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Re-thinking the drivers of regular and irregular migration: evidence from the MENA region

James Dennison^{1,2,3*}

*Correspondence:
James.dennison@eui.eu

¹ Migration Policy Centre,
European University Institute,
Florence, Italy

² Department of Sociology,
University of Stockholm,
Stockholm, Sweden

³ University of East Anglia,
Norwich, UK

Abstract

Why do individuals vary in their desire to emigrate? Why are some willing to emigrate irregularly? This article tests four theoretical approaches—socio-demographics; economic and political context; access to migrant networks; and psychological factors—across the Middle East and North Africa region. Data from the Arab Barometer is used to show that the most prevalent factors are youth, university education, being male, and stress levels as well as negative economic and political perceptions, being unmarried, trust in social media, remittances, and low religiosity. Notably, economic factors such as unemployment and income are shown to rarely have an effect. The determinants of being willing to emigrate without papers are fewer and distinct: gender and lower income especially as well as lower education and negative economic and political perceptions. Several contributions to our understanding of emigration are made: a two-step model of irregular emigration based on findings across 12 countries, new evidence of the complex and, within-country, muted role of economic factors, the centrality of psychology, and how, tentatively, it appears that both extreme wealth and war interact with the most fundamental socio-demographic drivers.

Keywords: Propensity to emigrate, Irregular migration, MENA region, Psychology of migration, Arab Barometer

Introduction

Migration is likely to remain one of the world's most important and complex political challenges throughout the twenty-first century with 3.6% of the global population considered migrants in 2020, a figure likely to rise (IOM, 2020). Not only does migration have vast economic consequences (with remittances alone up from \$126 billion in 2000 to \$689 billion), but its governance raises profound legal- and rights-based questions for millions of people worldwide, not least the 26 million refugees in 2020, up from 14 million two decades earlier (IOM, 2020). Variation in propensity to emigrate—regularly and irregularly—increasingly represent major parameters for policymakers when setting migration policy. The debate is granted further gravity and complexity by the highly charged political questions of identity, values, and community that discussing the topic of migration engenders. As such, understanding

what levels of propensity to emigrate are, why individuals vary in this propensity and what interventions are likely to affect it—negatively or positively—is of overwhelming practical importance for advocacy organisations, governments, communicators, policymakers and those working in politics who either want to know what is likely to be a sustainable migration policy framework or how to communicate on migration.

As such, this article asks why do individuals vary in their desire to emigrate? And why are some willing to emigrate irregularly? It tests four sets of theoretical answers to these questions across 12 countries in the Middle East and North Africa (MENA) region, finding some evidence to support certain variables in each of the four sets for both types of emigration. To do so, it uses logistic regression analyses, as well as descriptive data, based on data from the Arab Barometer, which has conducted international standard social scientific surveys across the Middle East and North Africa every two years since 2006 with sample sizes of around 2400 per country based on area probability sampling and face-to-face interviews. Uniquely, the penultimate, 2018/2019 round of surveys asked not only about desire to migrate but also about willingness to do so irregularly, as well as a range of socio-demographic, attitudinal and behavioural indicators.

In doing so it makes five contributions. First, it conceives of and tests (irregular) migration as a two-step process—first, wanting to emigrate in general and, second, being willing to do so irregularly—and so disentangles the determinants of each. Second, by covering 12 countries the study highlights commonalities across country contexts and provides a generalisable model of the two-step process, shown in Fig. 6. Third, it shows that objective economic indicators like income and employment status have weak predictive power when other socio-demographics, political and economic perceptions, access to migrant networks, and psychological variables are controlled for, contradicting with stated reasons for thinking of emigrating as shown below. In the discussion, potential reasons for this seeming contradiction are offered. Fourth, the predictive power of psychological variables is highlighted, with feeling stressed a particularly prevalent predictor of thinking of emigrating and interpersonal trust in some countries shown to predict willingness to do so without papers. Fifth, by taking a cross-country approach, several countries are shown to have *typical* determinants of emigration, and a few are shown to be atypical in the effects of socio-demographics—Iraq, Kuwait, Libya, Sudan, and Yemen—highlighting the seeming ability of extreme wealth (in Kuwait) and war to interact with and even reverse the most fundamental determinants of migration, a relationship that should be further investigated.

The article proceeds as follows. In the next section, the key theoretical approaches to explaining migration are outlined, with additional attention placed upon recent psychological findings. Next, the data and methods that the study uses are outlined. After this, three sets of descriptive variables are displayed: propensity to emigrate across the MENA region over time, distribution of desire to emigrate and irregularity willingness by country, and stated reasons for wanting to emigrate by both country and irregularity willingness. Next, regression analyses are performed for each country, first, to explain thinking of emigrating and, second, for being willing to do so without papers, before a general model of the two-step process is presented. Finally, the findings are discussed.

Major academic theories of emigration

Academic studies into why individuals migrate have been broadly categorised as those at the micro level—focussing on the attributes of the individual—or at the meso level—focussing inhibitors and enablers to migrate, especially the social groups to which the individual belongs—or at the macro level—focussing on the political or economic context of the individual's environment (Black et al., 2011). Besides these, there are several recent important works that also warrant consideration. Having overviewed these explanations, we then consider potential shortcomings in the literature.

At the micro-level, socio-demographic findings on propensity to emigrate are some of the most consistent and least controversial. Being male, young, well-educated, living in an urban environment, being single, having a migrant background have all been demonstrated to increase the probability to an individual will attempt to emigrate across various contexts (see Hiskey et al., 2014; Migali & Scipioni, 2018, for overviews, see Dibeh et al., 2018, for evidence from Lebanon).

Meso-level facilitators and inhibitors of migrating are numerous, though perhaps the one with the most consistent findings is the effects of migrant networks, with variables to measure this including awareness of migrant networks, having contacts who are migrants, and receiving remittances, with proposed causal mechanisms including increased informational, logistical and social support as well as lower perceived risk (e.g. Bertoli & Ruysen, 2016; Migali & Scipioni, 2018). Other related factors include geographical and cultural proximity (Dao et al., 2018; Mai, 2005) and social media use (Dekker & Engbersen, 2013). Notably, many of these variables are in fact micro-level, though act as proxies for various forms of mediating variables.

Macro-level findings regarding propensity to emigrate primarily focus on the political and economic context. Perhaps the most well-known finding is the so-called *inverse U-curve*, which postulates that as a country's level of development increases so does the propensity of its citizens to emigrate due to increases in their structural and material capability, partially in terms of access to credit, skills composition, and macroeconomic conditions. The same theory suggests that at a certain level of economic development—as of 2018 around \$6000 GDP per capita at purchasing power parity (PPP), i.e. around the level of Angola, Uzbekistan or Vietnam—that propensity to emigrate peaks and then begins to fall. The empirical reality of this curve is fairly indisputable, even if development economists have debated at great length the exact reasons for and causal nature of the relationship, which is more complex (see e.g. Dao et al., 2018). This inverse U-curve relationship between development and propensity to emigrate has been shown to be exacerbated by greater education and greater unemployment (Esipova et al., 2011; Migali & Scipioni, 2018; for complexities of economic incentives to emigrate in Egypt see David & Jarreau, 2017, for those across the MENA region see Dibeh et al., 2019; Glystos, 2002).

At this point it is worth pointing out the GDP PPP per capita of the MENA region countries respectively. The data for each country is from IMF (2021) while we again use Arab Barometer data for propensity to migrate. As shown in Table 1, indeed, the inverse U-curve theory is largely validated throughout the Arab world. The poorest country, Yemen, has a relatively low percentage of citizens who have thought of migrating (21%). Those with a GDP PPP per capita between \$4000 and \$12,000 all have a relatively larger percentage: in ascending order of wealth, Sudan (51%),

Table 1 Economic development and propensity to migrate across Arab countries

	GDP PPP per capita (\$)	Percentage thought of migrating
Algeria	11,433	30%
Bahrain	50,284	21% ^a
Egypt	13,083	28%†
Iraq	10,038	38%
Jordan	10,590	36%
Kuwait	41,507	8%†
Lebanon	11,564	48%
Libya	13,723	14%
Morocco	8027	31%
Palestine	5664	27%†
Saudi Arabia	48,099	8% ^b
Sudan	4082	51%
Tunisia	10,594	47%
Yemen	1924	23%†

GDP PPP per capita from the IMF (2021); Proportion thought of migrating from the 2021 Arab Barometer, † from 2019 Arab Barometer

^a Bahrain last surveyed in 2007 and ^bSaudi Arabia last surveyed in 2011

Palestine (27%), Morocco (31%), Iraq (38%), Jordan (36%), Tunisia (48%), Algeria (30%), and Lebanon (48%). Thereafter, the percentage who have thought of migrating decreases: Egypt (28%); Libya (14%); Kuwait (8%); Saudi Arabia (8%); and Bahrain (21%, although last measured in 2007). In the “Appendix”, Fig. 6 visualises this inverse U-curve relationship.

Other findings based on host country context include: the quality of the democratic system, the government’s capacity to provide services (including education, social security, pensions and ability to impose law; e.g., Dustmann & Okatenko, 2014; Van Dalen & Henkens, 2007), perceptions of neighbourhood safety, perceptions of corruption, evaluations of government effectiveness, being a victim of crime, satisfaction with democracy (e.g. Begović et al., 2020). This leads Hiskey et al. (2014) to summarise that ‘the emigration decision of certain individuals in authoritarian regimes is without a doubt in large part a function of the political system and one’s assessment of their future within that system.’ Most pronounced of all is the effect of war on propensity to emigrate regardless of development levels (Cohen, 1987).

Overall, the above findings lead Black et al., (2011: S5) to produce a theoretical model of the decision to migrate that combines macro contextual factors (politics and economics, but also environmental, social and demographic issues) with the individual’s socio-demographic characteristics and ‘intervening obstacles and facilitators’. Beyond these, additional “pull factors” that largely mirror the “push” factors but equally explain one’s desire to leave one place for another have been identified such as demand for labour in advanced industrial countries (Sirojudin, 2009) and better living conditions; political and/or religious freedom; enjoyment; education; better medical care; and security (Mohamed & Abdul-Talib, 2020).

Psychological forces: an overlooked factor

Psychological indicators have been overlooked in the literature on propensity to emigrate and may be of particular use to practitioners, since, unlike stable socio-demographics or macro-level trends, they can be more easily used to make persuasive or informative communication effective. Moreover, as Hiskey et al. (2014: 93) note ‘very little work exists on the cognitive process that precedes the actual act of emigration.’ However, psychological determinants of emigration have been shown to include emotions and desires (Carling & Collins, 2017); diverse values and expectations of where those values will be realised (De Jong, 1999), norms (de Jong, 2000), identity (Tharenou, 2010), personality (Frieze & Li, 2010), and willingness to bear the psychic costs of cutting old ties and forging new ones (Massey et al., 1993). Other exceptions that do exist include personal economic and life dissatisfaction—but these only partially result from individual psychological forces and also are rooted in broader context—which have all been repeatedly shown to increase one’s chance of emigration (e.g. (Hiskey et al., 2014; Migali & Scipioni, 2018).

Most obviously, we can expect one’s pattern of thoughts, emotions, social styles and behaviours that affect their self-perceptions, values and attitudes—to affect propensity to migrate, with more open-minded and less aggregable individuals more likely to emigrate and more neurotic and, perhaps, conscientious individuals less likely to do so. Indeed, Boneva and Frieze (2021: 477) show that those who migrate tend to be ‘more work-oriented and to have higher achievement and power motivation, but lower affiliation motivation and family centrality’. Berlinschi and Harutyunyan (2019: 831) show that migrants are more optimistic and less risk averse, along with several political psychological findings. Other deep-seated psychological forces that could be tested in future include psychological schema such as personal values, i.e. one’s broad motivation goals in life that dictate more specific attitudes and behaviours, should affect propensity to emigrate. For example, in the terms of Schwartz’ basic human values (1992) we can expect valuing self-direction, stimulation as well as, potentially, achievement and universalism to increase propensity to emigrate, whereas valuing tradition, conformity and security to reduce propensity to emigrate. A number of other values-schema could also be applied (Dennison et al., 2020).

In addition to these we can expect two further key psychological variables to affect one’s propensity to emigrate and whether they would be willing to do so without papers: their sense of self-efficacy and their degree of interpersonal trust. Self-efficacy, the extent to which one feels able to affect their own life via effective behaviours, is likely *increase* one’s chance both of emigrating, generally, and doing so without papers specifically (see Hoppe & Fujishiro, 2015, for review of concept and findings on relationship in Europe). In both cases, the same causal logic is apparent, those with a high sense of self-efficacy will believe that they can both make a success out of the migration process—which poses its own challenges in both the cases of regular and, even more, irregular migration—and once the act of emigration has taken place. Inter-personal trust is also likely to cause a higher propensity to emigrate, both as a predisposition that leads one to believe that the destination country will be hospitable and to take part in migrant networks based on trust, particularly for those migrating irregularly (see Tilly, 2007, for latter point). Furthermore, two mental health symptoms are also likely to affect both

the desire to emigrate and the willingness to do so without papers: experiencing higher stress and depression. Both are likely to lead one to want to emigrate to escape their current situation, however, in the case of the former, we might expect pre-existing stress to reduce one's propensity to emigrate without papers given findings on how irregular emigration causes stress and trauma (Steel et al., 2017).

We now turn to outlining the data and methods we will use to explain why individuals vary in their propensity to emigrate and why some are willing to do so irregularly, based on the findings and theoretical considerations above.

Data and methods

To answer why individuals vary in their propensity to emigrate and why some are willing to do so irregularly, we rely on data from the Arab Barometer. The Arab Barometer has conducted international standard social scientific surveys across the Middle East and North Africa since 2006. The sample design is area probability sampling—making the surveys representative at both national and governorate/regional level—and the mode is face-to-face interviews in the respondent's home, the gold-standard for survey research. Each survey includes around 2400 respondents. More methodological information can be found on the Arab Barometer's website.¹ Its most recent, sixth wave of surveys were administered in late 2021 across seven countries: Algeria, Iraq, Jordan, Lebanon, Libya, Morocco, and Tunisia. Another seven countries have been surveyed at least once over the course of the six waves: Bahrain, Egypt, Kuwait, the Palestinian Territories, Saudi Arabia, Sudan, and Yemen. Not only is the Arab Barometer of high scientific quality, but it has included a question on propensity to migrate in every wave, as well as asking about reasons for wanting to emigrate amongst those who answer positively. More recent waves have also asked about desired migration destination, while the fifth, 2018/2019 wave also asked about willingness to migrate irregularly. As such, the Arab Barometer constitutes an ideal dataset for this study.

Our primary method for testing the various explanations for migrating and doing so irregularly is using logistic regression analysis given the dichotomous nature of the independent variable, both in the case of willingness to emigrate and willingness to do so without papers (see Table 2) below. Theoretically, we conceive (irregular) migration as a two-step process driven by, first, a desire to emigrate and, second, a willingness to do so irregularly. As such, we first produce twelve logistic regression models—one for each country participating in the fifth Arab Barometer—measuring the effect of numerous explanatory variables on our first outcome variable: propensity to emigrate. We then produce another twelve—again, one for each country—measuring the effects of each explanatory variable on willingness to emigrate without papers, amongst those who have expressed a desire to emigrate. We use the fifth round of the Arab Barometer instead of the more recent sixth round because the former includes more countries (at least at the time of writing) and includes a question on willingness to emigrate without papers, which the sixth round does not. Our method allows us to test how each of the theoretical explanations mentioned above affects each of the two outcome variables of

¹ <https://www.arabbarometer.org/survey-data/methodology/>

Table 2 Variables used for regression analyses, taken from Arab Barometer Round 5

Variable name	Original question	Recoded responses
<i>Outcome variables</i>		
Propensity to emigrate	"Some people decide to leave their countries to live somewhere else. Have you ever thought about emigrating from your country?"	1 "Yes"; 0 "No"
Willingness to do so without papers	"Would you consider leaving [COUNTRY] even if you didn't have the required papers that officially allowed you to leave?"	1 "Yes"; 0 "No"
<i>Explanatory variables</i>		
<i>Socio-demographics</i>		
Male	Recorded by interviewer	1 (male); 0 (female)
Age	"Could you please tell me your approximate age?"	0–99
University	"What is your highest level of education?"	1 if "university"; 0 for all other responses
Unemployed	"Are you ... ?"	1 if "unemployed"; 0 for all other responses
Unmarried	"What is your current social status?"	1 if "single/bachelor"; 0 for all other responses
High income	"Is your net household income less than or greater than [MEDIAN INCOME IN LOCAL CURRENCY]?"	1 if median or more; 0 if below
Religious	"In general, you would describe yourself as religious, somewhat religious, or not religious?"	1 if "religious"; 0 if "somewhat religious" or "not religious"
<i>Political and economic context</i>		
Economic pessimism	"What do you think will be the economic situation in your country during the next few years (2–3 years) compared to the current situation?"	1 "much better" to 5 "much worse"
Perceived democracy	"Measuring the extent to which your country is democratic, on a scale from 0–10 with 0 meaning there is no democracy whatsoever and 10 meaning that it is democratic to the greatest extent possible. In your opinion, to what extent is your country democratic?"	0 "no democracy" to 10 "complete democracy"
Perceived corruption	"To what extent do you think that there is corruption within the national state agencies and institutions in your country?"	1 "not at all" to 4 "to a large extent" (original coding reversed)
<i>Access to migration networks</i>		
Use social media	"How many hours on a typical day do you spend on social media platforms [INTERVIEWER: IF ASKED SPECIFY SUCH AS FACEBOOK, TWITTER, OR WHATSAPP]?"	1 "not at all" to 5 "10 h or more"
Trust social media	"To what extent do you agree or disagree with the following statements. I trust the information provided by social media [INTERVIEWER: IF ASKED SPECIFY SUCH AS FACEBOOK, TWITTER, OR WHATSAPP] more than that provided by newspapers or TV news programs."	1 "I strongly disagree" to 4 "I strongly agree" (original coding reversed)
Receive remittances	"Does your family receive remittances from someone living abroad?"	1 "we do not receive anything" to 4 "Yes, monthly" (original coding reversed)

Table 2 (continued)

Variable name	Original question	Recoded responses
<i>Psychological factors</i>		
Feel free to make decision	"To what extent do you agree with the following statement: "I feel I am free to make decisions for myself on how to live my life.""	1 "1 strongly disagree" to 4 "1 strongly agree (original coding reversed)"
Stress	"In the past six months, how often did you feel so stressed that everything seemed to be a hassle?"	1 "Never" to 4 "Most of the time"
Depression	"Life is overwhelming at times. In the past six months, how often did you feel so depressed that nothing could cheer you up?"	1 "Never" to 4 "Most of the time"
Interpersonal trust	"Generally speaking, would you say that "Most people can be trusted" or "that you must be very careful in dealing with people?"	1 "1 must be very careful in dealing with people"; 2 "Most people can be trusted" (original coding reversed)

interest. The data in each model is weighted according to the Arab Barometer's weights and missing data is imputed beforehand. The equation for each of the logistic models is as follows: $\text{logit } \mathbb{E}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$ where $\text{logit } \mathbb{E}(Y)$ is an individual's probability of responding "yes" as their outcome variable; β_0 is the intercept; $\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$ are the slopes against the independent variables. In addition, equivalent linear regression models are added to the appendices as Tables 6 and 7.

The responses to the questions used in our two sets of models are listed below in Table 2. As can be seen, these include our two outcome variables as well as our four sets of explanatory variables, those based on (1) socio-demographics; (2) political and economic context (albeit perceived); (3) access to migration networks; and (4) psychological factors. Each variable is recoded for simplicity and ease of interpretation in the models.

Describing propensity to emigrate in the Arab world

Before moving on to our explanatory models of why individuals vary in their desire to migrate, it is worth overviewing three sets of descriptive statistics from the Arab Barometer. First, the Arab Barometer's six waves allows us to track how propensity to migrate has changed over time. Second, we see how propensity to migrate and willingness to do so without papers is distributed in each country. Third, in seeking to explain why individuals migrate, it is also worth looking at the stated reasons given by those thinking of emigrating but unwilling to do so without papers and those willing to do so without papers.

Propensity to emigrate over time

To measure propensity to migrate by country over time, we use the percentage responding "yes" to "Some people decide to leave their countries to live somewhere else. Have you ever thought about emigrating from your country?". This is by no means the only way to measure propensity to migrate and is likely to result in higher scores than, for example, questions asking about intention or plans to migrate. Indeed, there are numerous inhibiting or facilitating factors that can preclude a desire

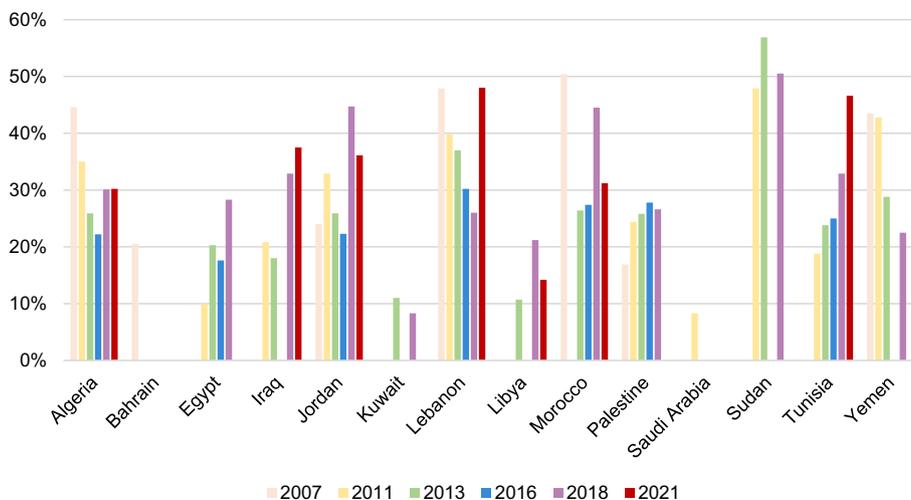


Fig. 1 Propensity to emigrate by country, 2007–2021. Notes: Weighted. Arab Barometer I, II, III, IV, V, VI. Percentage responding “yes” to “Some people decide to leave their countries to live somewhere else. Have you ever thought about emigrating from your country?”

to emigrate from becoming a reality, as we outlined above. However, its consistent use over time and between countries allows us to capture trends in the sentiment that drives the demand for emigration. In Fig. 1, below, we see results displayed by country over time.

Although country trends vary considerably, four trends are notable. First, Algeria, Jordan, Lebanon, and, to an extent, Morocco have experienced a U-shaped trend in propensity to emigrate over time, starting high in 2007 (between 24 and 50%) and experiencing a decline until 2016. Thereafter, each country experienced a large increase again in propensity to emigrate, which was partial in the case of Algeria and Morocco (by 2021, 30% and 31% respectively) but full in the cases of Jordan and Lebanon (by 2021, 36% and 48% respectively). Notably, the Arab Spring of the early 2010s was *relatively* less consequential in these countries than in Egypt, Libya, Syria, Bahrain and Tunisia, though there were sustained street demonstrations in them all (for analysis of migration and the Arab Spring see, e.g. Fargues & Fandrich, 2012; Fargues, 2017). Second, Egypt, Iraq, Tunisia, and to an extent Palestine and Libya, have all experienced more-or-less continuously upward trajectories in desire to emigrate throughout the period, from a relatively low score (10%, 21%, 19%, 17% and 11% respectively) to relatively high one (28%, 38%, 47%, 27%, and 14% respectively). Notably, except for Palestine, all of these countries saw the ruler deposed by the Arab Spring. Third, the Gulf states of Bahrain, Kuwait, and Saudi Arabia have been surveyed few times and, in every case, reported relatively low proportions expressing a desire to migrate. Fourth, Sudan and Yemen started with very high proportions of respondents expressing a desire to emigrate, a figure that has stayed constant in the case of the former but declined sharply in the case of the latter.

We now turn to differentiating between the proportion of those who would not considering doing so without official papers (i.e. to emigrate irregularly) and those who would be willing to do so. The Arab Barometer asked in its 2018/2019 wave “Would you consider leaving [COUNTRY] even if you didn’t have the required papers

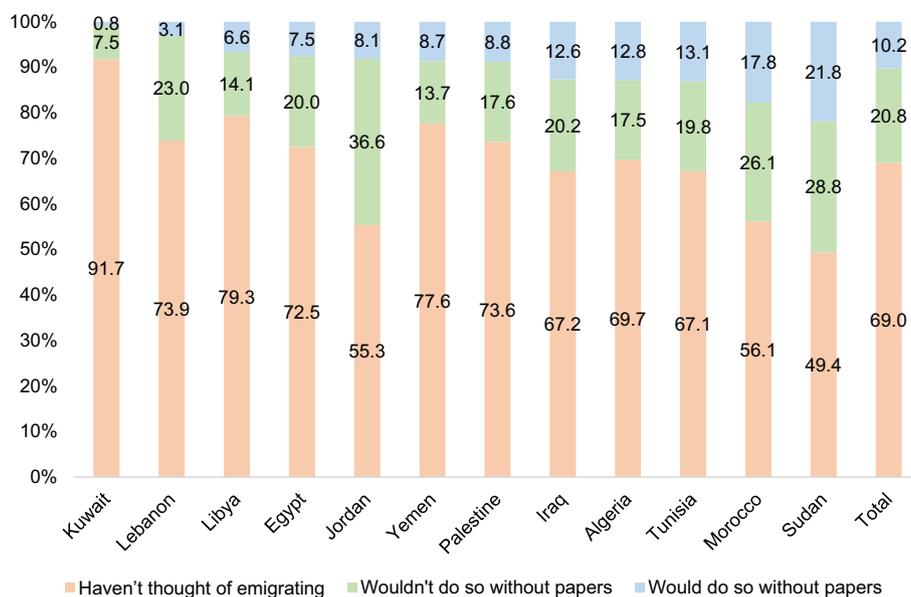


Fig. 2 Distribution of desire to emigrate and willingness to do so without papers by country, 2018/19. Notes: Arab Barometer, 2018/19. Weighted. See Fig. 1 for question on desire to emigrate. Those who responded “yes” were then asked “Would you consider leaving [COUNTRY] even if you didn’t have the required papers that officially allowed you to leave?”. “Total” figure country-level average

that officially allowed you to leave?” to those who had already responded that they had thought about emigrating. Below, in Fig. 2, we see the responses by country in ascending order of willingness to emigrate without papers.

There are three noteworthy observations. First, amongst those who have thought of migrating, in no country is the proportion willing to do so without papers as high as the proportion unwilling to do so. Second, as a rough rule of thumb across the region, around 30% of citizens have thought of migrating, two-thirds of whom would be unwilling to do so irregularly. Third, the proportion of those willing to migrate without papers varies considerably by country, leaving aside Kuwait, from just 3.1% in Lebanon up to 21.8% in Sudan.

We now turn to describing the reasons people state when asked why they have thought about emigrating. The Arab Barometer presents respondents with the following question: “People want to emigrate for different reasons. Why have you thought about emigrating?”. Answers are open-ended and then classified according to eight categories: economic reasons, political, religious, security, education, family reunion, corruption, and other. In Fig. 3, below, we see the answers by country and by willingness to do so without papers.

Overall, the most stated reason for wanting to emigrate was economic reasons. The country-level average was around 60%, both for those willing and unwilling to emigrate without official papers. The second most stated reason was education opportunities amongst both those willing (9.7%) and unwilling (14.6%) to emigrate without official papers. Political and corruption motivations were considerably more prevalent amongst those willing to emigrate without papers (6% and 8.6%) than amongst those unwilling to do so (3.1% and 5.6%). In Egypt, Tunisia, and Jordan both those willing and unwilling to

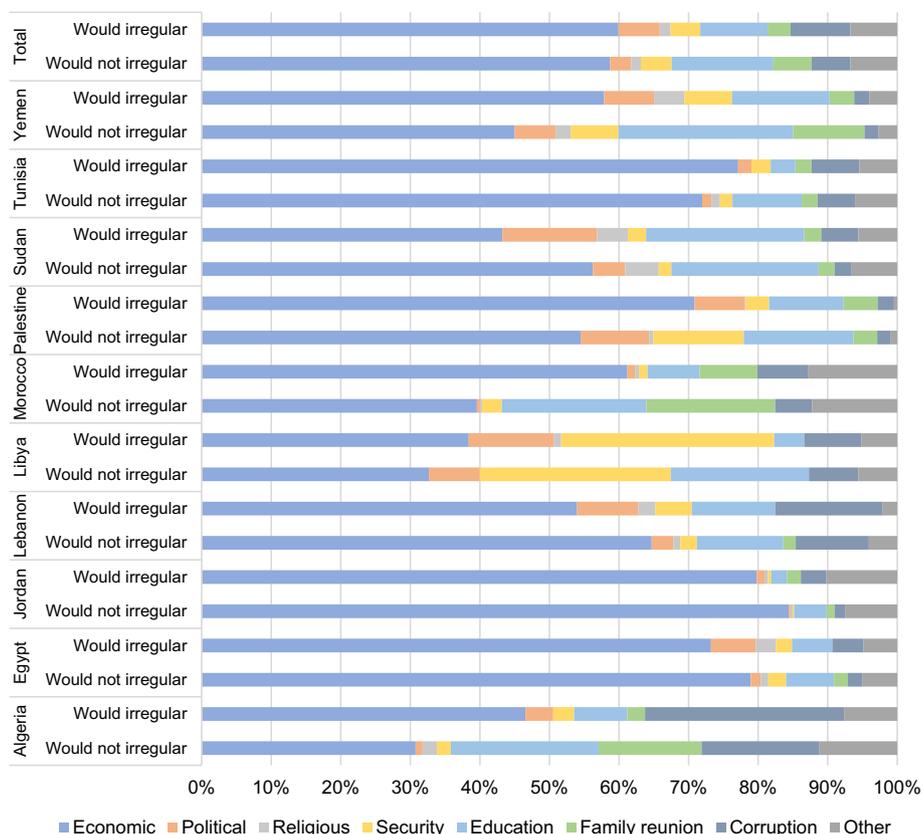


Fig. 3 Stated reasons for wanting to emigrate by country and irregularity willingness. Notes: Weighted. Stacked graphs, actual figures over 100 due to multiple answers. "Total" figure country-level average. Kuwait not shown due to low propensity to emigrate, no data for Iraq

migrate without papers are overwhelmingly (more than 70% across all six groups) motivated by economic considerations. Algerians have one of the most diverse motivational profiles, with education, family reunification, and corruption highly preminent. Libyans are highly motivated by security issues, as well as political and, amongst would-be regular migrants, educational issues. Moroccans unwilling to migrate irregularly show a broad motivational profile, including education and family reunification, whereas those willing to do so irregularly are overwhelmingly likely to state the economy.

In the "Appendix", we also see the planned countries and regions of destination of both those thinking of emigrating but unwilling to do so without papers and those willing to do so without papers for each of the 12 counties.

Analyses

We now turn to using logistic regression models, as described above, to test why individuals vary in their propensity to emigrate and why some are willing to do so irregularly. In Table 3 we see each country analysis predicting one stating that they have thought of migrating rather than that they have not. In terms of socio-demographic predictors, three explanatory variables stand out for how consistently they have a statistically significant effects: being male (in 9 of the 12 countries), being younger (in all

Table 3 Logistic regression analyses of propensity to migrate by country

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Socio-demographics</i>												
Male	1.26*** (0.01)	2.71*** (0.01)	0.09 (0.00)	0.59*** (0.00)	-0.23 (0.01)	0.57*** (0.00)	-0.13 (0.01)	1.07*** (0.01)	0.29** (0.01)	0.80*** (0.01)	0.61*** (0.01)	1.74*** (0.01)
Age	-0.06*** (0.01)	-0.09*** (0.01)	-0.02*** (0.00)	-0.03*** (0.00)	-0.03*** (0.01)	-0.02*** (0.00)	-0.02*** (0.01)	-0.06*** (0.01)	-0.02*** (0.01)	-0.04*** (0.01)	-0.03*** (0.01)	-0.06*** (0.01)
University	0.14*** (0.04)	0.03 (0.05)	0.10*** (0.03)	0.07** (0.03)	0.13* (0.07)	0.09*** (0.03)	0.12*** (0.04)	0.13*** (0.04)	0.16*** (0.03)	0.15*** (0.03)	0.15*** (0.04)	0.15*** (0.03)
Unemployed	0.13 (0.19)	0.63** (0.26)	0.16 (0.16)	-0.28 (0.19)	0.56 (0.47)	-0.15 (0.22)	-0.09 (0.21)	0.36** (0.16)	0.64*** (0.18)	-0.23 (0.18)	0.38** (0.18)	0.13 (0.17)
Unmarried	0.58*** (0.19)	-0.09 (0.23)	-0.05 (0.13)	0.32* (0.17)	0.17 (0.29)	0.24* (0.14)	0.41** (0.18)	0.21 (0.18)	0.51*** (0.15)	0.13 (0.15)	0.40** (0.17)	-0.13 (0.17)
High income	-0.02 (0.15)	-0.11 (0.17)	-0.23** (0.10)	-0.07 (0.12)	0.69*** (0.25)	0.05 (0.16)	-0.01 (0.17)	-0.12 (0.14)	-0.03 (0.13)	-0.05 (0.13)	0.14 (0.14)	0.22 (0.13)
Religious	0.25 (0.18)	-0.34** (0.17)	-0.32*** (0.10)	-0.31** (0.12)	-0.05 (0.44)	-0.09 (0.13)	-0.08 (0.18)	-0.52*** (0.15)	-0.38*** (0.13)	0.02 (0.14)	-0.09 (0.14)	-0.40*** (0.15)
<i>(Perceived) economic and political context</i>												
Economic pessimism	0.20*** (0.07)	0.03 (0.09)	0.14*** (0.04)	0.16*** (0.05)	0.22* (0.12)	0.10* (0.06)	-0.01 (0.06)	0.23*** (0.06)	0.05 (0.05)	0.12** (0.06)	0.25*** (0.05)	0.23*** (0.07)
Perceived democracy	-0.04 (0.03)	-0.17*** (0.04)	-0.06*** (0.02)	-0.07*** (0.02)	-0.17*** (0.06)	-0.04* (0.02)	-0.03 (0.03)	-0.09*** (0.03)	-0.08*** (0.03)	-0.09*** (0.03)	-0.05** (0.02)	0.00 (0.03)
Perceived corruption	0.14 (0.14)	0.14 (0.14)	0.37*** (0.09)	0.32*** (0.09)	0.36 (0.25)	0.44*** (0.09)	0.03 (0.12)	0.39*** (0.09)	0.15* (0.08)	0.32*** (0.09)	0.35*** (0.11)	0.36*** (0.09)
<i>Access to migrant networks</i>												
Use social media	0.32*** (0.09)	0.21 (0.13)	0.06 (0.05)	0.10 (0.07)	-0.29* (0.16)	-0.03 (0.06)	0.32*** (0.09)	0.14 (0.10)	0.19*** (0.07)	0.03 (0.09)	0.18*** (0.07)	0.17* (0.10)
Trust social media	0.22** (0.10)	-0.07 (0.10)	0.17*** (0.05)	0.22*** (0.07)	0.03 (0.14)	0.16** (0.08)	-0.10 (0.10)	0.21*** (0.07)	0.18** (0.08)	0.13* (0.08)	0.21*** (0.07)	0.19*** (0.07)
Receive remittances	0.19 (0.15)	0.10 (0.14)	0.27** (0.12)	0.24* (0.14)	0.19 (0.26)	0.19* (0.11)	0.24 (0.17)	0.28** (0.13)	0.27*** (0.10)	0.13 (0.10)	0.41*** (0.12)	0.16* (0.09)
<i>Psychological factors</i>												
Feel free to make decision	0.38*** (0.13)	0.05 (0.13)	0.11 (0.08)	0.08 (0.09)	-0.03 (0.24)	0.23** (0.10)	0.04 (0.12)	0.11 (0.10)	0.03 (0.09)	0.02 (0.11)	0.00 (0.11)	0.07 (0.11)

Table 3 (continued)

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
Stress	0.23* (0.12)	0.33** (0.15)	0.15* (0.08)	0.35*** (0.09)	0.27 (0.24)	0.16 (0.11)	0.35*** (0.10)	0.24** (0.11)	0.22** (0.10)	0.34*** (0.12)	0.29*** (0.08)	0.43*** (0.13)
Depression	0.13 (0.12)	-0.03 (0.14)	0.15* (0.08)	0.03 (0.10)	0.05 (0.22)	0.24** (0.11)	0.09 (0.11)	0.05 (0.10)	0.12 (0.11)	0.05 (0.11)	0.09 (0.08)	-0.08 (0.12)
Interpersonal trust	0.07 (0.26)	-0.36* (0.19)	-0.23 (0.19)	-0.37* (0.21)	0.97*** (0.30)	0.48* (0.27)	-0.40 (0.30)	-0.17 (0.18)	-0.28 (0.20)	-0.14 (0.19)	-0.44* (0.25)	-0.32** (0.15)
Constant	-4.14*** (0.88)	-0.34 (1.14)	-3.25*** (0.61)	-2.51*** (0.67)	-3.72** (1.69)	-5.21*** (0.76)	-2.75*** (0.87)	-2.48*** (0.73)	-3.13*** (0.67)	-1.87** (0.74)	-3.97*** (0.73)	-3.84*** (0.70)
Observations	2332	2302	2429	2325	1344	2395	1938	2298	2388	1714	2298	2339

Missing variables imputed. Standard errors in parentheses. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. \$ responses not available for country

12 countries), and having a university education (in 11 countries). After this, the most prevalent statistically significant effects were being unmarried (in 6 countries) and the negative effect of being religious (in 6 countries). Of note, the two factors with the least prevalent effects were being unemployed (in 4 countries) and having a higher income (in just 2 countries, positively in Kuwait and negatively as expected in Iraq).

Our models also highlight the importance of perceptions of one's economic and political context. In 9 of the 12 countries, pessimism about one's country's economic future was positively associated with thinking of emigrating, while perceiving one's country as democratic had a negative effect in 9 countries and perceiving it as corrupt had a positive effect in 8 countries. Access to migrant networks is also shown to be highly relevant to the likelihood that one is considering emigrating: trusting social media over traditional media is shown to have a positive effect in 9 countries, receiving remittances in 7, and using social media in 5 (with the latter also having a negative effect in Kuwait). Finally, our proposed psychological factors are a mixed bag in terms of their effects: feeling stressed in one's life has a positive statistically significant effect in 10 of the 12 countries—the most prevalent non-socio-demographic predictor, trust has a statistically significant effect in 6 countries but with effects in both directions, whereas both feeling free and feeling depressed have positive effects but in only 2 of the 12 countries. Linear regression tables are shown in the “Appendix” Table 6, with almost identical results.

We now move to testing which of the above variables also affect the probability of being willing to migrate without papers, amongst those who state that they are thinking of migrating in general, shown in Table 4. In terms of socio-demographic predictors, the two most prevalent statistically significant effects are those of being male (9 of 12 countries, with a negative non statistically-significant effect in low-emigration Kuwait) and the negative effect of having an income higher than the country's median (in 8 of countries, with a positive effect in Libya). The next two most prevalent effects are *not* having a university education (4 countries) and being unmarried (4 countries). Age, unemployment, and religiosity only have statistically significant effects in 1 to 3 countries.

In terms of perceived economic and political context, there is some evidence that economic pessimism has a positive effect (statistically significant in 3 countries, negative in Yemen) on willingness to emigrate without papers and that the perceived level of democracy in one's country has a negative effect (in 3 countries). There is no evidence that perceived corruption has an effect. Similarly, the variables measuring access to migrant networks only show occasional evidence of effects: in 3 countries for social media use (and negative in 1), 2 for social media trust and none for one's family receiving remittances. The psychological factors are similarly not prevalent, with feeling free to make decisions and feeling stressed by life not having statistically significant effects in any country and feeling depressed and trusting other people having effects in only 2 each. Linear regression tables are shown in the “Appendix” Table 7, with almost identical results.

Altogether, these relationships are shown in generalised terms for the MENA region in Fig. 4.

Table 4 Logistic regression analyses of propensity to migrate without papers, among those thinking of migrating, by country

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Socio-demographics</i>												
Male	1.55*** (0.28)	0.60 (0.37)	0.73*** (0.19)	0.81*** (0.23)	-2.28 (1.84)	0.46 (0.34)	0.92*** (0.31)	2.10*** (0.24)	0.58** (0.23)	0.74*** (0.18)	1.01*** (0.24)	1.77*** (0.35)
Age	-0.05*** (0.02)	-0.03 (0.02)	-0.01 (0.01)	-0.00 (0.01)	-0.02 (0.07)	-0.02 (0.02)	0.01 (0.02)	-0.01 (0.02)	0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
University	-0.06 (0.06)	-0.13 (0.08)	0.00 (0.05)	-0.08 (0.06)	-0.21 (0.51)	-0.07 (0.09)	-0.26*** (0.09)	-0.22*** (0.05)	0.02 (0.05)	-0.02 (0.05)	-0.25*** (0.06)	-0.12** (0.05)
Unemployed	0.25 (0.26)	0.37 (0.37)	0.66*** (0.25)	0.33 (0.28)	2.82 (2.62)	0.13 (0.57)	0.80** (0.40)	0.58*** (0.20)	0.06 (0.29)	-0.31 (0.23)	-0.00 (0.24)	0.13 (0.26)
Unmarried	0.62** (0.29)	0.05 (0.38)	0.08 (0.22)	-0.23 (0.32)	-2.02 (1.75)	-0.00 (0.46)	0.17 (0.35)	0.57** (0.28)	0.52* (0.28)	0.25 (0.19)	0.50* (0.28)	0.29 (0.27)
High income	-0.56** (0.24)	-1.12*** (0.30)	-0.37** (0.17)	-0.50** (0.24)	1.81 (1.67)	-0.27 (0.43)	0.56* (0.32)	0.02 (0.19)	-0.56*** (0.21)	-0.51*** (0.17)	-0.46* (0.24)	-0.60*** (0.22)
Religious	-0.20 (0.29)	0.18 (0.33)	0.21 (0.18)	0.22 (0.24)	-0.44 (2.81)	-0.07 (0.38)	0.25 (0.34)	-0.22 (0.25)	0.03 (0.25)	-0.11 (0.18)	0.13 (0.26)	-0.73*** (0.26)
<i>(Perceived) economic and political context</i>												
Economic pessimism	0.21** (0.10)	0.16 (0.14)	0.06 (0.07)	0.28*** (0.09)	0.19 (0.70)	0.05 (0.16)	-0.07 (0.12)	0.11 (0.08)	0.02 (0.10)	0.01 (0.07)	0.26*** (0.08)	-0.20** (0.10)
Perceived democracy	-0.00 (0.05)	-0.10 (0.07)	-0.05* (0.03)	-0.07 (0.04)	-0.33 (0.32)	0.10 (0.07)	-0.05 (0.06)	-0.16*** (0.05)	-0.08 (0.05)	-0.06 (0.04)	-0.06* (0.04)	0.02 (0.04)
Perceived corruption		0.06 (0.21)	0.17 (0.22)	-0.04 (0.16)	-1.00 (1.13)	-0.21 (0.29)	0.07 (0.18)	0.18 (0.14)	-0.10 (0.16)	-0.16 (0.10)	0.18 (0.20)	0.11 (0.15)
<i>Access to migrant networks</i>												
Use social media	0.14 (0.14)	-0.18 (0.19)	0.10 (0.09)	0.29** (0.12)	0.48 (0.89)	-0.64*** (0.18)	0.27* (0.15)	0.10 (0.12)	0.01 (0.12)	0.03 (0.11)	0.29*** (0.10)	-0.12 (0.18)
Trust social media	-0.17 (0.14)	-0.00 (0.16)	0.18** (0.08)	-0.05 (0.13)	0.83 (0.88)	-0.08 (0.16)	0.21 (0.18)	-0.05 (0.11)	-0.00 (0.14)	0.14 (0.10)	0.19* (0.11)	-0.08 (0.13)
Receive remittances	0.01 (0.23)	0.05 (0.25)	0.16 (0.17)	0.12 (0.22)	-0.06 (1.67)	0.01 (0.30)	0.04 (0.32)	0.04 (0.14)	0.10 (0.15)	-0.05 (0.12)	-0.01 (0.15)	0.02 (0.14)

Table 4 (continued)

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Psychological factors</i>												
Feel free to make decision	-0.11 (0.18)	0.02 (0.19)	-0.12 (0.12)	-0.16 (0.17)	-0.80 (1.05)	-0.18 (0.29)	-0.25 (0.23)	0.05 (0.14)	-0.06 (0.15)	-0.15 (0.14)	0.09 (0.15)	-0.12 (0.19)
Stress	0.05 (0.22)	-0.05 (0.25)	-0.04 (0.14)	0.06 (0.20)	0.39 (1.13)	-0.18 (0.33)	0.05 (0.25)	0.16 (0.15)	0.23 (0.21)	0.16 (0.16)	0.09 (0.14)	-0.03 (0.20)
Depression	0.15 (0.22)	0.06 (0.22)	0.07 (0.13)	-0.02 (0.16)	-0.30 (1.46)	0.23 (0.32)	0.40* (0.24)	0.38** (0.17)	0.16 (0.17)	-0.07 (0.14)	0.15 (0.14)	-0.14 (0.22)
Interpersonal trust	0.14 (0.42)	-0.25 (0.38)	0.07 (0.32)	0.44 (0.38)	-1.28 (1.88)	1.80*** (0.54)	1.29** (0.56)	0.41 (0.30)	0.09 (0.35)	0.02 (0.25)	0.46 (0.48)	-0.07 (0.25)
Constant	-0.72 (1.40)	0.33 (1.80)	-1.86 (1.22)	-3.03** (1.23)	3.75 (7.92)	-0.61 (1.94)	-3.84** (1.70)	-4.14*** (1.20)	-1.99 (1.25)	0.54 (0.94)	-4.56*** (1.27)	0.16 (1.31)
Observations	795	516	821	933	96	584	360	865	629	920	720	560

Missing variables imputed. Standard errors in parentheses. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. \$ responses not available for country

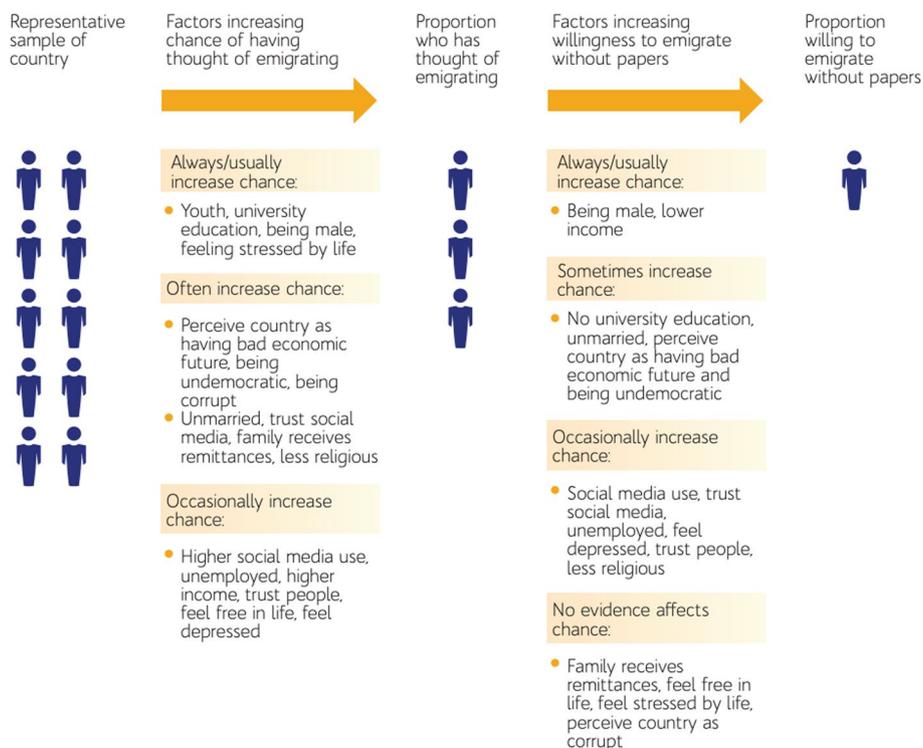


Fig. 4 Factors increasing chance of having thought of emigrating and factors increasing willingness to emigrate without papers, across the MENA region

Discussion

Why do individuals vary in their desire to emigrate? And why are some willing to emigrate irregularly? Using both descriptive statistics and regression analyses based on Arab Barometer data across the MENA region, several clear conclusions become apparent. The descriptive statistics show that by far the most stated reason is economic motivations. Furthermore, for both groups education opportunities are the second stated reason, though less commonly for would-be irregular migrants, whereas political and corruption motivations were considerably more prevalent amongst those willing to emigrate without papers. In terms of stated reasons, country differences also matter.

However, as shown by our regression analyses, stated reasons should not be equated with objective indicators, at least not in economic terms. Whereas many individuals who desire to migrate do so because they want to improve their economic situation, actual income and unemployment status are found to be surprisingly poor predictors of wanting to emigrate across most of the 12 countries we considered. This goes against the overwhelming focus on both indicators within the economics and development literature when seeking to explain emigration. The inconsistency between stated reasons and those observed also presents a puzzle for which there are at least three potential solutions. First, it may be that stating that oneself is

motivated by economics reflects ambition (a psychological as well as economic indicator) which is distributed evenly across income and employment levels. Second, it could be that when one says that they are motivated by economics that are referring to their country's economic situation—i.e. in sociotropic terms—rather than their own. Third, it could be that the “inverse U-curve” theory applies *within* countries as it has been shown to *between* them, i.e. the very rich and very poor are both less likely to emigrate so that the lack of an observed linear relationship between emigration and income results from a true curvilinear relationship. Interestingly, where income *did* matter was as a predictor of being willing to emigrate without papers, for which, along with gender, it was one of the two major predictors. As such, according to this study at least, objective economic indicators seem to be better suited to explaining *how* individuals migrate than their desire to do so. However, future research should attempt to robustly explain this puzzle.

Although this study takes a comprehensive, “omnibus” approach to explaining emigration (with the shortcomings in robustness that that inevitably entails), it also attempted to contribute four theoretically novel psychological factors: feeling stressed by life, feeling depressed, interpersonal trust, and feeling free to do what one wants. Evidence of effects was mixed. Feeling stressed by life was one of the most prevalent predictors of wanting to emigrate, even when controlling for the variables measuring socio-demographics, political and economic perceptions, and access to migrant networks. The other three were generally not found to have strong effects. However, as a factor of being willing to emigrate without papers, only interpersonal trust is sometimes shown to have an effect, for theoretically intuitive reasons. Moreover, the consistent effect of religiosity and perceptions of one's country's economy, democracy, and levels of corruption all also relate to psychology, not least because they reflect differences *within* and thus about the same country. As discussed, future research should also consider other psychological schema, such as basic human values and other personality traits and orientations.

Aside from these psychological variables, the other three theoretical approaches all include variables that consistently predict desire to emigrate, as shown in Fig. 4, above. That said, again, national context clearly matters: a few countries often stand out for the direction and statistical significance of the effects in their models, namely Iraq, Kuwait, Libya, Sudan, and Yemen. Notably, the exceptions are entirely socio-demographic indicators—gender, university education, marital status, and income on desire to emigrate and gender and income on willingness to emigrate irregularly. Given the profiles of the outlying countries, this suggests that both extremely high wealth (in the case of Kuwait) and war (in the cases of the other four) interact with and can even reverse these most fundamental determinants of migration. Future research should unpack these relationships further.

Overall, the analyses lead to five contributions to the literature and recommendations for policymakers. First, conceptually, irregular migration can be thought of as a two-step process: first wanting to emigrate in general and second being willing to do so

irregularly. By doing this, this study disentangles the determinants of each of them and allows policymakers to design more accurate interventions to, for example, encourage regular migration or discourage irregular migration. Second, by covering 12 countries the study highlights the commonalities across country contexts and provide a generalisable model of the two-step process, demonstrating which variables measuring each of the four theoretical approaches are shown to affect migration. Third, objective economic indicators like income and employment are shown to have weak predictive power when other factors are controlled for, highlighting the importance of thinking beyond just economics when designing policy interventions. Fourth, the predictive power of psychological variables, particularly regarding stress, is highlighted, which should be incorporated into policy design and communication and further investigated. Finally, most countries are shown to have *typical* determinants of emigration but, tentatively, it seems that those that have suffered war or are extremely rich are shown to be atypical in that the effects of socio-demographics are weakened or even reversed in these situations. The extent to which this relationship can be validated by looking at other rich countries in the Arab world and elsewhere should be investigated.

Appendix

Desired destination countries of those wanting to emigrate

We can also see how desired country of destination varies according to country and, within country, by willingness to emigrate irregularly. The Arab Barometer asks respondents “Which country are you thinking of emigrating to?”. The full responses to this question are listed in Table 5 below. In Fig. 5, below, however, we see the responses as regrouped for simplicity into either Europe, the Gulf, South and Eastern Mediterranean countries, Turkey, and North America

Overall, according to the country-level averages, those willing to emigrate irregularly are considerably more likely (nearly 50%) to list a European country as their desired destination than a Gulf country or North America (around 20% each). By contrast, those unwilling to emigrate without papers are more evenly split, with 30% listing Europe and around 25% listing the Gulf and North America respectively. However, this hides very large variation between countries. Several trends appear: First, respondents in countries in the Maghreb—Algeria, Libya, Morocco, and especially Tunisia—are the most likely to want to migrate to Europe and some of the least likely to list Gulf countries. By contrast, those desiring to migrate from Egypt, Sudan, and Yemen overwhelmingly envisage the Gulf as their destination. Countries in the eastern Mediterranean—Jordan, Lebanon, and Palestine—have more even splits, although citizens in Jordan and Palestine (and similarly Iraq) are more likely to want to emigrate to Turkey whereas those in Lebanon are evenly split between wanting to leave to Europe or North America (Fig. 6; Tables 6, 7).

Table 5 Desired destinations of those wanting to emigrate, by country and irregularity willingness

	Algeria		Egypt		Iraq		Jordan		Kuwait		Lebanon		Libya	
	Regular	Irregular												
Algeria	0	0	0.5	0	0	0	0.3	0	0	0	0.2	0	0.2	0
Bahrain	2	0	6.7	8.2	0	0	3.2	4.1	0	0	1.7	1.2	0.5	0
Canada	29.5	31	6.7	6.8	2.8	5.7	2.8	27.9	16.8	23.1	25.7	22.9	13.7	9.4
CEECs	10.6	16.1	1.1	1.8	2.8	3.9	2.8	4.5	3.7	16.8	8.5	5.6	3.9	5.4
Egypt	0.4	0.4	0	0	3.2	2	3.2	2.9	5.8	0	0.2	0	6.6	7.5
France	39.1	29.8	5.9	5.5	2	4.5	2	2.9	2.8	0	14.5	7	4	4.3
Germany	17	29.7	4	5.7	14.2	21.5	14.2	5.6	4.8	11	11.9	22.2	7.9	8.7
Italy	15.2	19.8	6.8	11.9	0.8	3.9	0.8	4	6.2	0	4.3	1.6	11	30
Jordan	0.2	0	6.2	7.1	1.4	1	1.4	0	1.7	0	0.6	0	1.3	0
Kuwait	1.5	0.2	22.9	20.4	0.7	1.5	0.7	5.4	0	0	2.1	3.4	0.2	0
Lebanon	1.4	0	1.6	0.7	1.5	0.5	1.5	0.9	0.7	0	0	0	0.7	0.5
Morocco	0.5	0.1	0.2	0.9	0.2	0.3	0.2	0	1.5	0	0.4	0	0.4	2.1
Oman	1	0.5	3.2	2.7	0.6	0.3	0.6	1.2	0	0	1.1	1.6	1.1	0
Other/Western Europe	5.3	4.2	0.6	0	5.4	11.1	5.4	2.1	1.7	23.1	4.7	5.7	2.1	0.9
Qatar	8.8	6.9	6.6	10.3	0.2	0.2	0.2	10.7	6	0	2.9	1.2	0	0
Saudi Arabia	1.6	0.8	19.8	10.3	1.2	0.4	1.2	9.8	0	11.4	4.1	4.5	3.5	2
Spain	17.1	19.9	0.7	1.2	2.1	1.8	2.1	1.7	0	0	1.7	0	0.2	4.9
Sub-Saharan Africa	8.6	13.8	1.6	0	0	0	1.8	1.2	7.5	17.4	2.2	0	8	3.8
Tunisia	0.3	0	0.2	0	0	0	0	0.6	0	0	0	0	3.1	3
Turkey	4.8	5.3	5.7	5.6	37.1	18.9	37.1	10.2	15.3	36.1	1.7	1.2	6.6	4.8
UAE	4.2	5.4	28.1	20	5.1	5.2	5.1	13.3	7.3	0	3.2	0	3.3	7.1
UK	5.2	10.1	1.1	0.9	1.1	7.5	1.1	3.3	5.9	0	6	4.7	3	6.5
US	10.4	14.9	11.1	8.1	6.3	6.7	6.3	26.1	19.5	0	15.7	14.7	7.1	4
Other	2.2	2.5	1.1	0.4	15.7	12.9	15.6	11.9	8.5	13.1	11.6	5.9	10.8	3
Don't know	0.1	0	2.4	4.1	2.6	0.5	2.6	4.1	0.9	0	8	14.8	6.5	6.5

Table 5 (continued)

	Morocco		Palestine		Sudan		Tunisia		Yemen		Total	
	Regular	Irregular	Regular	Irregular	Regular	Irregular	Regular	Irregular	Regular	Irregular	Regular	Irregular
Algeria	0.1	0	3.8	4.5	0.2	1	1.3	3.3	0.8	0	0.7	0.9
Bahrain	1.9	0.6	0.5	1	3.7	1.7	0	0	2.6	2.3	2.1	1.5
Canada	23.8	17.8	15	5.5	7.4	10.5	13.5	4.9	3.2	3.9	15.8	13
CEECs	2.9	3.6	3.9	11	0.3	1.5	5.7	7.3	0.1	0	4.1	5.5
Egypt	0	0	3	3.2	2.8	1.4	0.2	0.6	5.7	4.4	1.8	1.7
France	30.3	29.4	0.9	3.6	6.1	17.2	26.5	30.6	1.2	0.8	11.7	15.4
Germany	17.2	30	8	8.1	3.2	6	11.4	8.7	4.8	3.1	9.8	14.7
Italy	15.9	36.4	0.6	4.2	2.1	5	8	17.8	0.3	1.5	5.8	13.8
Jordan	0	0	4.3	2.6	0.7	1.5	0	0	3.4	2.8	1.4	1.2
Kuwait	7	1.7	1.1	2.5	13.4	5.5	1.1	0	2.9	3.5	5.5	3.5
Lebanon	0.4	0	2	0.1	1	1	0.8	0	0.4	0.8	0.9	0.4
Morocco	0	0	0	0.2	0.9	0.6	0.3	0	1.2	0	0.5	0.4
Oman	0.6	0.2	0.3	0	1.7	1.8	0.4	0.6	5.4	4	1.4	1.1
Other Western Europe	0.9	1	2.7	4.8	0.3	0.7	2.5	2.9	1.6	0.9	2.6	3.2
Qatar	5.9	2.6	4.8	5.9	21.1	15.2	3.6	0.4	5.5	4.7	6.8	5.6
Saudi Arabia	1.7	2	1.9	2.8	21.1	16.3	2.8	0.2	24.6	40.5	8	7.7
Spain	13.2	37.7	0.2	0.4	0.9	3.5	1.4	1.7	0.3	0	3.6	9.2
Sub Saharan Africa	4.4	6.2	0.9	0.6	5	6.3	2.8	0.9	0	0	3.1	3.8
Tunisia	0	0	1.9	0	0.7	2.7	0	0	0	0	0.4	0.6
Turkey	9.7	3.1	20.2	24.3	6.1	4	1.9	0.4	15.7	11.9	12.5	8.2
UAE	7.5	1.7	5.2	3.3	13.9	7	0.9	0.6	8.2	3.5	9.7	5.6
UK	1.3	1.6	1.7	2.8	1.1	1.9	5.5	6	1	0.4	2.7	4.1
US	8.3	4.4	10.8	5.6	14.8	15.5	1.6	3	8.1	7.8	12	9.6
Other	6.1	4.1	4	1.5	2.7	3.5	14.6	16.9	3.1	1.6	7.5	6.5
Don't know	2	1.8	3	2	0	0.2	13.9	11.9	0	1.4	3.8	3.3

Weighted Arab Barometer V, respondents allowed more than one answer. "Which country are you thinking of emigrating to?"

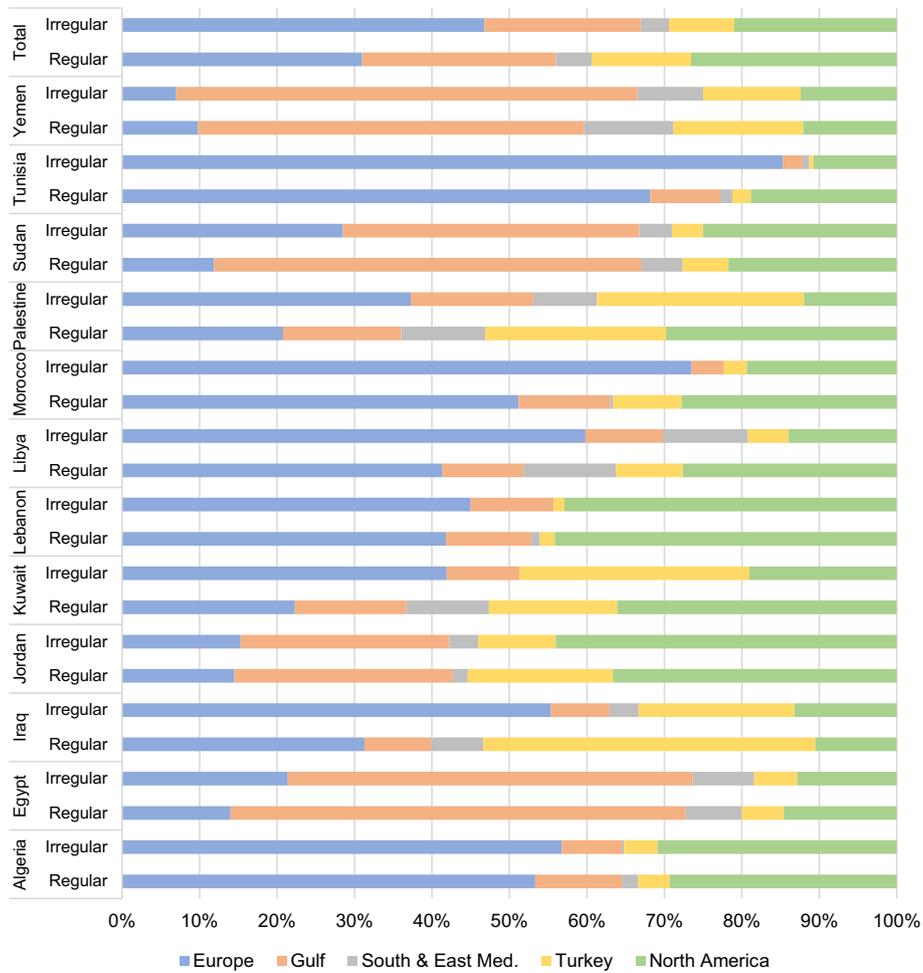


Fig. 5 Desired destinations of those wanting to emigrate, by country and irregularity willingness. Notes: stacked to 100%, "Which country are you thinking of emigrating to?", respondents were able to make more than one choice. *Source:* Arab Barometer V, weighted

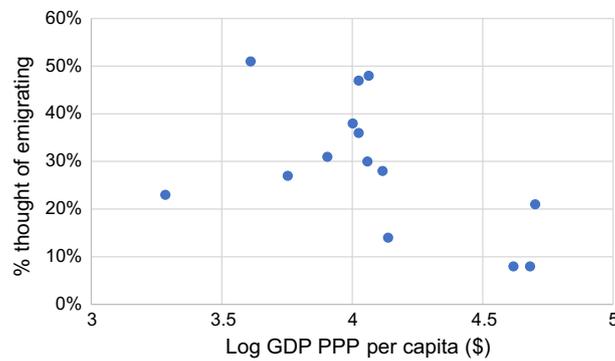


Fig. 6 Inverse U-curve relationship between the emigration desire and development (see Table 1 for data)

Table 6 Linear regression analyses of propensity to migrate by country

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Socio-demographics</i>												
Male	0.19*** (0.00)	0.33*** (0.00)	0.02 (0.00)	0.12*** (0.00)	-0.02 (0.00)	0.10*** (0.00)	-0.02 (0.00)	0.16*** (0.00)	0.04* (0.00)	0.16*** (0.00)	0.10*** (0.00)	0.22*** (0.00)
Age	-0.01*** (0.00)	-0.01*** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)
University	0.02*** (0.01)	0.00 (0.01)	0.02*** (0.01)	0.02** (0.01)	0.01* (0.00)	0.02*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)
Unemployed	0.03 (0.04)	0.08* (0.04)	0.04 (0.03)	-0.05 (0.04)	0.05 (0.05)	-0.03 (0.04)	-0.02 (0.03)	0.06** (0.03)	0.14*** (0.04)	-0.04 (0.04)	0.08** (0.04)	0.04 (0.03)
Unmarried	0.15*** (0.03)	0.09** (0.04)	-0.00 (0.03)	0.08** (0.04)	0.01 (0.02)	0.05** (0.03)	0.07** (0.03)	0.10*** (0.03)	0.12*** (0.03)	0.03 (0.03)	0.12*** (0.03)	0.01 (0.03)
High income	-0.01 (0.02)	-0.01 (0.02)	-0.05** (0.02)	-0.01 (0.03)	0.06** (0.02)	0.01 (0.03)	-0.00 (0.03)	-0.02 (0.02)	-0.01 (0.02)	-0.01 (0.03)	0.02 (0.03)	0.05* (0.02)
Religious	0.03 (0.02)	-0.04* (0.02)	-0.06*** (0.02)	-0.06** (0.02)	-0.01 (0.03)	-0.01 (0.02)	-0.01 (0.03)	-0.07*** (0.02)	-0.06*** (0.02)	0.00 (0.03)	-0.02 (0.02)	-0.05*** (0.02)
<i>(Perceived) economic and political context</i>												
Economic pessimism	0.05** (0.01)	0.01 (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.02** (0.01)	0.02* (0.01)	-0.00 (0.01)	0.03*** (0.01)	0.01 (0.01)	0.02* (0.01)	0.04*** (0.01)	0.03*** (0.01)
Perceived democracy	-0.01 (0.00)	-0.02*** (0.01)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.01)	-0.01* (0.00)	-0.00 (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.02*** (0.01)	-0.01** (0.00)	-0.00 (0.00)
Perceived corruption	0.02 (0.02)	0.02 (0.02)	0.06*** (0.01)	0.06*** (0.02)	0.02 (0.01)	0.07*** (0.01)	0.00 (0.02)	0.06*** (0.01)	0.02** (0.01)	0.06*** (0.02)	0.05*** (0.01)	0.05*** (0.01)
<i>Access to migrant networks</i>												
Use social media	0.05*** (0.01)	0.02 (0.02)	0.01 (0.01)	0.02 (0.01)	-0.02** (0.01)	-0.00 (0.01)	0.05*** (0.02)	0.01 (0.01)	0.03*** (0.01)	0.01 (0.02)	0.03*** (0.01)	0.02 (0.01)
Trust social media	0.03** (0.01)	-0.01 (0.01)	0.03*** (0.01)	0.04*** (0.01)	-0.00 (0.01)	0.03** (0.01)	-0.01 (0.02)	0.04*** (0.01)	0.03** (0.01)	0.03 (0.02)	0.03*** (0.01)	0.03*** (0.01)
Receive remittances	0.02 (0.02)	0.03 (0.02)	0.05** (0.02)	0.05** (0.02)	0.01 (0.02)	0.03* (0.02)	0.04 (0.03)	0.04*** (0.01)	0.05*** (0.02)	0.02 (0.02)	0.07*** (0.02)	0.02** (0.01)

Table 6 (continued)

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Psychological factors</i>												
Feel free to make decision	0.05*** (0.02)	0.00 (0.02)	0.02 (0.02)	0.01 (0.02)	-0.00 (0.02)	0.04** (0.02)	0.01 (0.02)	0.01 (0.01)	0.01 (0.02)	0.01 (0.02)	0.00 (0.02)	0.01 (0.01)
Stress	0.03 (0.02)	0.04* (0.02)	0.03* (0.02)	0.07*** (0.02)	0.02 (0.02)	0.03* (0.02)	0.05*** (0.02)	0.03* (0.02)	0.03* (0.02)	0.08*** (0.03)	0.05*** (0.01)	0.06*** (0.02)
Depression	0.02 (0.02)	0.00 (0.02)	0.03* (0.02)	0.01 (0.02)	0.01 (0.02)	0.04** (0.02)	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	-0.00 (0.03)	0.01 (0.01)	-0.01 (0.01)
Interpersonal trust	0.02 (0.03)	-0.03 (0.02)	-0.03 (0.03)	-0.07* (0.04)	0.08*** (0.03)	0.09* (0.05)	-0.05 (0.04)	-0.01 (0.02)	-0.04 (0.03)	-0.03 (0.04)	-0.06* (0.03)	-0.04** (0.02)
Constant	-0.21* (0.11)	0.28** (0.13)	-0.15 (0.11)	-0.01 (0.13)	0.04 (0.12)	-0.45*** (0.12)	-0.04 (0.13)	0.05 (0.10)	-0.11 (0.11)	0.11 (0.15)	-0.21* (0.11)	-0.16* (0.08)
Observations	2332	2302	2429	2325	1344	2395	1938	2298	2388	1714	2298	2339

Missing variables imputed. Standard errors in parentheses. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. \$ responses not available for country

Table 7 Linear regression analyses of propensity to migrate without papers, among those thinking of migrating, by country

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Socio-demographics</i>												
Male	0.29*** (0.05)	0.10 (0.06)	0.16*** (0.04)	0.11*** (0.03)	-0.12* (0.07)	0.04 (0.03)	0.17*** (0.06)	0.35*** (0.03)	0.12*** (0.04)	0.17*** (0.04)	0.19*** (0.04)	0.31*** (0.05)
Age	-0.01*** (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
University	-0.01 (0.01)	-0.02* (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.01 (0.01)	-0.06*** (0.02)	-0.04*** (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.05*** (0.01)	-0.02** (0.01)
Unemployed	0.05 (0.05)	0.07 (0.07)	0.16*** (0.06)	0.07 (0.05)	0.18 (0.15)	0.03 (0.07)	0.16* (0.08)	0.11*** (0.03)	0.02 (0.06)	-0.07 (0.05)	0.01 (0.05)	0.03 (0.06)
Unmarried	0.14** (0.06)	0.01 (0.07)	0.02 (0.05)	-0.03 (0.04)	-0.13 (0.10)	0.00 (0.04)	0.03 (0.06)	0.09** (0.04)	0.11* (0.06)	0.05 (0.04)	0.09* (0.05)	0.05 (0.06)
High income	-0.10** (0.05)	-0.20*** (0.05)	-0.08** (0.04)	-0.07** (0.03)	0.10* (0.06)	-0.03 (0.05)	0.10* (0.06)	-0.00 (0.03)	-0.11** (0.04)	-0.12*** (0.04)	-0.09* (0.05)	-0.13*** (0.05)
Religious	-0.03 (0.05)	0.03 (0.06)	0.05 (0.04)	0.03 (0.03)	0.02 (0.11)	-0.00 (0.04)	0.05 (0.07)	-0.03 (0.04)	0.00 (0.05)	-0.03 (0.04)	0.02 (0.05)	-0.15*** (0.05)
<i>(Perceived) economic and political context</i>												
Economic pessimism	0.04** (0.02)	0.03 (0.03)	0.01 (0.02)	0.04*** (0.01)	0.01 (0.03)	0.00 (0.02)	-0.01 (0.02)	0.02 (0.01)	0.01 (0.02)	0.00 (0.02)	0.05*** (0.01)	-0.04** (0.02)
Perceived democracy	-0.00 (0.01)	-0.02 (0.01)	-0.01* (0.01)	-0.01* (0.01)	-0.02 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.03*** (0.01)	-0.02 (0.01)	-0.01 (0.01)	-0.01* (0.01)	0.00 (0.01)
Perceived corruption	§	0.01 (0.03)	0.04 (0.04)	-0.01 (0.02)	-0.04 (0.04)	-0.02 (0.03)	0.01 (0.03)	0.03 (0.02)	-0.02 (0.03)	-0.04 (0.02)	0.04 (0.04)	0.02 (0.03)
<i>Access to migrant networks</i>												
Use social media	0.03 (0.03)	-0.02 (0.04)	0.02 (0.02)	0.04** (0.02)	0.03 (0.03)	-0.06*** (0.02)	0.05 (0.03)	0.02 (0.02)	0.00 (0.02)	0.01 (0.03)	0.06*** (0.02)	-0.03 (0.03)
Trust social media	-0.04 (0.03)	0.01 (0.03)	0.04** (0.02)	-0.01 (0.02)	0.03 (0.03)	-0.01 (0.02)	0.04 (0.04)	-0.00 (0.02)	0.00 (0.03)	0.03 (0.02)	0.03* (0.02)	-0.01 (0.03)
Receive remittances	-0.01 (0.04)	0.01 (0.05)	0.04 (0.04)	0.01 (0.03)	0.02 (0.07)	0.01 (0.03)	-0.00 (0.06)	0.01 (0.02)	0.01 (0.03)	-0.01 (0.03)	-0.00 (0.03)	0.01 (0.03)

Table 7 (continued)

	Algeria	Egypt	Iraq	Jordan	Kuwait	Lebanon	Libya	Morocco	Palestine	Sudan	Tunisia	Yemen
<i>Psychological factors</i>												
Feel free to make decision	-0.03 (0.04)	0.01 (0.03)	-0.03 (0.03)	-0.02 (0.03)	-0.02 (0.04)	-0.01 (0.03)	-0.06 (0.05)	0.01 (0.02)	-0.01 (0.03)	-0.03 (0.03)	0.02 (0.03)	-0.02 (0.04)
Stress	0.00 (0.05)	-0.01 (0.04)	-0.00 (0.03)	0.01 (0.03)	0.01 (0.06)	-0.03 (0.03)	-0.01 (0.05)	0.03 (0.03)	0.05 (0.04)	0.03 (0.04)	0.03 (0.02)	-0.02 (0.04)
Depression	0.03 (0.04)	0.02 (0.04)	0.01 (0.03)	-0.01 (0.02)	-0.01 (0.07)	0.02 (0.03)	0.08* (0.04)	0.07** (0.03)	0.04 (0.03)	-0.02 (0.03)	0.02 (0.02)	-0.03 (0.04)
Interpersonal trust	0.03 (0.08)	-0.04 (0.06)	0.01 (0.07)	0.05 (0.06)	-0.02 (0.07)	0.24*** (0.09)	0.25** (0.11)	0.07 (0.05)	0.03 (0.07)	0.00 (0.06)	0.09 (0.09)	-0.02 (0.05)
Constant	0.38 (0.26)	0.42 (0.30)	0.08 (0.25)	0.02 (0.17)	0.39 (0.29)	0.21 (0.22)	-0.12 (0.33)	-0.24 (0.19)	0.06 (0.25)	0.66*** (0.21)	-0.39* (0.24)	0.59** (0.25)
Observations	795	516	821	933	96	584	360	865	629	920	720	560

Missing variables imputed. Standard errors in parentheses. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. \$ responses not available for country

Abbreviations

GDP PPP	Gross Domestic Product at Purchasing Power Parity
IMF	International Monetary Fund
IOM	International Organization for Migration
MENA	Middle East and North Africa

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Declarations

Competing interests

The authors declare that they have no competing interests.

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