The factor of freedom (especially political freedom) has up to this point been considered very little, as far as its effect on individual preferences for redistribution is concerned.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's web site:

Appendix A: Description of variables

Appendix B: Summary statistics

Table B.1: Summary statistics: Egypt

Table B.2: Summary statistics: Jordan, Morocco and Turkey

Appendix C: The determinant of the preferences for redistribution for some MENA countries

Table C.1: The effects of some factors on preferences for redistribution in the Middle East and the North Africa: a comparison

Appendix D: Confidence in the government and Egyptian redistribution preferences

Table D.1: The impact of trust towards government on the preferences for redistribution in 2001 and 2012

Table D.2: Evolution of the index of the trust towards government between 2001 and 2012