

DISCUSSION PAPER SERIES

IZA DP No. 16734

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Evidence from Uganda and Senegal**

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## ABSTRACT

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# What Drives Attitudes toward Immigrants in Sub-Saharan Africa? Evidence from Uganda and Senegal\*

We explore whether attitudes toward immigration and their determinants known from well-studied high-income countries also hold in so far understudied low-income settings where the economic, societal, and geopolitical circumstances differ markedly. Using a causal framework based on experimental and survey data in Uganda and Senegal, we extend the literature by introducing a new concept - power concerns - to test whether perceptions of foreign influence in business and politics affect attitudes toward immigrants. Furthermore, we provide evidence of the perceptions of Chinese immigrants in Africa, whose increasing presence is highly controversial and politicized.

**JEL Classification:** F22, O15, O55

**Keywords:** attitudes toward immigration, China in Africa, migration, experiment, conjoint

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# 1 Introduction

Immigration shapes economies, politics, and societies (Alesina and Tabellini, forthcoming), but we know little about the drivers of attitudes to immigration outside high- and middle-income countries. We therefore lack an evidence base regarding the public acceptance of policies related to migration and regional integration in large parts of the world (Facchini et al., 2008; Friebe, Gallego and Mendola, 2013; Ruhs, 2022; Alesina, Miano and Stantcheva, 2023).

Due to greater poverty and weaker social security nets, economic concerns might be far more important drivers of attitudes in low-income countries than in high- and middle-income countries. However, many countries in the Global South are less individualistic than Western ones (Gorodnichenko and Roland, 2017), which could decrease the role of egocentric concerns. Furthermore, a history shaped by colonialism, great power politics, and foreign influence in business could mean that a new class of determinants of attitudes toward immigration is required that is irrelevant in the Global North, where previous studies were conducted.

The world region that has so far received the least attention is Sub-Saharan Africa. Given strong population growth and increasing regional integration in Africa, its immigrant populations are projected to grow substantially in the future (OECD, 2021), making Africa the most dynamic region in terms of migration in the coming decades.

We fill these knowledge gaps by conducting the first large-scale experimental study on attitudes toward immigrants in the region. We introduce concerns about foreign influence in politics and business and incorporate a focus on Chinese immigration. Chinese immigrants deserve special attention, as the increasing political and economic footprints of the Chinese state, its workers, and investors have become highly salient, provoking policy debate and sometimes even unrest.

Our study assesses these aspects in a framework that covers attitudes toward future immigration, different types of subjective assessments of immigration's impact, as well as relative preferences for specific characteristics of immigrants. We combine these three elements conceptually with the three potential drivers that the previous literature has identified (Alrababa'h et al., 2021; Hainmueller and Hopkins, 2015; Valentino et al., 2019): *egocentric economic concerns*, i.e. about adverse effects on individuals' economic situation; *sociotropic economic concerns*, i.e. about adverse effects on the host economy as a whole, compatriots, or the state's budget; and *sociotropic cultural concerns*, i.e. about an undermining of the host country's norms

and values.

We collect new observational and experimental data in Uganda and Senegal to elicit public attitudes and their potential drivers. We selected these countries because they share key features with many other African countries while also differing markedly from each other. Like other countries in East and West Africa, they have high rates of underemployment and informality and a fast-growing working-age population (Berg et al., 2021). Economically, younger people are particularly vulnerable and much more prone to venting their dissatisfaction. In our study, we therefore focus on the 18- and 40-year-olds, who make up 74 percent of the adult population in Uganda and 66 percent in Senegal (UN DESA, 2022). They are ex-colonies and hence have a century-old experience of outside influence and immigration of economic elites. And more recently, the Chinese government has invested substantially in both countries. On the other hand, both countries have distinct immigration patterns, cultural backgrounds, and economic characteristics. This allows us to conduct our analyses in different settings to understand which results carry over to different contexts at a similar level of economic development.

We start our analysis by investigating absolute attitudes toward immigrants. We take inspiration from Card, Dustmann and Preston (2012) and use survey questions to measure preferred levels of immigration as well as the subjective impact of immigration on the respondent and society. We differentiate between egocentric economic, sociotropic economic, and sociotropic cultural concerns. Additionally, we introduce concerns linked to foreign influence as another potential driver of attitudes toward immigrants. We call these power concerns and see them as a new type of sociotropic concern. They capture citizens' fear of immigrants and their countries of origin gaining an out-sized influence in the host country, potentially threatening the host countries' sovereignty.

Overall, respondents have positive attitudes toward immigrant, and rate immigration as being economically beneficial and not culturally threatening. Despite being somewhat more negative, attitudes toward Chinese immigrants are also positive in absolute terms.

Next, we study the relative importance of the potential drivers of attitudes in a fully randomized conjoint experiment. While results from the survey data are purely correlational, the conjoint experiment allows us to causally assess the relative importance of immigrants' characteristics for respondents' preferences. For this, we show respondents different profiles of immigrants and randomly vary the profiles' characteristics to estimate the effect of every specific

characteristic on the probability that a respondent prefers a specific immigrant profile. In recent years, conjoint experiments have become routinely employed in the literature on attitudes toward immigrants because they allow causally estimating treatment effects in multidimensional choice settings and are robust to social desirability bias (Hainmueller, Hopkins and Yamamoto, 2014; Hainmueller and Hopkins, 2015). They have also been validated with real-world behavior (Hainmueller, Hangartner and Yamamoto, 2015).

The results from the experiment strengthen our findings from the observational analysis. Sociotropic concerns, both economic and cultural, are decisive in driving preferences for immigrants. Contrary to the expectation that more economic need increases the influence of egocentric economic concerns, we do not find evidence for respondents penalizing immigrant profiles with whom they might potentially compete in the labor market. Irrespective of their own characteristics, respondents strongly prefer immigrants who have high-paying jobs. Furthermore, there is a strong preference for immigrants willing to integrate. Similar to results from the survey question, respondents penalize Chinese immigrants, but effect sizes are similar to those for immigrants from India/Lebanon. Moreover, respondents prefer Africans over non-African immigrants. Finally, combining conjoint and survey data, we find that respondents have strong power concerns in absolute terms, but those concerns do not have any explanatory power for attitudes toward immigrants.

All of our results are, perhaps surprisingly, homogeneous across multiple subgroups and geographic locations. Similar to findings from the USA and Europe, different respondent subgroups share the same concerns and give importance to the same immigrant characteristics – a hidden consensus (cf. Hainmueller and Hopkins, 2015) that holds within and across the different contexts we study. This substantial homogeneity across countries that are 5,000 kilometers apart makes us confident that our carefully selected case studies have some external validity for other Sub-Saharan African countries with similar social and economic characteristics.

To connect the different data sources and results, we finish the empirical analyses by estimating the predictive power of each concern for respondents' preferred level of immigration, again finding that sociotropic concerns rather than egocentric concerns explain absolute attitudes in our sample.

Our findings contribute to the existing literature in three ways. First, our paper extends the well-established literature on attitudes toward immigrants in high-income settings. Re-

cent studies from Europe and the USA broadly agree that sociotropic concerns, both economic and cultural, are the key drivers of public attitudes toward immigrants (Alesina and Tabellini, forthcoming; Alesina, Miano and Stantcheva, 2023; Bansak, Hainmueller and Hangartner, 2016; Card, Dustmann and Preston, 2012; Hainmueller and Hopkins, 2014, 2015; Valentino et al., 2019).<sup>1</sup> The extent to which these attitudes depend on the Western context, with its high average income, strong welfare states, and cultural peculiarities, remains unclear. For developing countries, there is an emerging literature investigating attitudes toward *refugees* but not immigration in general.<sup>2</sup> Overall, the effects of refugees on public attitudes are limited, with little support for a public backlash, which is often observed in high-income countries (Dustmann, Vasiljeva and Piil Damm, 2019). However, attitudes toward displaced people likely differ from attitudes toward other migrants, who typically migrate for economic reasons. The extant literature on migrants in developing countries who are not forced is very limited. To the best of our knowledge, only one study causally investigates public opinion toward migration in a Sub-Saharan African country. Using a vignette experiment, Cogley, Doces and Whitaker (2019) investigate drivers of attitudes toward immigrant naturalization in Côte d’Ivoire.<sup>3</sup> Despite some overlap, our study differs from Cogley et al.’s in several dimensions. Their primary focus lies on political and legal determinants of attitudes rather than economic ones, and they focus on the naturalization of immigrants. By contrast, our analysis emphasizes potential economic drivers and geopolitical influences and aims to be informative about relevant future immigration flows.

As our second main contribution, we add to the literature on China in Africa by putting a focus on attitudes toward Chinese immigrants. Attitudes towards Chinese immigrants deserve special attention, as their presence has enormously grown in recent years, along with anecdotes about their polarizing effect. China is one of the biggest donors in Sub-Saharan Africa, and

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<sup>1</sup>In experimental studies, respondents consistently favor skilled and educated immigrants, irrespective of respondents’ own qualifications or education. Respondents also prefer immigrants who are perceived to be culturally similar over immigrants perceived to be culturally distant. Egocentric economic concerns are of little relevance in Western societies: While earlier studies stress the importance of potential labor market competition (Scheve and Slaughter, 2001; Mayda, 2006), more recent experimental studies find little to no support for a bias against immigrants with a similar set of skills (Hainmueller, Hiscox and Margalit, 2015; Hainmueller, Hopkins and Yamamoto, 2014; Valentino et al., 2019; Hainmueller and Hopkins, 2014). These findings align with literature that estimates immigrants’ economic and wage effects on host countries to be small in general (Dustmann, Schönberg and Stuhler, 2016).

<sup>2</sup>See for example Aksoy and Ginn (2022); Alrababa’h et al. (2021); Betts et al. (2023); Lehmann and Masterson (2020); Zhou, Grossman and Ge (2023).

<sup>3</sup>The authors find that immigrants’ legal status, education, and employment play an important role in respondents’ decisions. Cultural concerns, measured by religion, language skills, and origin country, have mixed effects on respondents’ attitudes and do not provide clear results.

its projects go hand in hand with large migration flows (Cervellati et al., 2022; Horn, Reinhart and Trebesch, 2021). China’s presence in the region is perceived controversially by local populations and policymakers alike. But even the number of Chinese immigrants on the continent is unclear as no official figures exist. An emerging literature investigates the effect of Chinese aid in Africa on public opinion and conflict, with mixed and partially conflicting results (Blair, Marty and Roessler, 2022; Gehring, Kaplan and Wong, 2022; Iacoella et al., 2021; Mandon and Woldemichael, 2023; McCauley, Pearson and Wang, 2022; Wegenast et al., 2019; Xu and Zhang, 2020). However, there is hardly any quantitative evidence that causally investigates the public attitudes toward Chinese immigration in Africa. To our knowledge, attitudes toward Chinese immigrants have been quantitatively investigated only once before in Africa, in the above-mentioned paper on naturalization by Cogley, Doces and Whitaker (2019).<sup>4</sup>

Third, we add to the literature on the effect of geopolitics on public opinion. Foreign governments and international relations have been shown to shape public opinion and attitudes toward migrants in Western contexts (Balmas, 2018; Goldsmith, Horiuchi and Matush, 2021; Matush, 2023; Iacoella et al., 2021; Sardoschau and Jarotschkin, 2019). We add nuance to this literature, finding that individuals are not necessarily judged based on views about their countries’ influence.

The remainder of the paper is structured as follows. In section 3, we give a brief overview of the setting of our study, introduce our study design and the estimation strategy, describe the data collection, and present descriptive statistics. We present the results in section 4. Section 5 concludes.

## 2 Conceptual framework

The literature on attitudes toward immigrants and immigration distinguishes three closely linked concepts: *absolute attitudes*, *relative attitudes*, and different types of *concerns* related to immigration.

*Absolute attitudes* describe preferences for more or less immigration in absolute terms and

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<sup>4</sup>They find that in Côte d’Ivoire, Chinese immigrants were significantly more likely to be recommended for naturalization than immigrants from other countries. However, the positive effect for Chinese immigrants disappears when looking at deportations. We go far further, seeking also to understand the relative assessments of Chinese immigrants’ economic and cultural influence and how these translate into attitudes toward Chinese immigrants and the scope for more immigration from China.

are closely related to policy preferences. Absolute attitudes are typically measured descriptively, for example, by asking respondents about their preferred level of immigration (Card, Dustmann and Preston, 2012; Mayda, 2006; Maxwell, 2019; Dražanová et al., 2023). *Relative* attitudes describe preferences for certain immigrant characteristics compared to immigrants with different characteristics. Relative attitudes are typically measured using survey experiments, for example, by comparing different immigrant profiles with specific attributes, such as their origin or job (Alrababa'h et al., 2021; Hainmueller and Hopkins, 2015; Valentino et al., 2019). Absolute and relative attitudes do not necessarily provide the same information: a respondent might prefer more/less immigration in absolute terms but only (or particularly so) for immigrants with a specific characteristic.

*Concerns* are closely linked to both of the former. They are typically tested in the form of subjective impact assessments, asking respondents for their perception of the effect of immigration on aspects of the economy, society, or the respondents' personal situations. Positive or negative assessments of these effects then influence the absolute attitudes, policy preferences, and relative preferences for certain types of immigration. For example, respondents worried about the economic impacts of low-skilled immigration would thus likely have a stronger preference for highly skilled immigrants and a more critical overall attitude toward immigration, esp. lower-skilled people.

Voters' preferences are often nuanced, welcoming certain types of immigration despite a critical stance toward other groups of immigrants. In many countries, the political and media debates around immigration have long tended to oversimplify voters' preferences and, therefore, led to policies that were rather blunt and ineffective and, at times, even counterproductive - witness the post-Brexit immigration policy in the UK. In our study, we capture all three types of attitudes with a particular emphasis on causally identifying the relative attitudes, which are most important to gain a deep understanding of what kind of immigration respondents would prefer. Coupled with measures of subjective assessments of the impact of immigration and absolute attitudes, we gain a broad understanding of the attitudes in our study countries. For that, we must ensure that our experiment captures immigrant characteristics linked to all the most relevant types of concerns.

The economic and political literature distinguishes three main concerns: egocentric economic concerns, sociotropic economic concerns, and sociotropic cultural concerns (see, for example,

Hainmueller and Hopkins (2015) and Valentino et al. (2019))<sup>5</sup>.

Egocentric economic concerns describe the fear of negative consequences for individuals' economic prospects resulting from immigration, for example, by competing with immigrants in the labor market (also often referred to as the labor market competition hypothesis). If natives fear potential job losses or a decrease in wages, they should particularly oppose immigrants with a similar set of skills as themselves. Consequently, attitudes should depend on both natives' and immigrants' skill levels and the local labor market conditions.

Sociotropic economic concerns describe those about immigrants' effect on the host economy as a whole, its welfare system, and the fiscal burden on public services. In Western welfare states, high-skilled immigrants are generally expected to contribute more to the host country's economy by making higher net contributions to the welfare state than low-skilled immigrants. Accordingly, natives should strictly prefer high-skilled immigrants over low-skilled immigrants, irrespective of the natives' skill level.

Sociotropic cultural concerns capture the perceived threats of immigrants to the host country's culture, norms, and values. Based on cultural concerns, one expects natives to prefer immigrants who share a similar cultural background over immigrants who are perceived to be culturally distant or willing to integrate or assimilate.

Furthermore, we introduce concerns linked to geopolitics as another potential driver of attitudes toward immigrants - which we call power concerns. Power concerns capture citizens' fear that immigrants and their country of origin could gain an out-sized influence in the host country, potentially threatening the host countries' sovereignty. Power concerns are a nuanced form of sociotropic concerns. However, instead of looking at attitudes shaped by immigrants' direct impact on the host countries' economy and culture, we intend to capture potential negative attitudes based on foreign countries' government and business activities that are then projected on individual immigrants.

### 3 Empirical approach

The different concepts related to attitudes toward immigrants are closely related, but often looked at in isolation. We combine a face-to-face survey and a survey experiment to gain a

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<sup>5</sup>Studies focusing on attitudes towards refugees in particular additionally investigate humanitarian concerns, see for example Bansak, Hainmueller and Hangartner (2016) and Alrababa'h et al. (2021).

fuller picture. We start this section by briefly motivating the country choice and then explaining how we measure absolute attitudes and respondents' subjective assessments of the effect of migration. Then, we introduce the conjoint experiment used to measure relative attitudes and our econometric approaches before providing details on sampling, data collection, and sample characteristics.

### 3.1 Setting

Our study is set in Uganda and Senegal, which we selected due to their ability to shed light on the determinants of attitudes in many other countries in the region. While these two countries cannot speak for the whole of Sub-Saharan Africa, they provide relevant case studies from two important sub-regions of the continent and show many similarities to other countries in Sub-Saharan Africa. Table A1 summarizes different development indicators for Uganda, Senegal, and the Sub-Saharan African average. High poverty levels and a lack of social protection characterize the region. As a consequence, people cannot afford to be unemployed. Underemployment and informality, however, are the norm. Especially youths suffer from the shortage of decent, well-paid work, and the growing working-age populations are projected to increase competition in the labor market further (Berg et al., 2021). Mirroring this, unemployment in Uganda and Senegal is negligible. However, self-employment and informality are high: According to the World Bank (2022), 73% of employment in Uganda and 63% of employment in Senegal are vulnerable - and might thus be particularly susceptible to competition caused by immigration.

Detailed up-to-date data on immigration in Uganda and Senegal does not exist. Most recent numbers from 2015 estimate the migrant stock at 1.9% in Uganda and 1.7% in Senegal (World Bank, 2022), but current numbers are likely to far larger, with the UNHCR estimating 1.6 million refugees and asylum seekers in Uganda alone at the end of 2023 (3.4% of population UNHCR, 2023). There is also no systematic information on immigrants' occupations in Uganda and Senegal. Anecdotal evidence and information from our local partners suggest that immigrants from neighboring countries tend to work in informal low-skilled jobs, such as agriculture, construction, or retail (Merotto, 2020). Non-African immigrants tend to work in high-skilled jobs (Leichtman, 2005). But especially for Chinese immigrants, lower-skilled occupations are also common as, for example, Cervellati et al. (2022) and Park (2022) discuss. Construction, often related to large-scale infrastructure projects, small-scale entrepreneurship, and agriculture

are common jobs among Chinese immigrants.

China’s increasing influence in Sub-Saharan Africa is evident in both Uganda and Senegal. The two countries have received large Chinese infrastructure projects, loans, and development aid. Custer et al. (2021) recorded 144 Chinese projects in Uganda and 83 Chinese projects in Senegal between 2000 and 2017. Chinese projects in Sub-Saharan Africa typically cause sizeable immigration of Chinese workers (Cervellati et al., 2022) and in addition, many private individuals and firms have sought opportunities in Africa (Bräutigam, 2009; French, 2015). Guesstimates talk about 1 to 2 million Chinese immigrants in Africa (Yan, 2020). According to official figures from the Chinese Ministry of Commerce, Uganda and Senegal are home to around 20,000 and 8,000 Chinese immigrants, respectively (MOFCOM, 2021). The actual numbers, however, are likely a multiple of that, as Chinese immigration in Sub-Saharan Africa is often irregular (Botchwey et al., 2019; French, 2015). Park (2022) gives a brief overview of the history of Chinese migration to Africa and provides anecdotal evidence for increasing anti-China sentiment fueled by a mixture of geopolitics, local rumors, negative (Western) media coverage, and economic factors. For more details, a brief history, and anecdotal evidence on immigration in Uganda and Senegal, see Appendix A.1.

## 3.2 Observational data

We use data from survey questions to measure absolute attitudes toward immigrants. The survey questions also provide a reference point for the interpretation of the later experimental evidence, such as whether respondents prefer more or less immigration and how they assess its impact on different dimensions. By combining them with data on relative preferences later on, the absolute attitude data helps gaining a more detailed understanding of the mechanisms.

We adapt widely used questions from the European Social Survey to the local context.<sup>6</sup>

The outcome of interest, namely absolute attitudes toward immigrants in general and toward

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<sup>6</sup>The ESS differentiates between different types of immigrants: same/different ethnicity to that of the majority community; from richer/poorer countries; from inside/outside of Europe. Our questionnaire differentiates between immigrants in general and Chinese immigrants in particular. The following two ESS questions measure sociotropic economic concerns: *Would you say it is generally bad or good for [country]’s economy that people come to live here from other countries?* and *Would you say that people who come to live here generally take jobs away from workers in [country], or generally help to create new jobs?* Egocentric economic concerns are not captured in the ESS. Sociotropic cultural concerns are measured by the ESS question *Would you say that [country]’s cultural life is generally undermined or enriched by people coming to live here from other countries?* We focused on the potential threat of immigrants following Sniderman, Hagendoorn and Prior (2004): *”These days, I am afraid that the Dutch culture is threatened by ethnic minorities.”* The ESS does not assess power concerns.

Chinese immigrants in particular, is measured by the following two questions:

- To what extent do you think should Uganda (Senegal) allow people from other countries to come and live here?
- To what extent do you think should Uganda (Senegal) allow people from China to come and live here?

The outcome variable asks about the preferred level of immigration and can thus be interpreted as a policy preference. We then follow Card, Dustmann and Preston (2012) and ask respondents different questions to distinguish between egocentric economic, sociotropic economic, and sociotropic cultural concerns. We furthermore assess power concerns as potential drivers of attitudes toward (Chinese) immigrants. Table 1 gives an overview of the corresponding survey questions. We use these data both on their own and in conjunction with the experimental results, as the next sections will explain.

**Table 1:** Survey questions for observational analysis

	Question	Answer Options
<b>Outcome questions</b>	To what extent do you think should Uganda (Senegal) allow people from other countries to come and live here?	Allow none Allow a small number Allow some Allow many
	To what extent do you think should Uganda (Senegal) allow people from China to come and live here?	Allow none Allow a small number Allow some Allow many
<b>Sociotropic economic concerns</b>	Would you say it is generally good or bad for Uganda’s (Senegal’s) economy that people from other countries come to live here?	Very bad Somewhat bad Neither bad nor good Somewhat good Very good
	Would you say it is generally good or bad for Uganda’s (Senegal’s) economy that people from China come to live here?	Very bad Somewhat bad Neither bad nor good Somewhat good Very good
	Do foreigners who come	0 (take away jobs)

Continued on next page

**Table 1 continued from previous page**

	Question	Answer Options
	to live here take jobs or help to create new ones?	to 10 (help to create new ones)
	Do Chinese who come to live here take jobs or help to create new ones?	0 (take away jobs) to 10 (help to create new ones)
<b>Egocentric economic concerns</b>	Would you say it is generally good or bad for you and your household's economic prospects that people from other countries come to live here?	Very bad Somewhat bad Neither bad nor good Somewhat good Very good
	Would you say it is generally good or bad for you and your household's economic prospects that people from China come to live here?	Very bad Somewhat bad Neither bad nor good Somewhat good Very good
<b>Sociotropic cultural concerns</b>	How much do you agree with the following statement: Country's norms and values are being threatened by people from other countries who come to live here?	0 (not at all) to 10 (a lot)
	How much do you agree with the following statement: Country's norms and values are being threatened by people from China who come to live here?	0 (not at all) to 10 (a lot)
<b>Power concerns</b>	Do you think that foreign governments have too much or too little little influence in Uganda (Senegal)	0 (too little) to 10 (too much)
	Do you think that foreign businesses have too much or too little little influence in Uganda (Senegal)	0 (too little) to 10 (too much)
	Do you think that Chinese governments have too much or too little little influence in Uganda (Senegal)	0 (too little) to 10 (too much)

Continued on next page

**Table 1 continued from previous page**

Question	Answer Options
Do you think that Chinese businesses have too much or too little little influence in Uganda (Senegal)	0 (too little) to 10 (too much)

### 3.3 Experimental data from conjoint

The central part of our survey is the conjoint experiment, which allows us to causally estimate respondents' relative preferences for immigrants' characteristics. The experiment consists of three choice tasks per respondent. Each time, respondents were asked to compare two profiles of hypothetical immigrants and choose the one they would prefer to come to their country.<sup>7</sup> That implies that we are measuring relative preferences for immigrants at the margin, i.e., for one additional immigrant. Each immigrant profile consists of four dimensions: *immigrant's job in the host country*, *immigrant's origin country/region*, *immigrant's willingness to integrate into the host country's society* and *immigrant's location within the host country*. Each dimension takes on a specific attribute level that is randomly drawn from a pool of pre-defined attribute levels. The two profiles to be compared in each task differ in at least one dimension. We do not restrict combinations of specific levels (fully randomized). We randomized the order of dimensions across respondents to avoid listing effects but held it constant across tasks per respondent. A total of 2,704 respondents, three tasks per respondent, and two profiles per task give us an effective sample size of  $N=16,224$  for the conjoint experiment.

Table 2 shows the conjoint experiment's different dimensions and attribute levels. The different immigrant profiles are presented to the respondent in a visualized form while being read out and explained by the enumerator. We carefully selected and visualized the different dimensions and attribute levels together with our local partners to ensure that they apply to the context. Attribute levels for Uganda and Senegal are almost identical and differ only in one level of the origin dimension. In Uganda, we included Indian immigrants, while in Senegal, we used Lebanese immigrants. Indians have a long-standing and controversial history of immigration in

<sup>7</sup>Respondents also had the option to select "don't know" or "refuse to answer". In Uganda, this was never the case. In Senegal, it happened 98 times (about 1% of all conjoint decisions in Senegal).

Uganda going back to colonial times, as do Lebanese people in Senegal (Park, 2022). The other conjoint dimensions are all identical across contexts.

We explicitly designed the conjoint experiment to investigate the different potential drivers of attitudes toward immigrants. First, suppose sociotropic cultural concerns are important in Uganda and Senegal. In that case, one should expect respondents to prefer African immigrants from a similar cultural background and immigrants willing to integrate into the local society. To reduce the complexity of the conjoint experiment and conferring with our local partners, we do not differentiate between specific origin countries within Africa.<sup>8</sup> Notably, the conjoint explicitly refers to African immigrants, not African refugees. We focus on immigrants, not refugees, because there is extant or emerging literature on refugees already (Betts et al., 2023; Zhou, Grossman and Ge, 2023). Other forms of migration in Africa are severely understudied because of the lack of data. Moreover, we exclude refugees in the conjoint experiment because certain combinations of attribute levels, such as refugees who work as investors or supermarket owners, would be unrealistic in the local setting.<sup>9</sup>

Second, if sociotropic economic concerns are salient, we can expect respondents to prefer higher-skilled immigrants, namely investors and supermarket owners, over lower-skilled immigrants, namely small shop owners and construction workers, irrespective of the respondents' own characteristics. If, however, egocentric economic concerns are important, we expect respondents to prefer immigrants who have a complementary skill level.

To proxy potential labor market competition, we follow the literature and focus on respondents' educational attainment (Hainmueller and Hopkins, 2015), employment status (Alrababa'h et al., 2021) and income levels (Bansak, Hainmueller and Hangartner, 2016). This approach is also similar to Stantcheva (2022) who proxies individual-level exposure to trade using respondent characteristics. Given the low levels of education in the local context, we use "some secondary education" as the cutoff to differentiate between higher and lower-skilled individuals. To capture respondents' employment status, we rely on respondents' main job during the last seven days and group respondents into working, unemployed and wanting to work, unemployed

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<sup>8</sup>These broad origin dimensions worked well in Uganda and Senegal, where different ethnicities coexist rather peacefully. It might be different in settings where inter-ethnic relations are tense, see for example, the study by Cogley, Doces and Whitaker (2019).

<sup>9</sup>While one might argue that other combinations, such as European construction workers, might also be unrealistic, our local partners had no such concerns. We did not encounter any related problems during the pre-testing of the conjoint, and also test for potential confounding in the robustness section.

and not wanting to work, and studying. To distinguish between different income levels, we create country-specific household income per capita quintiles for our sample, relying on the reported household income for the last 12 months.

The immigrants' location allows capturing respondents' overall evaluation of immigrants. Kadigo, Diallo and Maystadt (2022) and Zhou, Grossman and Ge (2023) find that proximity to refugee settlements in Uganda is associated with benefits for the host population, such as an increase in local households' welfare or improved access to public goods. Similarly, if respondents evaluate immigration as beneficial, we would expect them to prefer immigrants who live close by. Conversely, opposing immigration should lead to a "not in my backyard" mentality, driven by concerns about negative externalities in respondents' regions (Cogley, Doces and Whitaker, 2019).

Among the experimental dimensions shown in Table 2, attribute levels for origin, job, and location are rather self-explanatory and easy to understand for respondents. However, the willingness to integrate can leave some room for interpretation. It could also capture migrants' willingness to integrate into society economically or willingness to obey rules and laws. To avoid misunderstandings, we explicitly trained examples for integration, such as learning the local languages, participating in local celebrations, and making local friends. This way, we ensured that explanations and paraphrasing aligned with what we intended to capture.

To estimate the importance of power concerns, we combine the conjoint experiment with observational survey data. Using the survey data, we create a dummy for respondents who think foreign governments and businesses have too much influence in their country. Based on this dummy, we conduct subgroup analyses in the conjoint experiment to investigate whether power concerns influence respondents' preferences for specific immigrant characteristics.

To evaluate the conjoint experiment, we estimate marginal means (MMs) to explain the choice  $Y_{ijk}$  of respondent  $i$  in task  $j$  for profile  $k$ , following Leeper, Hobolt and Tilley (2020). In a forced conjoint experiment, the marginal mean of a given attribute level represents the average effect of that specific level on the overall probability of the profile being preferred relative to a zero effect of 0.5 (randomly choosing one of two profiles), averaging across all respondents and all other levels (Leeper, Hobolt and Tilley, 2020). Marginal means above 0.5 indicate a positive effect of an attribute level on the probability of a profile being selected, while marginal means below 0.5 indicate a negative effect. For example, a marginal mean of 0.6 for a given

**Table 2:** Conjoint experiment: dimensions and attribute levels

Dimension	Attribute Levels	Visualization
Job	• Construction worker	
	• Investor	
	• Small shop owner	
	• Supermarket owner	
Location in Uganda	• Within community	
	• Outside of community	
Willingness to integrate	• Willing	
	• Not willing	
Origin	• Africa	
	• China	
	• Europe	
	• India [only in Uganda]	
	• Lebanon [only in Senegal]	

*Note:* Dimensions, attribute levels, and visualizations for the conjoint experiment in Uganda. We replaced the origin attribute level "India" with "Lebanon" in the Senegalese localization of the experiment. Attribute level "Africa" explicitly excludes refugees.

attribute level indicates that profiles with that attribute level are selected with a probability of 60%, on average.<sup>10</sup> For all estimations, we cluster standard errors at the respondent level. In the robustness section, we follow Hainmueller, Hopkins and Yamamoto (2014) to rule out that carryover effects, profile order effects, attribute order effects, interactions between different attribute levels, or imbalance drive our results.

Conjoint experiments have become a popular tool for studying attitudes and preferences in political and economic contexts. However, they come with specific disadvantages that must be addressed in the research design and the interpretation of results. First, by construction, conjoint experiments allow studying the causal effect of specific immigrant characteristics *relative* to other characteristics. The identification of relative preferences, for example, whether respondents prefer immigrants from a certain origin over immigrants from another origin, needs to be accompanied by survey questions that inform about general attitudes towards immigrants, for example, whether respondents prefer more or less immigration of certain nationalities in absolute terms. Second, comparing estimated effect sizes across different dimensions is difficult because typically each dimension follows a different scale. As we include categorical values such as specific occupations or origins, we cannot directly compare the share of variance explained by each dimension. In the later observational part, this is less of a concern. Third, a common concern is that the attribute levels included in a conjoint experiment capture only some of the population’s concerns and potentially miss other important profile characteristics. Ultimately, a conjoint experiment has to choose the most relevant dimensions to remain tractable for respondents. We sought to address this challenge by closely working with local experts when designing and picking the most relevant conjoint dimensions - both from an academic and a local societal perspective. Fourth, the concrete wording of dimensions needs to be well-designed to capture the intended underlying aspect. In our study, this difficulty is most apparent for the

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<sup>10</sup>We furthermore estimate Average Marginal Component Effects (AMCEs), following Hainmueller, Hopkins and Yamamoto (2014), using

$$Y_{ijk} = \beta_0 + \beta_1 Job_{ijk} + \beta_2 Location_{ijk} + \beta_3 Integration_{ijk} + \beta_4 Origin_{ijk} + \epsilon_{ijk} \quad (1)$$

where  $\beta_1$  captures marginal means of the immigrant’s jobs,  $\beta_2$  captures marginal means of the immigrant’s locations in the host country,  $\beta_3$  captures marginal means of the immigrant’s willingness to integrate, and  $\beta_4$  captures marginal means of the immigrant’s origin. For subgroup analysis, we add interactions between each attribute level and categorical variables defining the specific subgroups AMCEs estimate causal differences in preferences for a given characteristic relative to a baseline attribute level rather than a probability of 0.5.

willingness to integrate, which measures a large share of sociotropic cultural concerns but likely cannot capture them entirely. The hypothetical immigrants’ nationality likely captures a mix of cultural concerns and other aspects, such as group-based xenophobia or racism. This speaks to the broader point that readers should always critically reflect on what conjoint dimensions do capture.

### 3.4 Analyzing different attitudes’ contributions to policy preferences

In the conjoint experiment, we can only partly compare point estimates across dimensions because they depend on the values chosen within a dimension. Therefore, the conjoint tells us which concerns are important but not whether certain concerns are more important than others. To quantify the relative importance of the different types of concerns, we follow the intuition provided by Card, Dustmann and Preston (2012). We use the survey questions on perceived impacts to estimate the predictive power of the different concerns in explaining the preferred level of immigration with the help of equation 2.

$$\begin{aligned}
 Y_i = & \beta_0 + \beta_1 \text{EgocentricEconomic}_i + \beta_2 \text{SociotropicEconomic}_i + \\
 & \beta_3 \text{SociotropicJob}_i + \beta_4 \text{SociotropicCultural}_i + \beta_5 \text{PowerGovernment}_i + \\
 & \beta_6 \text{PowerBusiness}_i + \beta_7 \text{Controls}_i + \epsilon_{ijk}
 \end{aligned} \tag{2}$$

where  $Y_i$  represents respondent  $i$ ’s opinion on the number of people from other countries that should be allowed to come and live in the host country;  $\beta_1$  captures egocentric economic concerns;  $\beta_2$  captures concerns about the expected effect of immigrants on the economy as a whole;  $\beta_3$  estimates concerns about the expected effect of immigration on the labor market;  $\beta_4$  captures sociotropic cultural concerns; and  $\beta_5$  and  $\beta_6$  capture power concerns related to foreign business and foreign governments respectively.  $\beta_7$  captures the effect of a wide range of respondent-level control variables, namely age, gender, education, self-reported employment during the last seven days (four levels), location (rural/urban), self-reported contact with immigrants, country-specific quintiles for self-reported household income per capita during the last 12 months, life satisfaction (0-10), satisfaction with city or area of residence (1-5), and country fixed effects.

Outcome and explanatory variables are standardized to make estimates comparable across different answer scales. Standard errors are clustered at the district level. Running the analysis both for attitudes toward immigrants in general and toward Chinese immigrants in particular, we can investigate whether the relative importance of the concerns differs between the two immigrant groups.

### 3.5 Sampling and data collection

We collected detailed primary data from a total of 2,704 individuals. In Uganda, we surveyed 1,204 individuals between October and November 2021. In Senegal, we surveyed 1,500 individuals between February and April 2022. Each sample aims to be representative of the respective country’s young and mobile population. Together with our local partners and the national statistics offices, we identified suitable districts and enumeration areas from different regions to conduct the surveys. After a complete household listing in each enumeration area, we randomly sampled individuals aged between 18 and 40 for the main interview.<sup>11</sup> In Uganda and Senegal, this age group already accounts for 74 and 66 percent of the countries’ adult population, respectively, and is projected to grow substantially in the future (UN DESA, 2022).

In Uganda, we interviewed individuals from 36 enumeration areas in the districts Kampala, Mbale, Gulu, Wakiso, Masaka, and Mbarara (Figure A1). In Senegal, we interviewed 1,500 individuals in 60 different enumeration areas in the districts Dakar, Diourbel, Matam, Saint Louis, Tambacounda, and Ziguinchor (Figure A2). The response rate for the primary interview in Uganda was a remarkable 99%. In Senegal, we had a response rate of 75%.

Including the conjoint experiment, each survey took approximately 90 to 120 minutes. In addition to the experiment, we collected information on household and individual-level socioeconomic characteristics, individual migration intentions, and attitudes toward immigrants.<sup>12</sup> Note that respondents completed the conjoint experiment before answering the survey questions. This order minimizes priming in two ways: First, by starting with the experiment, we

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<sup>11</sup>Our study is part of a larger survey mainly investigating migration aspirations and decisions. For that purpose, the data collection targeted the younger and more mobile population.

<sup>12</sup>A conjoint experiment relies on randomization of the different attribute levels. Due to errors in the survey program, this randomization did not work correctly for the first 500 experiments we conducted in Uganda, making the data invalid. We tried to revisit all of these 500 respondents to repeat the conjoint experiment, but 33 respondents (6.6% of the 500 respondents to be revisited) had to be replaced, either because they refused to re-do parts of the questionnaire ( $N = 4$ ) or because they could not be re-contacted ( $N = 29$ ). We conduct robustness checks to rule out experimental fatigue with the respondents that had to be revisited or that their inclusion affects the overall results.

can rule out that the survey questions have primed responses in the conjoint experiment, which is the central part of the survey. Second, the random composition of profiles in the conjoint experiment minimizes systematic priming in the subsequent survey section.

### **3.6 Sample characteristics**

Table 3 summarizes the socio-demographic characteristics of our full sample. The average respondent is 28 years old, female, and has no secondary education. 49% of respondents engaged in income-generating activities during the last seven days before the interview. 26% were not working but wanted to, and 11% were studying. Under idealized circumstances, 67% of our sample would like to move within their country, and 71% would like to migrate internationally. Half of the respondents (49%) reported having contact with any foreigner at least once a month, and a third (34%) have contact with a person from China at least once a month - for example, on public transport, in the street, in shops, or their neighborhood.

## **4 Results**

### **Overall attitudes and perceptions of impacts**

We start our analysis by investigating absolute attitudes toward immigrants in our sample. These are important to understand whether the host population is generally open to immigration or not and how it perceives the impacts of immigration. In this part of the analysis, we provide the overall reference point for correctly interpreting the relative attitudes we elicit in the experiment in the subsequent step.

Column 1 of Table 4 summarizes answers to our survey questions regarding immigrants in general, i.e., without explicitly inquiring about specific nationalities. Figure A3 in the Appendix provides histograms and Table 1 contains the full survey questions. On average, most respondents would allow either some or many immigrants to come to their home country (2.85 on a scale from 1 (none) to 4 (many)). Respondents perceive immigration as economically neutral to beneficial: On average, they rate immigrants' impact on host countries' economies as positive (2.66 on a scale from 1 (good) to 5 (bad), with about 40 percent of respondents seeing a "somewhat good" effect. A similarly positive picture, albeit a little more polarized, can be found for

**Table 3:** Respondents' characteristics

Variable	Senegal		Uganda		Total	
	N	Mean/SE	N	Mean/SE	N	Mean/SE
Age	1500	28.480 (0.178)	1204	26.743 (0.180)	2704	27.707 (0.128)
Female	1500	0.538 (0.013)	1204	0.627 (0.014)	2704	0.578 (0.010)
Low skilled (no sec. education)	1500	0.621 (0.013)	1204	0.264 (0.013)	2704	0.462 (0.010)
Working	1500	0.488 (0.013)	1204	0.491 (0.014)	2704	0.489 (0.010)
Not working, not wanting to	1500	0.029 (0.004)	1204	0.027 (0.005)	2704	0.028 (0.003)
Not working, wanting to	1500	0.262 (0.011)	1204	0.247 (0.012)	2704	0.255 (0.008)
Studying (university or school)	1500	0.137 (0.009)	1204	0.067 (0.007)	2704	0.106 (0.006)
Would like to move internally	1487	0.516 (0.013)	1201	0.867 (0.010)	2688	0.673 (0.009)
Would like to move internationally	1482	0.626 (0.013)	1204	0.820 (0.011)	2686	0.713 (0.009)
Contact foreigner at least once a month	1468	0.441 (0.013)	1193	0.559 (0.014)	2661	0.494 (0.010)
Contact Chinese at least once a month	1490	0.225 (0.011)	1195	0.481 (0.014)	2685	0.339 (0.009)
Rural	1500	0.449 (0.013)	1204	0.290 (0.013)	2704	0.378 (0.009)

*Note:* Don't know and Refused to answer are coded as missing.

job creation (4.58 on a scale from 0 (create new jobs) to 10 (take away jobs)). When it comes to being impacted directly, in each country only 5% of respondents report a very bad influence of immigrants on themselves or their households' economic situation; a third report a neutral effect, and the largest group with 34% perceives a somewhat positive impact, resulting in an average rating of 2.8 on a scale from 1 (very good) to 5 (very bad). Finally, respondents do not think that immigration undermines host countries' norms and values (3.7 on a scale from 0 (not at all) to 10 (a lot)).

These absolute attitudes are similar to those in Europe: For comparison, in the ESS, on average, European respondents rate immigration as neutral to slightly beneficial for their countries' economy (5.2 on a scale from 0 (bad for the economy) to 10 (good for the economy)) and enriching for their countries' culture (5.4 on a scale from 0 (cultural life undermined) to 10 (cultural life enriched)) as analyses such as Ademmer and Stöhr (2018) show.

### **Chinese immigrants versus immigrants in general**

Column 2 of Table 4 summarizes absolute attitudes toward Chinese immigrants, while column 3 shows t-tests for differences in attitudes toward immigrants in general. Respondents are significantly less open to immigration from China than to immigration in general. Still, respondents prefer, on average, "some" immigration of either group, indicating slightly positive absolute attitudes towards both groups.

The perceived economic effects of Chinese immigrants are rather positive. On average, respondents rate Chinese immigrants as slightly beneficial for their own economic situation, the economy at large, and the creation of jobs. But when comparing economic concerns toward Chinese immigrants to those toward the average immigrant, the picture becomes more nuanced. Respondents perceive Chinese immigrants as having a slightly worse effect on the economy as a whole than immigrants in general. However, there is no significant difference in perceived economic threat to respondents' personal situation, and Chinese immigrants are even perceived as significantly more likely to create jobs than immigrants in general. That suggests that the rather negative sociotropic economic assessment of immigrants is not based on competition for jobs, as for example anecdotes about critical views of Chinese construction workers or small-scale traders would suggest.

A similarly nuanced picture emerges when looking at absolute cultural concerns. Respon-

**Table 4:** Difference in means for main observational variables of interest, overall immigrants vs. Chinese immigrants

Variable	(1)		(2)		T-test Difference (1)-(2)
	Immigrants overall N	Mean/SE	Immigrants from China N	Mean/SE	
Allow immigrants to come to home country: none (=1) to many (=4)	2668	2.851 (0.015)	2652	2.580 (0.015)	0.272***
Are immigrants good or bad for respondent's and household's economic prospects: good (=1) to bad (=5)	2633	2.782 (0.020)	2634	2.802 (0.019)	-0.020
Are immigrants good or bad for country's economy: good (=1) to bad (=5)	2632	2.656 (0.023)	2624	2.796 (0.023)	-0.140***
Do immigrants take or create jobs: create (=0) to take (=10)	2629	4.580 (0.061)	2622	3.990 (0.062)	0.590***
Do immigrants undermine country's norms and values: not at all (=0) to a lot (=10)	2638	3.697 (0.065)	2618	2.494 (0.056)	1.202***
Do foreign governments have to little or too much influence in country: too little (=0) to too much (=10)	2422	5.966 (0.070)	1257	3.437 (0.096)	2.529***
Do foreign businesses have to little or too much influence in country: too little (=0) to too much (=10)	2420	5.907 (0.066)	1265	4.570 (0.100)	1.337***

*Notes:* The value displayed for t-tests are the differences in the means across the groups. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level. Concerns regarding the influence of the Chinese government and Chinese businesses have only been asked separately in Senegal, and are missing for observations from Uganda. *Don't know* and *Refuse to answer* are coded as missing values.

dents do not think Chinese immigrants undermine norms and values in absolute terms. Interestingly, cultural concerns are significantly lower for Chinese immigrants than immigrants in general.

## 4.1 Relative attitudes

Next, we analyze respondents' relative attitudes and related concerns in the conjoint experiment. Figure 1 plots the marginal means corresponding to equation 1. The dots indicate point estimates for the marginal mean of each attribute level. Whiskers around the dots show the 99% confidence intervals. The solid vertical line at the value of 0.5 represents the reference effect relative to which the marginal means are estimated. If a given attribute level does not have an effect on the probability of a profile being selected, a profile with this attribute level should, on average, be selected with a probability of 0.5, holding all other attribute levels constant - like flipping a coin. Thus, the line helps to assess whether an effect is statistically different from zero. The corresponding numbers can be found in Table A2. The AMCE equivalent can be found in the appendix in Table A3 and Figure A4.

### Economic versus cultural preferences

We start our analysis by focusing on immigrants' economic role in society and assess the effect of a profile's occupation on relative preferences. The top panel in Figure 1 shows that, on average, respondents prefer immigrants with occupations that are high-paying and have the potential to create additional jobs: Profiles including investors or supermarket owners are selected with a probability of 0.65 and 0.56, respectively. Low-skilled jobs have a negative effect on the probability of a profile being selected: marginal means for small shop owners and construction workers are 0.38 and 0.41, respectively. Clearly, occupational differences matter, indicating that economic concerns play an important role.

The second panel shows that contrary to the dominant views in many developed countries, people in Uganda and Senegal prefer immigrants to move nearby. Profiles of immigrants who will stay within the respondents' community are 8 percentage points more likely to be preferred than those who will stay outside the respondents' community. That is in line with the overall positive perception of immigrants from the previous section, and with results from Cogley, Doces and Whitaker (2019), who do not find any evidence for a not-in-my-backyard mentality, and

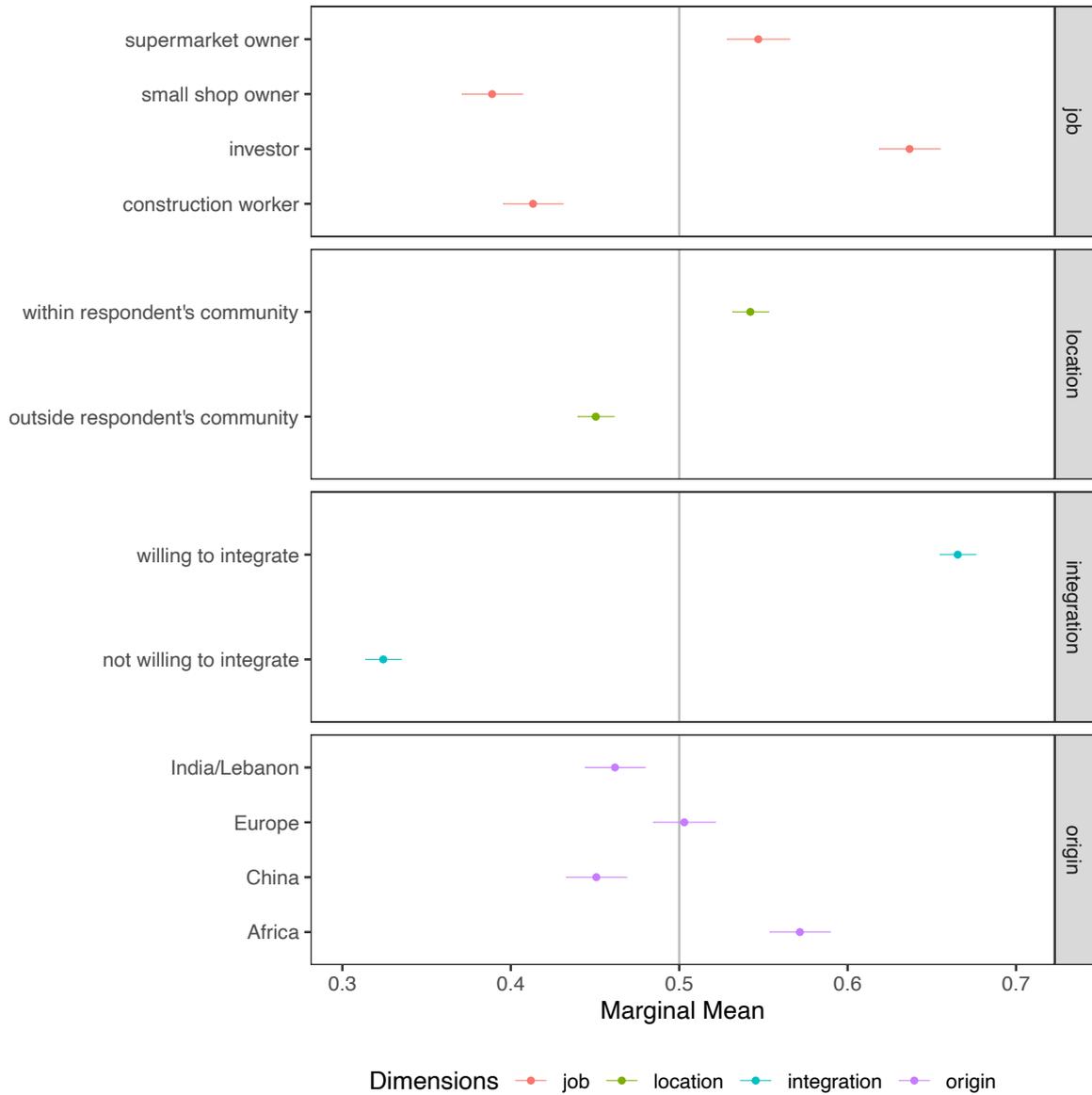
Kadigo, Diallo and Maystadt (2022), who find positive effects of proximity to refugee settlements on households' welfare. Similarly, in Afrobarometer Round 8 from 2021, in Uganda over 50% would like or strongly like immigrants and foreign workers as their neighbors, while 30% are indifferent. In Senegal, the group with positive or very positive views is 70%, about 20% are indifferent (Afrobarometer Data, 2019/21).<sup>13</sup>

As the third panel shows, respondents want these new neighbors to integrate socially. Immigrants' willingness to integrate - for example, to learn the local language, make local friends, and participate in cultural events - strongly affects a profile's probability of being preferred. Profiles with immigrants who are willing to integrate are selected with a probability of 0.67, as compared to 0.32 for their non-willing counterparts. This large effect aligns with anecdotal evidence from conversations with people in the field who emphasized the importance of immigrants' integration. The particularly sizable effect underlines the importance of cultural concerns in the host population.

The fourth panel assesses another important part of the cultural dimension by contrasting attitudes toward different nationalities. Respondents significantly prefer fellow Africans (marginal mean of 0.56), whereas immigrants from India/Lebanon and China decrease the probability of a profile being selected (marginal means of 0.46 for both groups). The effect for European immigrants is not significantly different from the null effect of 0.5. In line with the results from the survey section, respondents do penalize immigrants of Chinese origin. But they do *not* dislike them more than immigrants from India/Lebanon, who have a much longer immigration history in the respective countries. European immigrants are seen more negatively than African immigrants but significantly more positively than immigrants from China or India/Lebanon. Given that we do not distinguish African countries or ethnicity, we likely underestimate the importance of the origin dimension. Plausibly, there will be differences in attitudes toward culturally more similar and culturally more distant African countries, which we cannot observe due to the limited number of attribute levels per dimension we could include in our experiment. Still, it is noteworthy that origin creates much smaller effects than immigrants' jobs or willingness to integrate. For attitudes toward immigrants, their profession seems more important than where they come from.

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<sup>13</sup>Reassuringly, in the dis-aggregations by country, in our experiment, the preference for immigrants moving close is also more positive in Senegal than in Uganda (Figure A13).



*Note:* The graph plots marginal means for equation 1. Dots represent point estimates, whiskers around the dots represent 99% confidence intervals. The vertical line at 0.5 indicates the null effect. Standard errors are clustered on the respondent level. *Don't know* or *Refuse to answer* are dropped from the estimation. The corresponding numbers can be found in Table A2. The AMCE equivalent can be found in Figure A4 and Table A3.

**Figure 1:** Main marginal means estimates

## Egocentric versus sociotropic economic preferences

In the previous section, we established that economic concerns are an important driver of relative attitudes towards immigrants. But are these economic concerns egocentric or sociotropic? To answer this question, we follow Hainmueller and Hopkins (2015), Alrababa'h et al. (2021) and Bansak, Hainmueller and Hangartner (2016) and estimate marginal means for different respondent sub-groups, some of whom are more likely to compete with the immigrants in our experiment. We distinguish (i) higher- and lower-skilled respondents (Figure A5, Table A4), (ii) different employment statuses (Figure A6, Table A5), and (iii) different household income per capita levels (Figure A7, Table A6).<sup>14</sup> Furthermore, we interact respondents' skill levels with the immigrant's job and location in the host country since competition will occur where workers are substitutable. Respondents might only fear competition with similarly skilled immigrants who also live inside their community and not with those who are locally distant (Figure A8).

No matter how we proxy different levels of competition with immigrants, the marginal means do not differ substantially between respondent sub-groups. Respondents strictly prefer high-skilled to low-skilled immigrants, irrespective of their own skill level, employment status, income level, and the immigrant's location. Thus, we find little evidence that concerns about direct competition with immigrants play a significant role in shaping attitudes toward them. This is consistent with the low share of respondents reporting a negative influence of immigrants on their or their households' economic position in the survey question. The lack of egocentric economic concerns equally holds when considering potential benefits that respondents might expect. Job seekers and respondents in work do not hold different attitudes toward immigrant occupations that could create jobs (supermarket owner and investor, Figure A6), suggesting that the hope of personally benefiting from new jobs immigrants might create is neither important. Egocentric concerns are minor drivers of attitudes at best. Hence, the economic concerns driving the attitudes toward different occupations in Figure 1 are sociotropic concerns.

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<sup>14</sup>Given that education levels, employment status and household income are very broad measures of whether respondents compete with the potential immigrants, one should generally be critical of this standard way of measuring economic competition. A better measure for competition may be the profession because it allows more precise measurement of competition based on substitutability (Hainmueller and Hopkins, 2015). We did not distinguish specific professions because, in the Sub-Saharan African context, professions are less regulated than in the United States or parts of Europe. There is typically no occupational licensing and workers change their occupations often and work in different jobs simultaneously. Assuming that competition occurs within cells defined by occupation did not strike our local partners or us as a particularly realistic way of capturing competition. We rather included additional survey questions to assess the concerns about direct competition in more detail, discussing the results below.

## Do power concerns determine attitudes?

To capture power concerns, we ask about the perceived influence of foreign countries and foreign businesses. Interestingly, while respondents' views on immigrants are generally positive, their opinions on foreign governments and businesses are, on average, negative. And while respondents seem to view Chinese immigrants more negatively than immigrants overall when it comes to power concerns, the picture is reversed (Table 4).<sup>15</sup> In line with many other surveys, such as Afrobarometer (Sanny and Selormey, 2020), in Senegal power concerns are less negative for Chinese governments and businesses compared to those from Europe or America. In fact, the influence of the Chinese government is actually seen as too small by the average respondent. That may surprise Westerners, who often perceive or frame Chinese involvement as a risk for Africans. However, Westerners tend to overlook that their economic involvement is also regularly seen as self-interested and of little value to locals. Even some development cooperation is critically perceived by Africans, especially when it props up unpopular regimes. By contrast, a substantial share of the population sees Chinese activity on the continent as an exchange that is not rooted in colonial patterns and (often) involves less finger-wagging (Carbone, 2011).

We also test whether power concerns explain heterogeneity in attitudes within the conjoint experiment by estimating subgroup differences. Respondents with strong power concerns may be more critical of immigrant groups whose origin country the respondents associate with having too much influence. When estimating subgroup preferences for people who think that foreign governments and/or businesses in general have too much influence in their countries,<sup>16</sup> the previous results do not change substantially (Figures A9 and A10). That suggests that relative preferences for certain immigrant characteristics do not depend on respondents' power concerns.

It seems clear that the more negative view of Chinese immigrants in the conjoint and in the question on allowing more or fewer immigrants in does not stem from power concerns. If anything, these reduce the gap between the Chinese and other immigrant groups. If the difference in absolute attitudes is not driven by differences in power concerns, economic, or cultural

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<sup>15</sup>These two variables, however, should be taken with a grain of salt. In Uganda, we did not distinguish foreign governments/businesses in general and those from China in particular due to a misunderstanding during implementation. In Senegal, we did, but many data points contain "don't know" or "refuse to answer". In total, we have 243 unusable data points for the variable referring to the influence of the Chinese government and 235 for Chinese businesses. Especially in rural locations, respondents were often unaware of the influence of the Chinese government or Chinese businesses.

<sup>16</sup>Bigger than 5 on a scale from 0 (=too little) to 10 (=too much). We have this information for both Uganda and Senegal.

impacts, the remaining explanation might be taste-based. Indeed, during data collection, we noticed that Chinese immigrants were viewed more critically than other immigrants, even if they behaved identically.

## **A hidden consensus within and across countries**

The analyses seen so far provide average results for our entire study population. To better understand the possible implications of the drivers of attitudes, it is also important to investigate whether there is broad agreement in society or whether the average results mask a highly polarized view that would require different political answers. We study differences in attitudes and attitude formation across respondent subgroups in two steps. First, we analyze whether there is heterogeneity in the determinants of relative attitudes, i.e., if specific individuals have stronger preferences for certain characteristics of migrants in the conjoint experiment. Second, we study the determinants of absolute attitudes by running regressions to see which respondent-level variables predict absolute attitudes in the survey section.

Investigating additional potential heterogeneous effects across different population subgroups yields a picture fitting the previously established finding that relative preferences do not differ by respondents' education or economic situation. Despite some sporadic differences, relative preferences in the conjoint experiment hardly vary by respondent subgroup and never change directions. Preferences do not vary substantially by respondents' gender (Figure A11) or location (rural vs. urban, Figure A12). Results also remain unchanged when estimating sub-group preferences by the country of residence (Figure A13).

We include several additional subgroup analyses to investigate potential heterogeneous effects among respondent groups that were not pre-registered. First, we test whether relative attitudes toward immigrants vary with respondents' absolute preference for more or less immigration. We re-code the outcome variable into a binary variable that takes the value of 1 if a respondent favors many or some immigration, and zero otherwise. Preferences in the conjoint experiment do not vary substantially between the two groups (Figure A14). Next, we test whether attitudes vary with self-reported contact with (Chinese) immigrants. Based on the contact hypothesis, increased contact with (Chinese) immigrants should lead to more positive attitudes toward these groups (Pettigrew and Tropp, 2006). In our sample, however, we do not observe such a pattern. The overall picture remains unchanged, irrespective of self-reported

contact with immigrants in general (Figure A15) or Chinese immigrants in particular (Figure A16). Alternatively to contact, respondents' beliefs about how many (Chinese) immigrants already live in their country could matter (Bursztyn and Yang, 2022). To check this, we create country-specific quintiles for respondents' estimates of the number of (Chinese) immigrants currently living in their home country. Again, overall results remain unchanged (Figures A17 and A18). Contact or beliefs about numbers do not seem to determine the attitudes towards migrant groups, similar to recent studies from Europe or the US (Grigorieff, Roth and Ubfal, 2020; Alesina, Miano and Stantcheva, 2023).

We also test whether the respondents' preferred destination region for migration influences their preferences for the origins of immigrants. We group respondents' preferred destination countries into the regions Africa, Europe, South and Western Asia (including India and Lebanon), and Eastern Asia (including China). Marginal means do not differ much between groups. The only point estimate that deviates substantially is the one for immigrants from China among respondents whose preferred destination region is East Asia (Figure A19). The coefficient is positive and close to zero but not significant.

Most strikingly perhaps, results from the conjoint experiment hardly vary by respondents' district of residence. Even though there is substantial cultural, political, and economic heterogeneity across the two countries and the different districts, and regional peculiarities such as hosting refugees, having experienced civil conflict in the past, or hosting special economic zones might influence respondents' preferences, estimating marginal means for the different districts in Uganda and Senegal does not affect our results much (Figure A20).

Estimating subgroup preferences for small groups leads to large standard errors, which might make it difficult to detect nuanced differences. But note that despite occasionally large standard errors, the overall picture remains unchanged: Point estimates for different subgroups are mostly very similar to each other in terms of effect sizes, and, most importantly, they rarely change their direction.

The homogeneity in attitudes toward immigrants in the conjoint is confirmed when looking at respondent-level predictors of attitudes from the survey data. We use the outcome and explanatory variables from the survey section and predict them with our usual set of respondent-level controls. The results emphasize the consensus in views (Tables A9 to A15). There are only minor differences in perceptions. Given the risk of false positives in hypothesis testing, we

avoid discussing weaker or smaller differences. One of them is large and worth noting, though: Compared to individuals without education, the more educated individuals are more critical of the role of foreign businesses and governments in general.

In summary, our results are surprisingly homogeneous and vary hardly with respondents' characteristics or geographic location. Similar to findings from the US (Hainmueller and Hopkins, 2015), there seems to be a "consensus" about attitudes toward immigrants in Uganda and Senegal. While one might argue that the absence of heterogeneity stems from respondents' lack of interest or awareness, our survey questions show the opposite: respondents have strong opinions on immigration to their country, leading to answers that are more skewed than answers to similar questions in the ESS (Figure A3). The homogeneity of our results across a multitude of subgroups from two countries that share similar labor market characteristics with many other countries in the region strengthens our confidence that our results carry some external validity for other parts of Sub-Saharan Africa.

## **What type of concern is the most important driver of attitudes?**

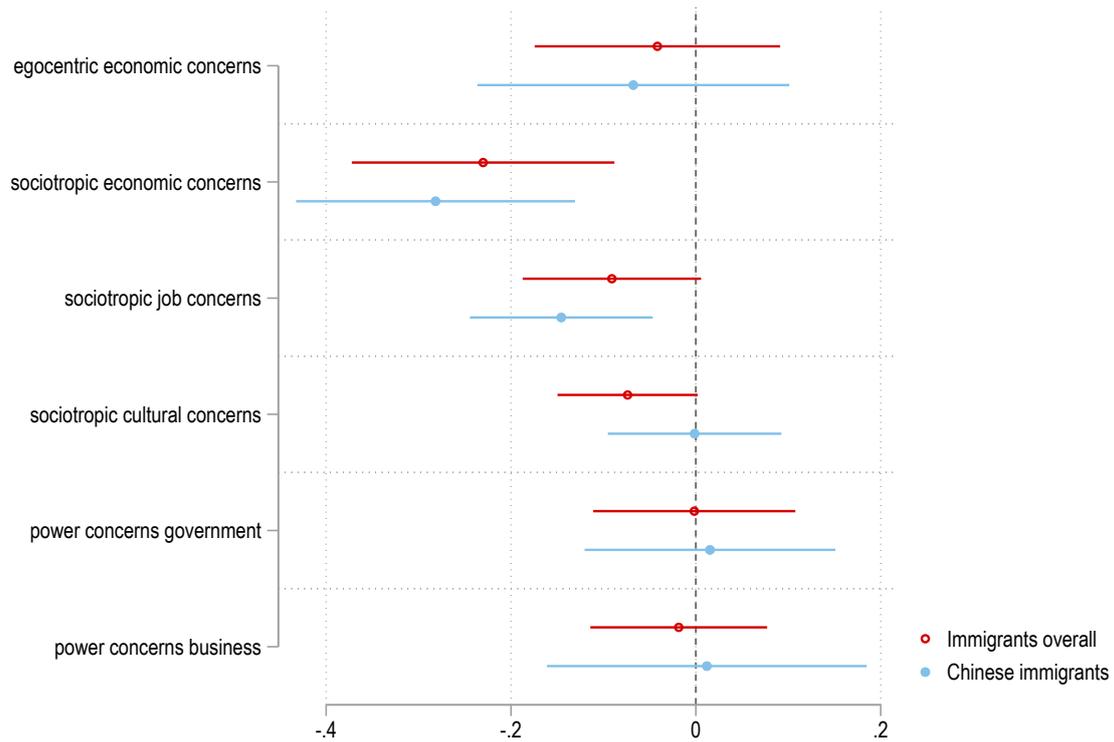
We started out with the survey questions that suggested a rather positive view of migration's impacts and a tendency to let in many immigrants. The conjoint experiment has then provided a relative picture, yielding information on which characteristics of immigrants are preferred. Bringing in respondents' characteristics and views from the survey has shed light on who has particularly strong relative preferences. We now wrap the analysis up by assessing whether the different concerns we have identified result in different immigration policy preferences.

To assess the contribution of different types of concerns about immigrants on the preferred level of immigration, we estimate correlates of absolute attitudes toward immigrants using equation 2. We do so separately for immigrants in general and Chinese immigrants. We standardize outcome and explanatory variables and cluster standard errors at the district level and then run different specifications: without and with control variables<sup>17</sup> and power concerns.<sup>18</sup> Results for

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<sup>17</sup>Respondents' age, gender, education, self-reported employment during the last 7 days (4 levels), location (rural-urban), self-reported contact with immigrants, country-specific quintiles for self-reported household income per capita during the last 12 months, life satisfaction (0-10), and satisfaction with the city or area of residence (1-5), and country fixed effects

<sup>18</sup>When including power concerns, for the Ugandan sample, where we did not collect these separately for the Chinese and therefore extrapolate answers to questions on the perceived influence of foreign governments and businesses to the missing variables for the perceived influence of Chinese governments and businesses. By assuming that power concerns in Uganda are the same for foreign governments and businesses in general and Chinese ones in particular, we impute power concerns that are, on average,



*Note:* The graph plots OLS estimates for equation 2. Table version in Table A7. Outcome and explanatory variables are standardized. The regression includes the full set of controls and country fixed effects. In Senegal, we collected power concerns separately for foreign governments/businesses in general and Chinese ones in particular. In Uganda, we assume that power concerns are the same for foreign governments and businesses in general and Chinese ones in particular. Standard errors are clustered at the district level. *Don't know* and *Refuse to answer* are coded as missing. For table, see A7, column (7) and (8).

**Figure 2:** Contributions of different types of concerns to overall attitudes

the different specifications are reported in Table A7.

Figure 2 illustrates the main results from our preferred specification (standardized outcome and explanatory variables, including control variables, extrapolating power concerns for the Ugandan sample), overlaying findings for attitudes toward immigrants in general (red, column (7) in Table A7) and Chinese immigrants in particular (blue, column (8) in Table A7). Dots plot point estimates and whiskers around dots plot 99% confidence intervals. Respondents' concerns are coded such that more negative values represent greater concerns. Outcome variables proxying respondents' attitudes toward immigrants are coded such that more positive values represent more positive attitudes. Thus, if a specific concern is a significant predictor of attitudes toward immigrants, their coefficient should be negative and significant.

The results complement the experimental evidence from the conjoint, adding nuance to them. Again, egocentric economic concerns do not seem to play an important role. Despite greater than the concerns toward Chinese foreign governments and there.

explicitly asking respondents about immigrants' threat to their own and their households' economic situation, these egocentric economic concerns are not a significant predictor of the preferred level of immigration and are also not significantly related to the preferred level of Chinese immigration.

What could explain the apparent lack of egocentric economic concerns in a context of strong competition for limited resources? In our sample, as in many other countries in Sub-Saharan Africa, households and even individuals often work multiple jobs at a time (Barrett, Reardon and Webb, 2001; Berg et al., 2021). The high degree of income diversification and informality in Sub-Saharan Africa implies that locals are less affected by competition from incoming immigrants. Moreover, many African societies are less individualistic than Western societies (Gorodnichenko and Roland, 2017). This might explain why individuals in Uganda and Senegal give more importance to sociotropic factors, despite the great economic pressures that respondents often face.

Next, broader sociotropic economic concerns, measured by asking respondents about immigrants' effects on the host economy as a whole and on job creation, are associated with significantly lower preferred levels of immigration, underpinning the importance of immigrants' ability to contribute to the host country's economy. A one standard deviation increase in sociotropic economic concerns is associated with a 0.23 standard deviation decrease in the preferred level of immigration and a 0.27 standard deviation decrease in the preferred level of Chinese immigration. The narrower job-creating concern can add to this. If job concerns are one standard deviation higher, the preferred immigration level is 0.09 standard deviations lower in general and 0.14 standard deviations lower for Chinese immigrants.

While results from the conjoint experiment highlight the importance of immigrants' origin and willingness to integrate, fear of immigrants actually undermining the country's norms and values seems to play a minor role in determining overall attitudes. The effect of cultural concerns is very small and only statistically different from zero for immigrants in general and Chinese immigrants. These concerns thus hardly influence overall attitudes.

Although we find considerable variation in power concerns in absolute terms, their predictive power for attitudes toward immigration is statistically insignificant in both specifications. Respondents with relatively greater power concerns do *not* prefer a different level of immigration. While this finding contradicts our initial hypothesis about power concerns, it aligns with

several conversations we had with locals in the respective countries. In Uganda and Senegal, people are worried about the influence of foreign governments and businesses - especially those from the former colonial powers - but they clearly differentiate between these and immigrants themselves.

Overall, sociotropic economic concerns are the most important determinant of attitudes toward both immigrants in general and Chinese immigrants. Point estimates for sociotropic economic concerns are significantly larger than those for job concerns or other concerns (Table A8). Altogether, while Chinese immigrants are perceived slightly more negatively and economically worse for the economy despite being perceived as more jobs creating, the analysis shows that attitude formation toward this group is not systematically different from that toward immigration overall.

To summarize, the results based on the survey questions about preferred immigration levels and the perceived impacts help set the results from the experiment in context. In absolute terms, average respondents do not perceive adverse impacts of immigration; instead, they report neutral to positive impacts. The conjoint experiment suggests that respondents want immigrants to contribute to the host society economically and integrate. At the same time, the survey questions show that the majority of respondents perceive immigrants as doing precisely that: benefiting the host countries' economy and creating jobs without undermining respondents' livelihoods or the local culture. The alignment of relative and absolute concerns explains the overall positive evaluation of immigrants that we can also observe in the conjoint experiment, where respondents want the average immigrant to live close by. While in the Global North, a not-in-my-backyard mentality is common, the yes-in-my-backyard mentality observed in Uganda and Senegal provides a striking contrast.

## **Robustness**

Our experimental results are robust to several additional specifications. We test for profile order effects (Figure A21), attribute order effects (Figure A22), and carryover effects (Figure A23), none of which alter our results substantially. Preferences for certain attribute levels do not depend on the profile, the order, or the task they appear in. Attribute levels are balanced within dimensions and have the same probability of being sampled (Figure A24). To control for potential experimental fatigue among respondents who had to be revisited, we

estimate marginal means by whether respondents were revisited or not. Estimates remain largely unchanged, reassuring us that revisiting households did not impact our estimates (Figure A25). In Figure A26, we cluster standard errors at the enumerator level rather than the respondent level. Standard errors increase marginally but do not affect significance. Finally, we re-estimate our main results (i) using the Bonferroni method to control for multiple hypothesis testing (29 different conjoint specifications) and (ii) applying sampling and non-response weights. Again, our results remain virtually unchanged (Table A16).

As an additional exercise, we control for two-way interaction effects between different attribute levels by interacting all attribute levels with each other (Egami and Imai, 2018). One might be particularly concerned that respondents associate immigrants' origin with other specific stereotypes. Estimating interactions between different attribute levels allows us to check whether preferences for specific attribute levels vary with the profiles' origin dimension or not. Results are invariant: Respondents' preferences do not change with immigrants' origin (Figures A27 to A29). Also, note that potentially less plausible combinations do not cause odd results. Low-skilled immigrants from Europe are penalized similarly to low-skilled immigrants from other regions. Similarly, respondents strictly prefer high-skilled over low-skilled immigrants, immigrants who are willing to integrate over those who are not willing to integrate, and immigrants within their community over those outside - irrespective of the other profiles' attribute levels (Figures A30 to A32).

The results from our survey data analysis are also robust to different specifications. Given the shortcomings of the variables measuring power concerns for the Chinese in Uganda, we re-estimate our model without power concerns. We also estimate the main specification without control variables to maximize our sample size. Estimated coefficients remain robust in both additional specifications (Table A7).

## 5 Conclusion

While there is a vast literature on attitudes toward immigrants in Western countries, little systematic knowledge of the perception of immigration in Sub-Saharan Africa exists so far. Understanding what Africans think about migration and what influences their opinions is important for key policy developments, such as the planned African-Union-wide visa-free travel

and similar plans made in tandem with the African Continental Free Trade Agreement or European countries' externalization of migration policy. Another critical trend affecting countries in Sub-Saharan Africa is China's activity. There has been an increasing Chinese immigration to Sub-Saharan Africa, yet the existing knowledge about the perception of this immigration is mostly anecdotal.

To fill this gap in the literature, we provide the first large-scale study of attitudes toward immigrants in Sub-Saharan Africa that uses a causal framework. Collecting data in Uganda and Senegal, we study attitudes toward immigrants in general and Chinese immigrants in particular, eliciting preferred levels of immigration, perceptions of immigration's impact, and preferences for certain types of immigrants. While Uganda and Senegal differ in immigration patterns, the labor markets in both countries are characterized by high levels of underemployment and informality - similar to many other countries in Sub-Saharan Africa.

Using our experimental and survey-based estimates, we analyze whether egocentric economic, sociotropic economic, cultural, or power concerns determine attitudes toward immigrants. We provide quantitative evidence that sociotropic economic concerns and sociotropic cultural concerns are strong drivers of attitudes toward immigrants. As a consequence, citizens with a negative perception of immigrants' impact on the wider economy are more opposed to further immigration. In particular, immigrants' perceived impact on the economy and job creation is essential. Immigrants who have the potential to create jobs are especially welcome. Immigrants' willingness to integrate is the other major driver of attitudes.

Despite the fierce competition for resources and jobs in Uganda and Senegal, we do not find a significant role of egocentric economic concerns determining attitudes. Our results suggest that respondents' attitudes are not significantly predicted by their narrow self-interest, such as the potential employment benefits they or their households could receive. Similar to the US and Europe, sociotropic concerns are the far more important drivers. This finding, which differs from our pre-registered hypotheses, is one of the most important takeaways from our study. The determinants of attitudes toward immigrants are not that different between the rich industrialized economies that have mostly been studied so far and the two low and lower-middle-income countries that we focus on.

Immigrants from China, in particular, are perceived as economically and culturally less threatening than immigrants in general. Yet, Chinese immigrants are perceived less positively

than other immigrants in absolute terms. We interpret this as evidence of taste-based differences in assessing these immigrants.

Our results on power concerns indicate that respondents are generally somewhat concerned about the influence of foreign governments and businesses. In Senegal, where we distinguished power concerns in general and regarding the Chinese in particular, respondents perceive the influence of Chinese businesses and especially the Chinese government as too small. That stands very much in contrast to Western rhetoric. However, power concerns do not influence the overall attitudes toward immigration or the relative preference of Chinese migrants vis-à-vis other immigrants. We conclude that respondents distinguish between the more abstract power concerns, their attitudes toward immigrants, and their resulting preferences for immigration policy.

Overall, our study shows that despite the vastly different economic and contextual factors, the determinants of attitudes toward migrants are remarkably similar to those already established by research conducted in the US and Europe: sociotropic concerns outweigh egocentric concerns. Attitude formation processes thus seem to carry over from context to context, even if the economic environment and level of competition vastly differ.

Furthermore, similar to what has been documented within the US, there seems to be a “hidden consensus” about attitudes toward immigrants in Uganda and Senegal (Hainmueller and Hopkins, 2015). Attitudes hardly vary with respondent-level or geographic characteristics. Respondents agree on what kind of immigration they prefer: Immigrants who benefit the overall economy are willing to integrate and do not create a threat to norms and values.

In contrast to many high-income countries, overall attitudes toward immigrants are positive: Respondents perceive immigrants as beneficial for the economy and, in stark contrast to strong not in my backyard concerns in the West, prefer them to live close by.

Our results provide support for policymakers who are planning to allow more immigration, for example, by easing migration restrictions within the African Union. They also suggest that when aiming for a reduction in tensions and xenophobia, communicating the positive impacts of immigration on society at large and promoting immigrants’ willingness to integrate into host societies are worthwhile mechanisms to target. Given our results’ substantial homogeneity, we think our study may have some external validity for other Sub-Saharan African countries with similar social and economic characteristics.

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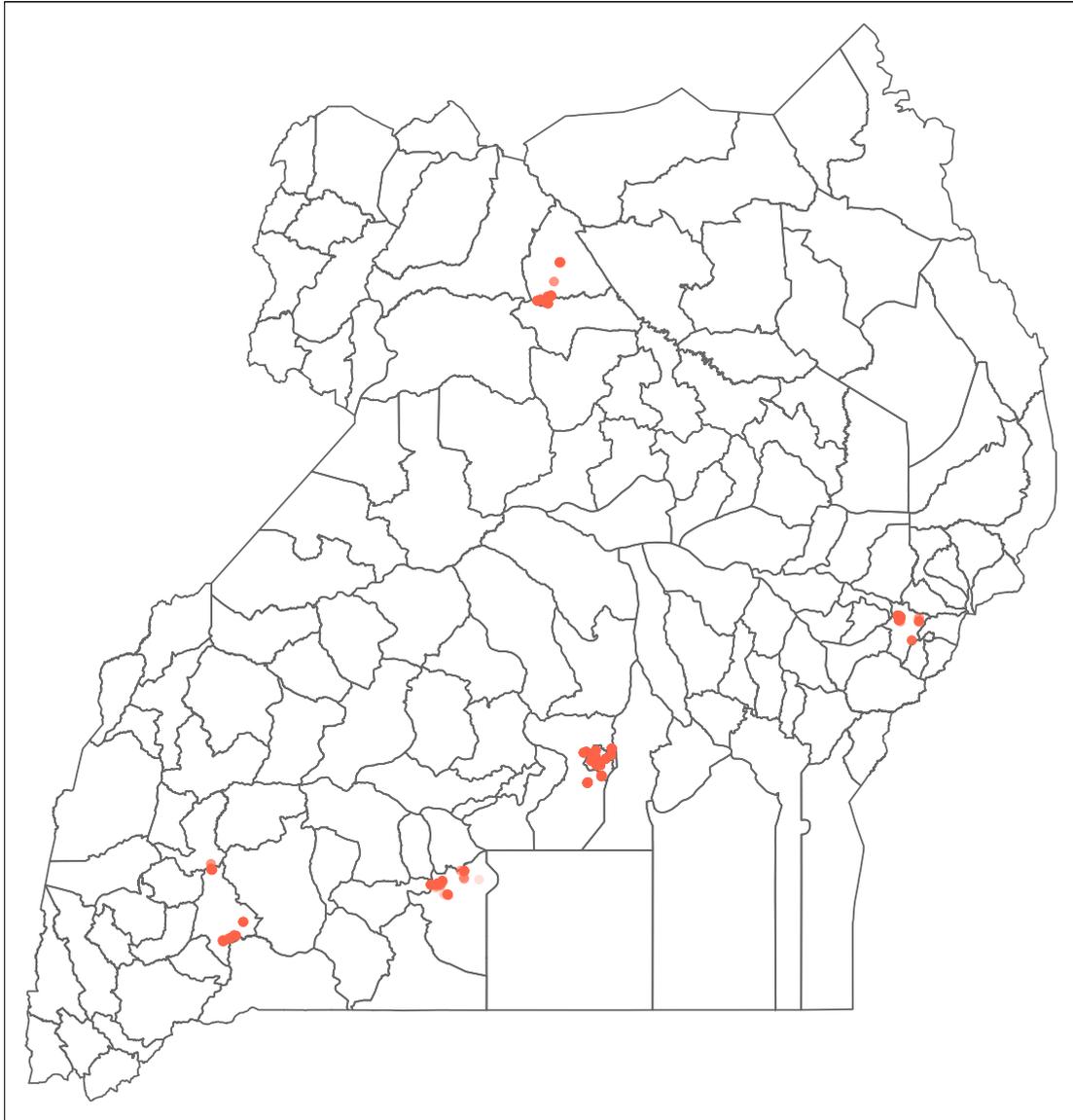
# A Appendix

## A.1 Background Uganda and Senegal

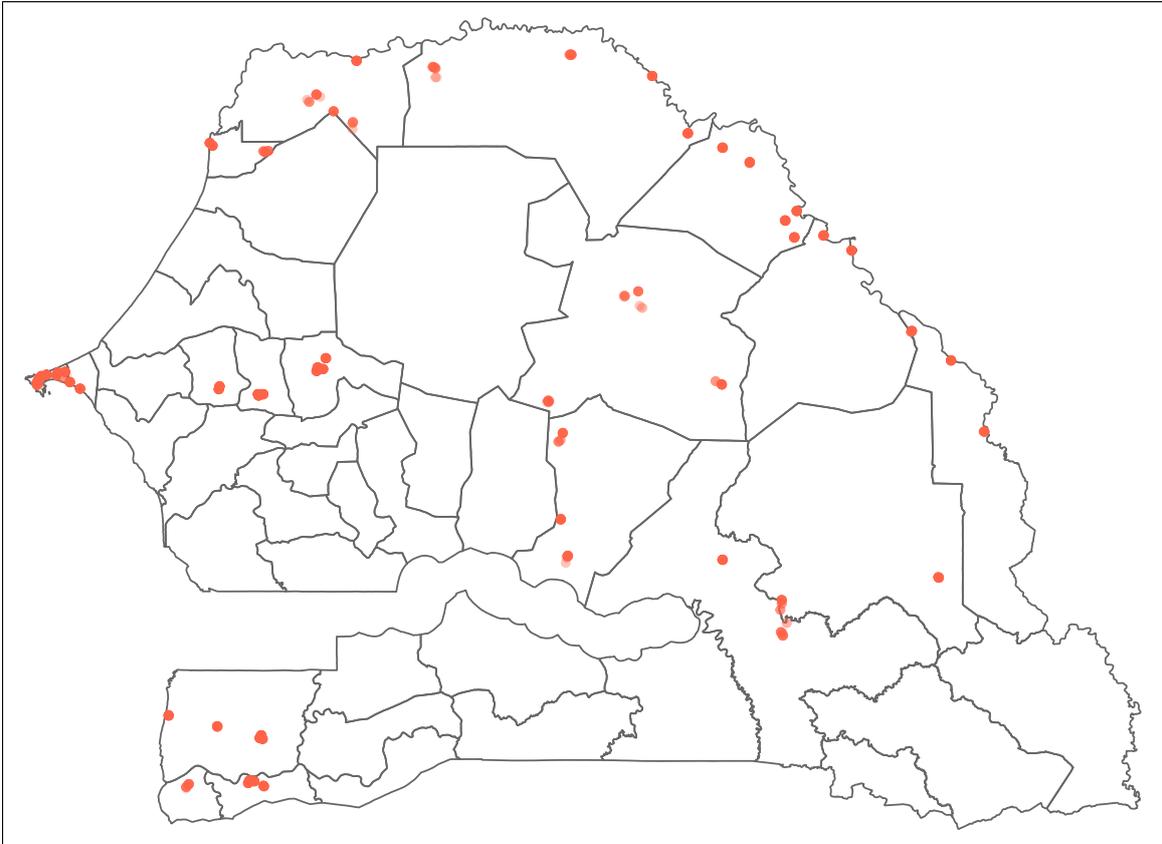
Uganda was home to over 1.7 million immigrants in 2019. It is among the top five refugee-hosting countries in the world and the leading country in Africa. Uganda also hosts significant numbers of regular labor or transit migrants from neighboring countries such as Rwanda and Tanzania (Mosel, Leach and Hargrave, 2020). While non-African immigrants account for less than 1% of Uganda's immigrant stock (Mosel, Leach and Hargrave, 2020), they are very visible in daily life and the media. Indians are historically the most relevant group of non-African immigrants to Uganda, settling there mostly when Uganda and India were both British colonies. They constitute a group of immigrants who have been members of society for many decades. However, this relationship has not always been a harmonious one. Notably, several tens of thousands of Indians were expelled in 1972 by the regime of Idi Amin. By the end of his regime's downfall in 1979, almost all Indian citizens had left the country and thus lost their businesses and most other possessions. Under the still-ruling Museveni government, Indians were invited back to Uganda in the mid-1980s (Ember, Ember and Skoggard, 2004). Official data from 2012/13 shows that the highest number of work permits in Uganda was issued to Indian citizens (39%).

Senegal is an important destination for migrants within the Economic Community Of West African States. The majority of Senegal's immigrant population are regular migrants from neighboring countries such as Mauritania, Mali, Gambia, and Guinea Bissau (Devillard, Bacchi and Marion, 2015). What the Indians are to Uganda are the Lebanese to Senegal. The Lebanese formed an important part of the Senegalese society and economy already during colonial times, engaging in trade and politics alike. They competed with French traders in the peanut trade, making them the target of anti-immigration propaganda and lobbying. After Senegal gained independence in 1960 (supported by the Lebanese community), the Lebanese stayed in the country, increasingly competing with Senegalese traders (Boumedouha, 1990). Today, the Lebanese form a well-established yet distinct population group in Senegal (Leichtman, 2005). They are an economically strong minority but have faced increasing competition from Chinese immigrants in recent years (Gaye, 2008).

## A.2 Study area

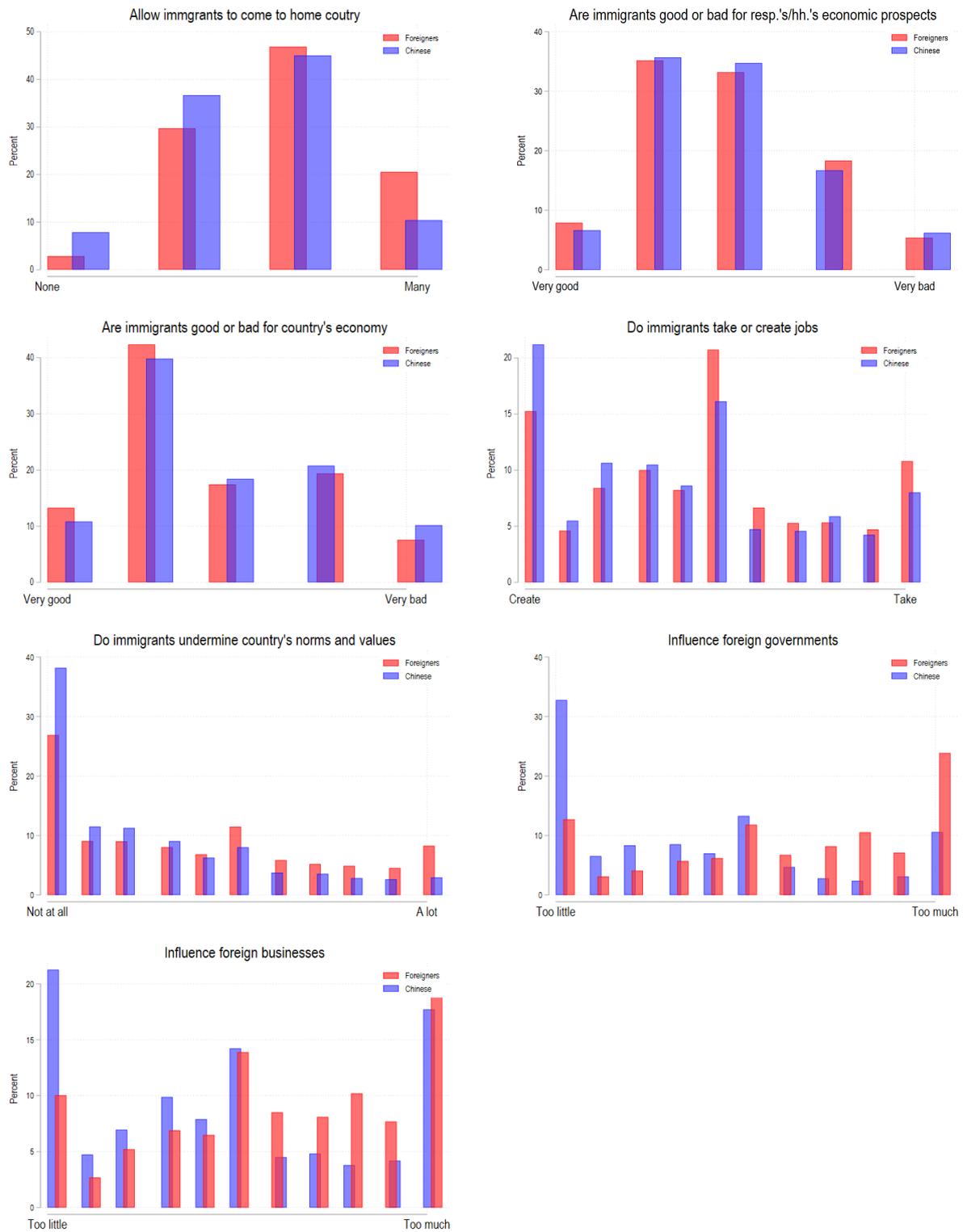


**Figure A1:** Interview locations in Uganda

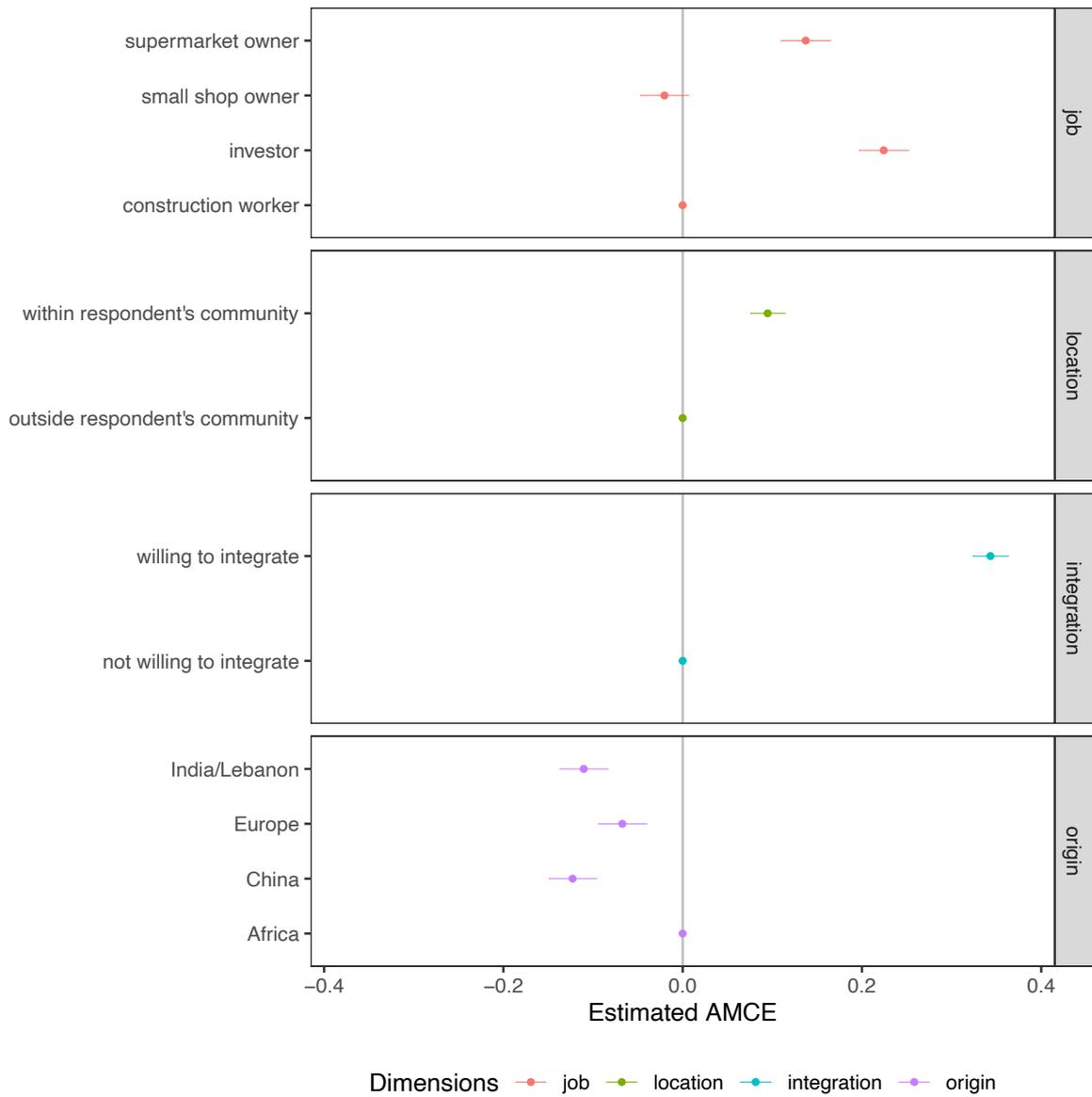


**Figure A2:** Interview locations in Senegal

### A.3 Appendix: Figures

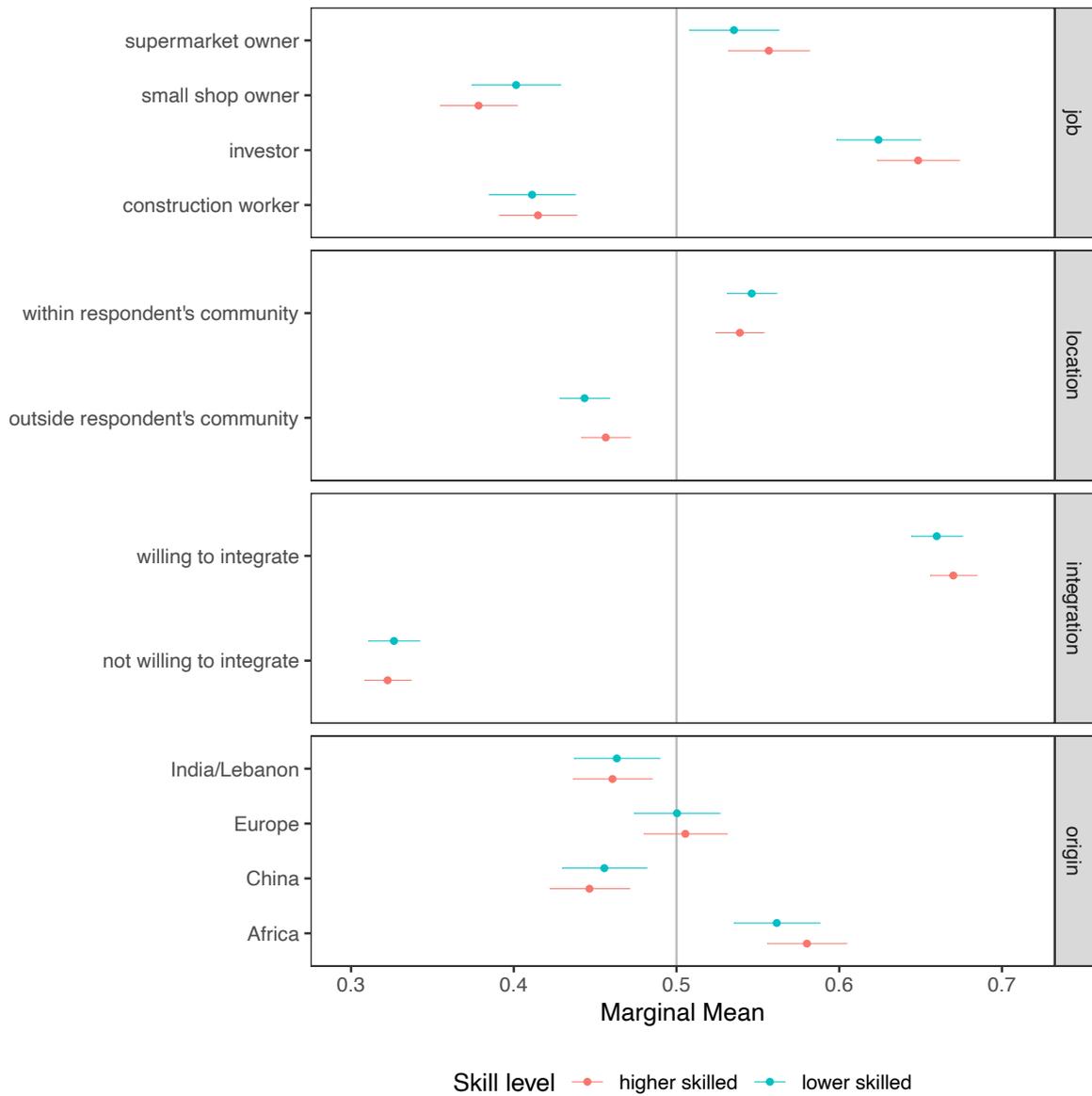


**Figure A3:** Histograms for main dependent and explanatory variables



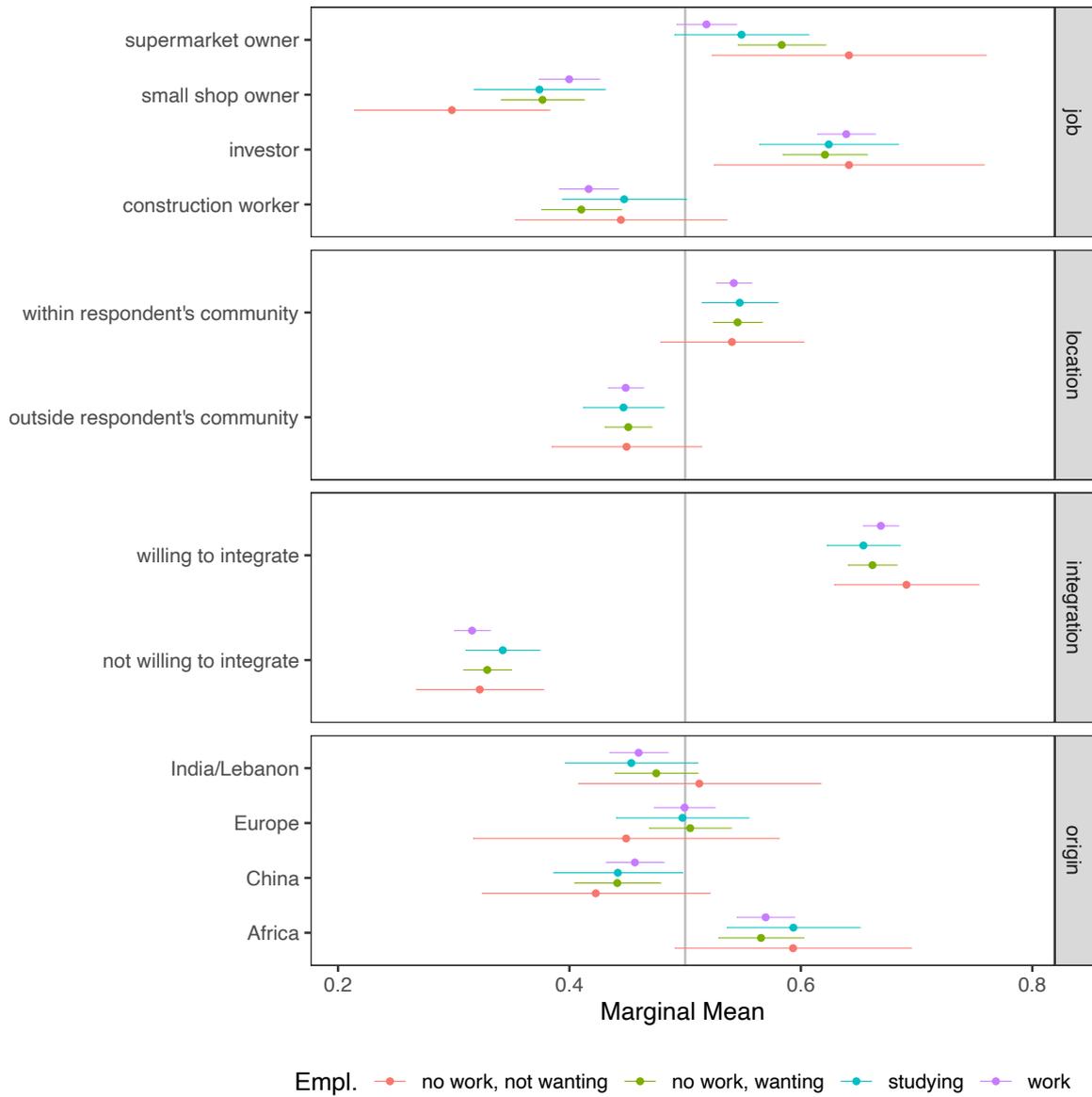
*Note:* The graph plots AMCEs for equation 1. Dots represent point estimates, whiskers around the dots represent 99% confidence intervals. Dots without whiskers represent the reference attribute level. Standard errors are clustered on the respondent level. *Don't know* or *Refuse to answer* are dropped from the estimation. The corresponding numbers can be found in Table A3.

**Figure A4:** Average marginal component effects for equation 1



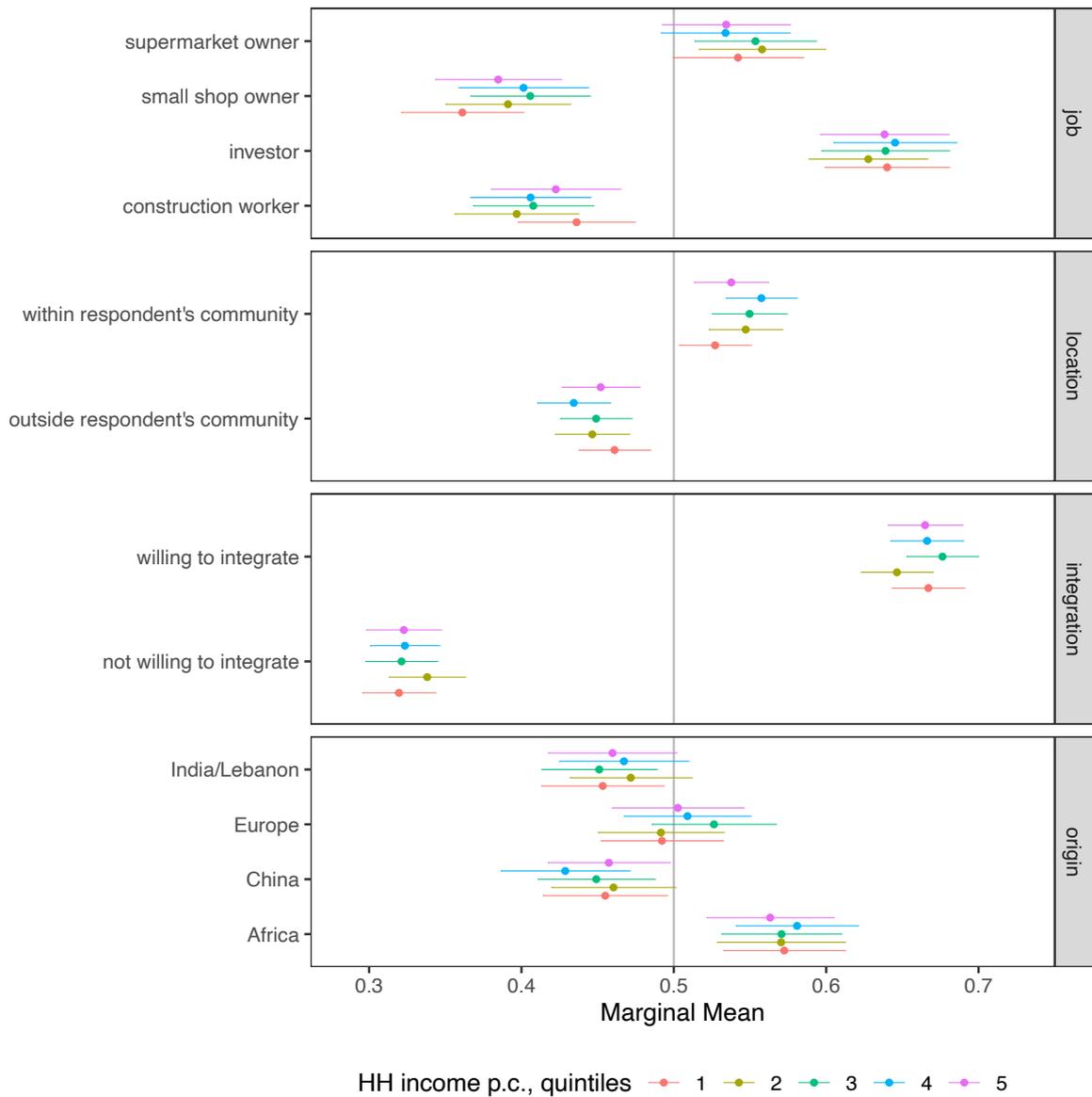
Note: The graph plots marginal means for subgroup analysis by skill level, measured by educational attainment. *Don't know* or *Refuse to answer* are dropped from the estimation. The corresponding numbers can be found in Table A4.

**Figure A5:** Marginal means for subgroup analysis by skill level



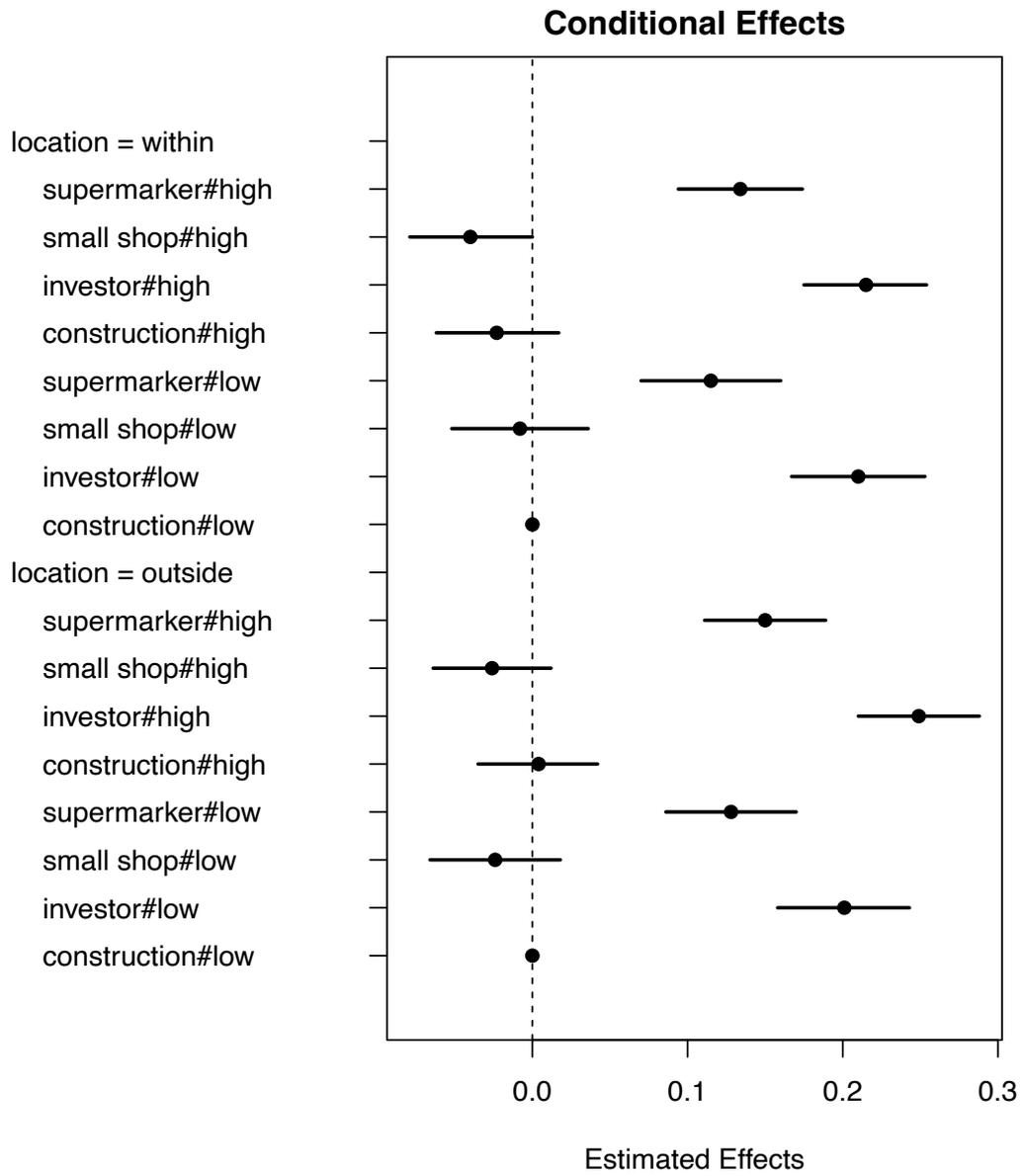
*Note:* The graph plots marginal means for subgroup analysis by employment group, based on the last 7 days before the interview. *Don't know* or *Refuse to answer* are dropped from the estimation. The corresponding numbers can be found in Table A5.

**Figure A6:** Marginal means for subgroup analysis by employment group



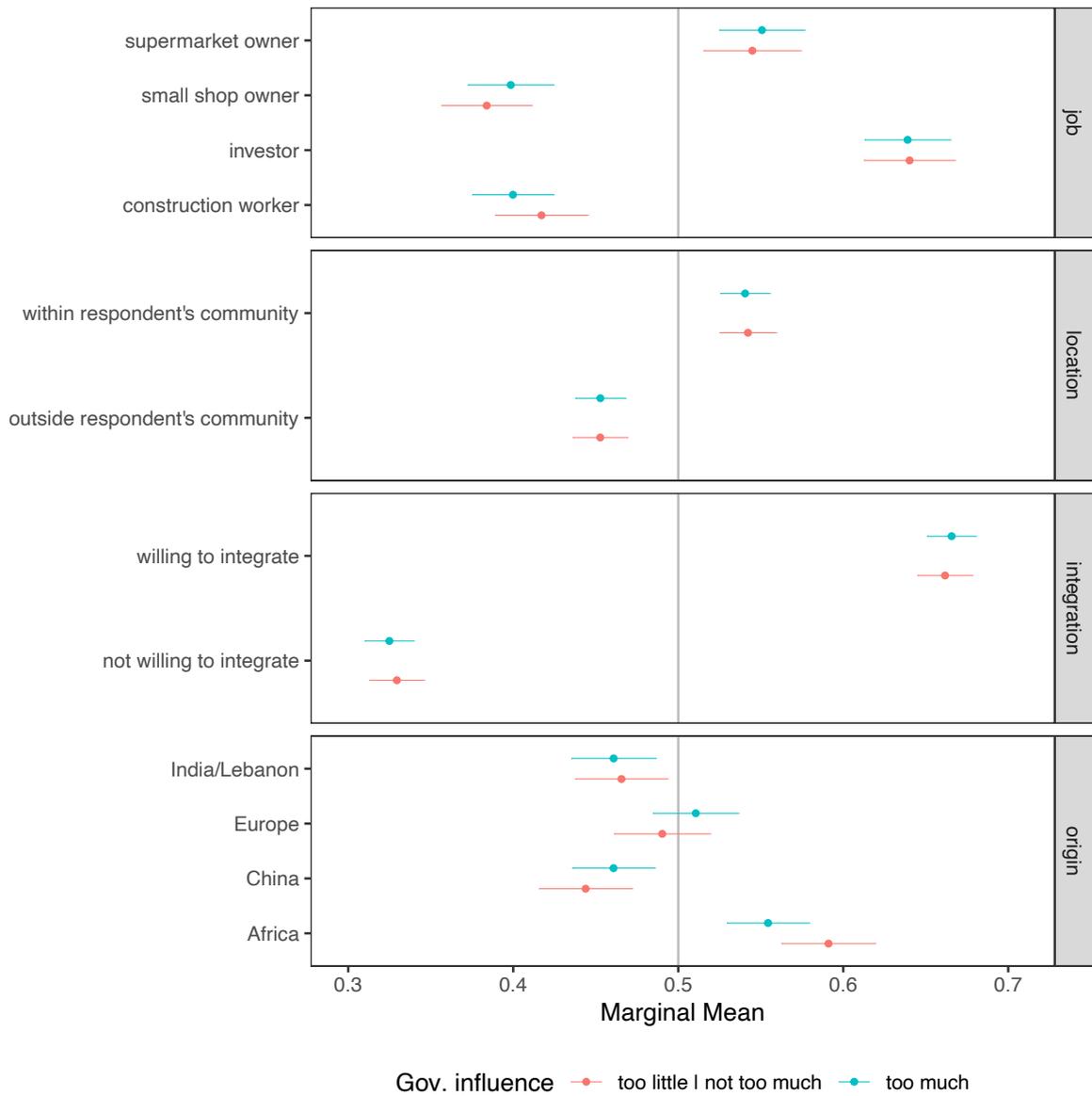
*Note:* The graph plots marginal means for subgroup analysis by household income per capita quintiles, based on the households' reported income during the last 12 months. The first quintile represents the bottom 20% of the income distribution. *Don't know or Refuse to answer* are dropped from the estimation. The corresponding numbers can be found in Table A6.

**Figure A7:** Marginal means for subgroup analysis by household income quintiles



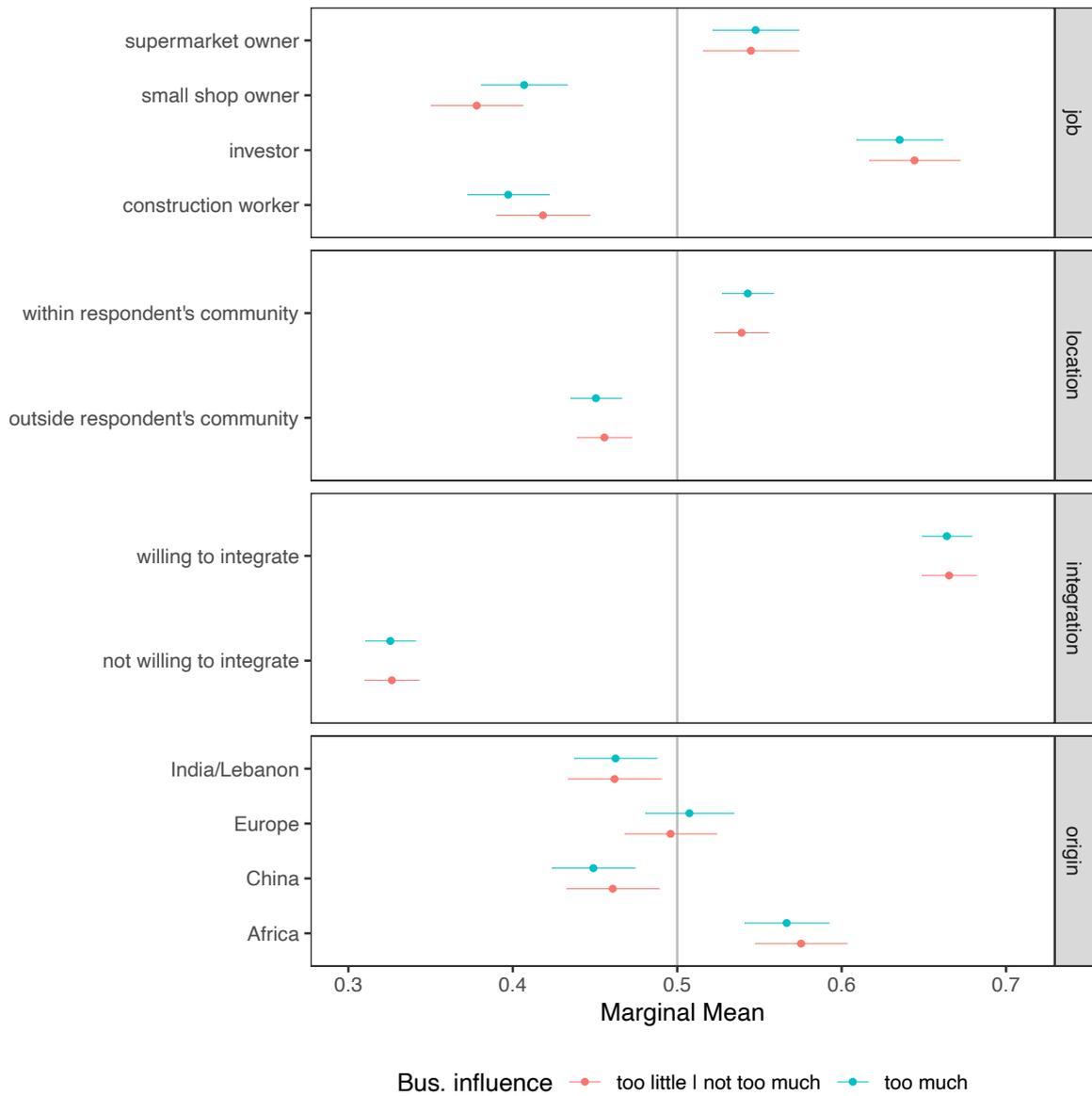
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' job, immigrants' location and respondents' skill level, measured by educational attainment. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A8:** AMIE for skill level and location



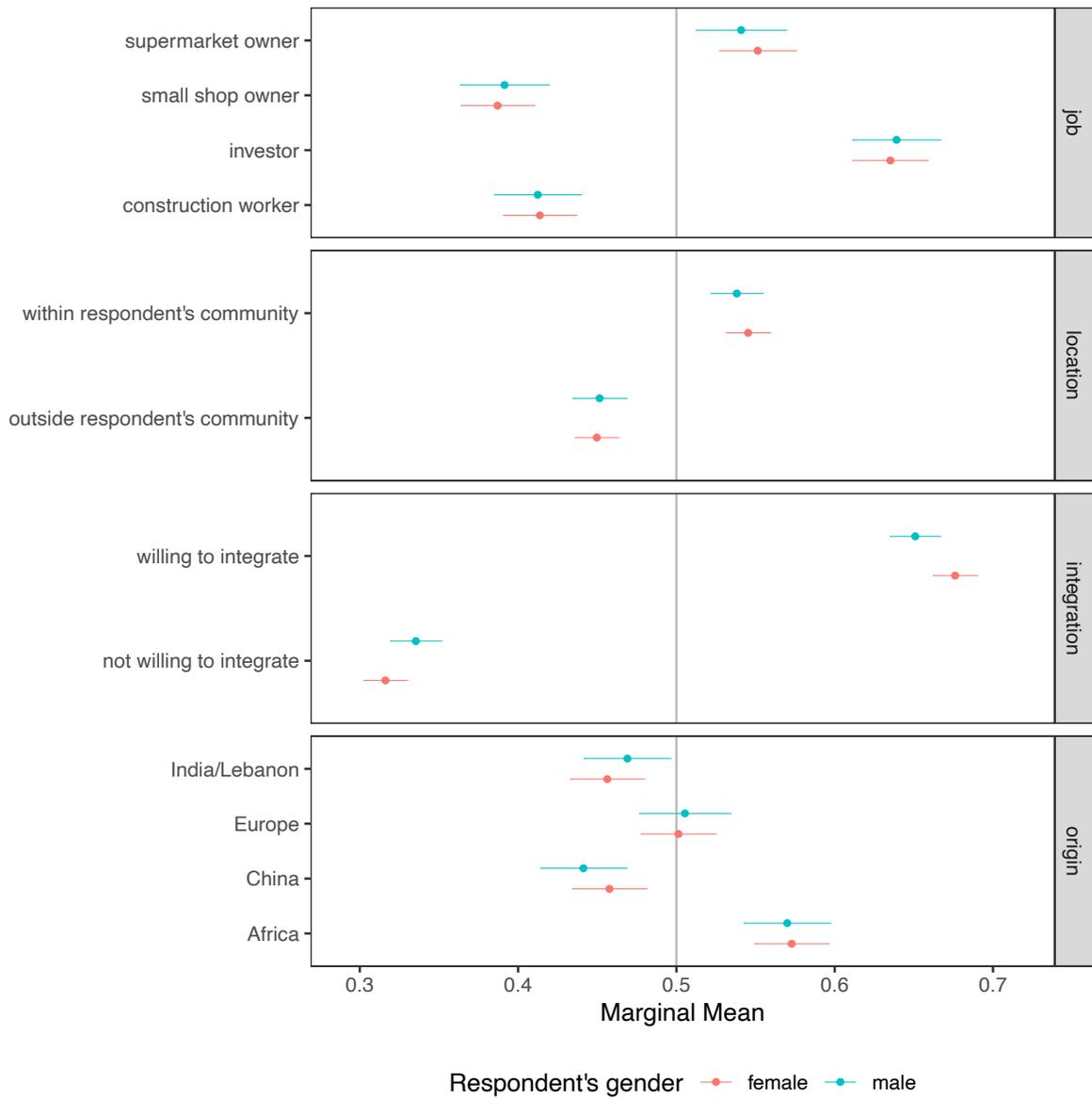
Note: The graph shows marginal means for equation 1 by respondents' concerns about foreign governments' influence. Don't know or Refuse to answer are dropped from the estimation.

**Figure A9:** MMs for equation 1 by concerns about foreign governments' influence



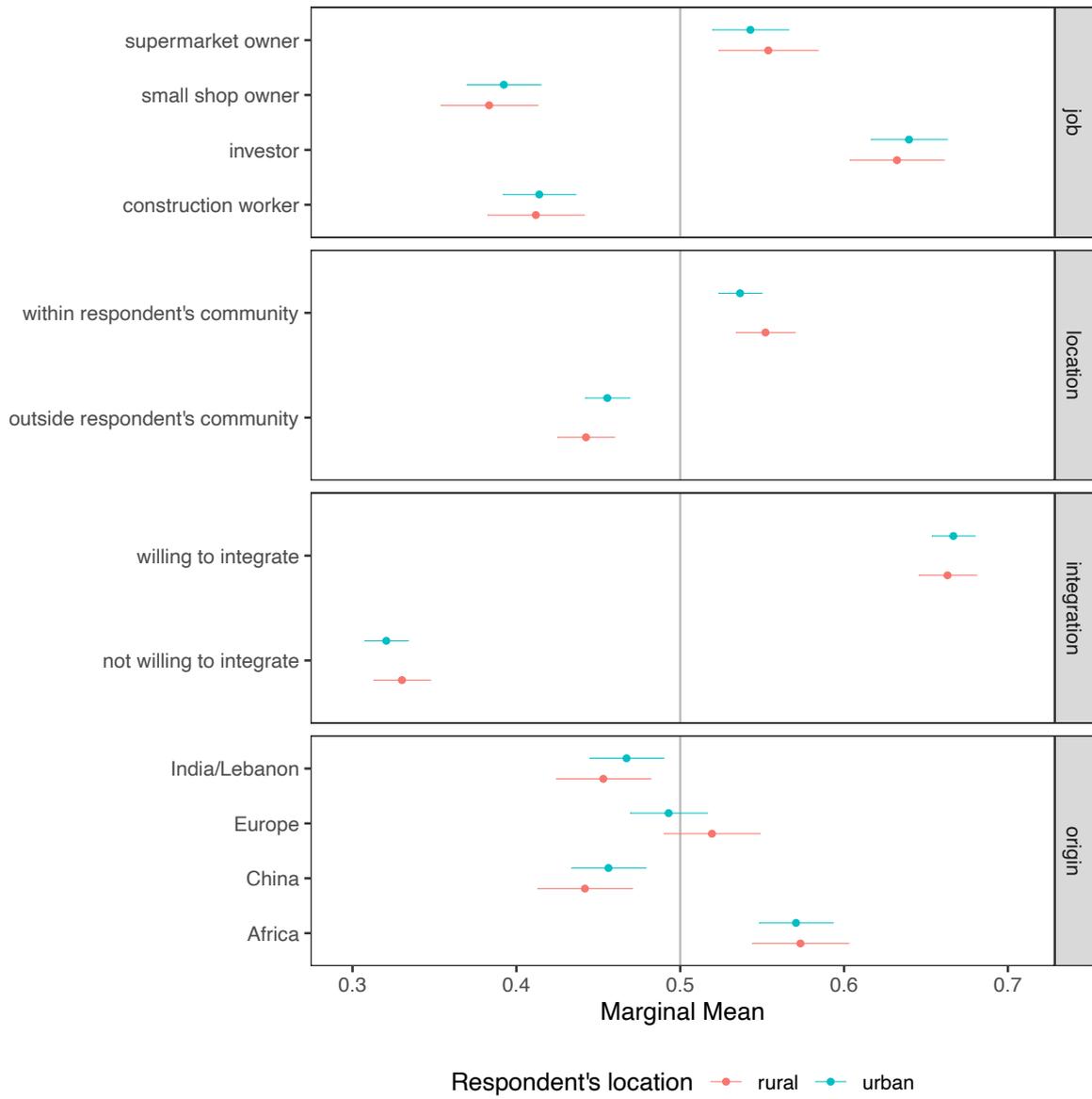
*Note:* The graph shows marginal means for equation 1 by respondents' concerns about foreign businesses' influence. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A10:** MMs for equation 1 by concerns about foreign businesses' influence



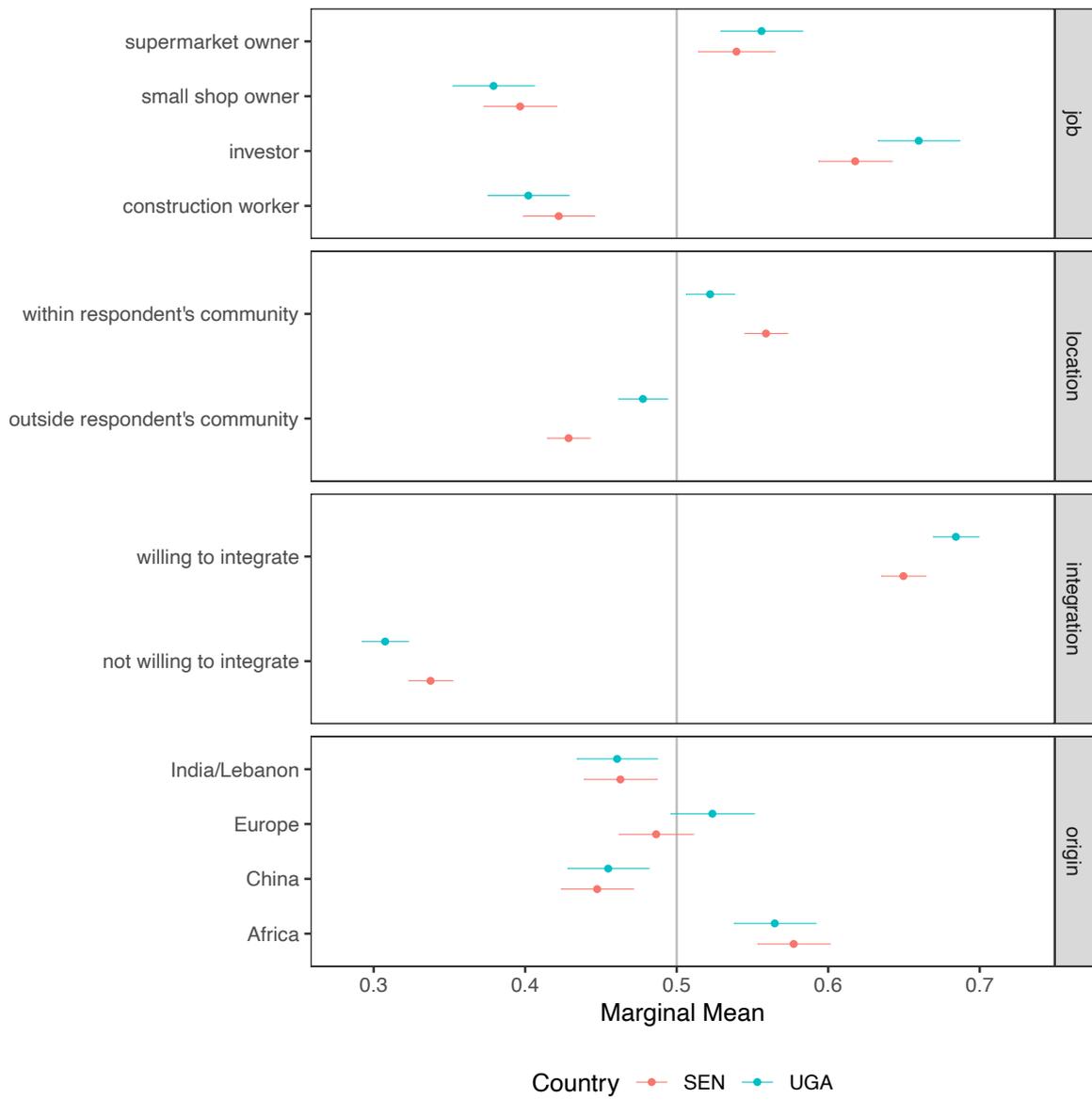
*Note:* The graph shows marginal means for equation 1 by respondent's gender. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A11:** MMs for equation 1 by respondent's gender



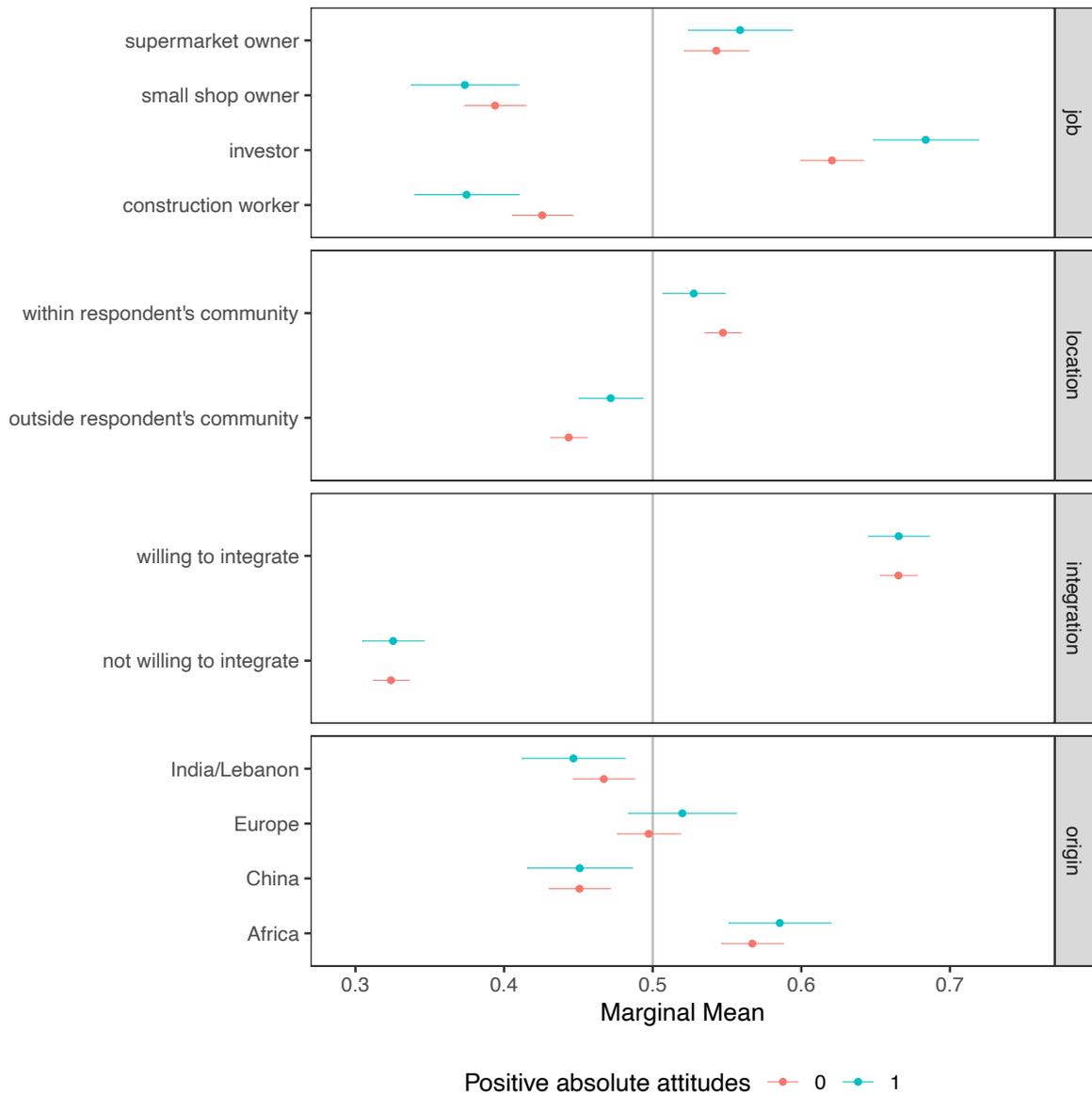
Note: The graph shows marginal means for equation 1 by respondent's location (rural-urban). *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A12:** MMs for equation 1 by respondent's location



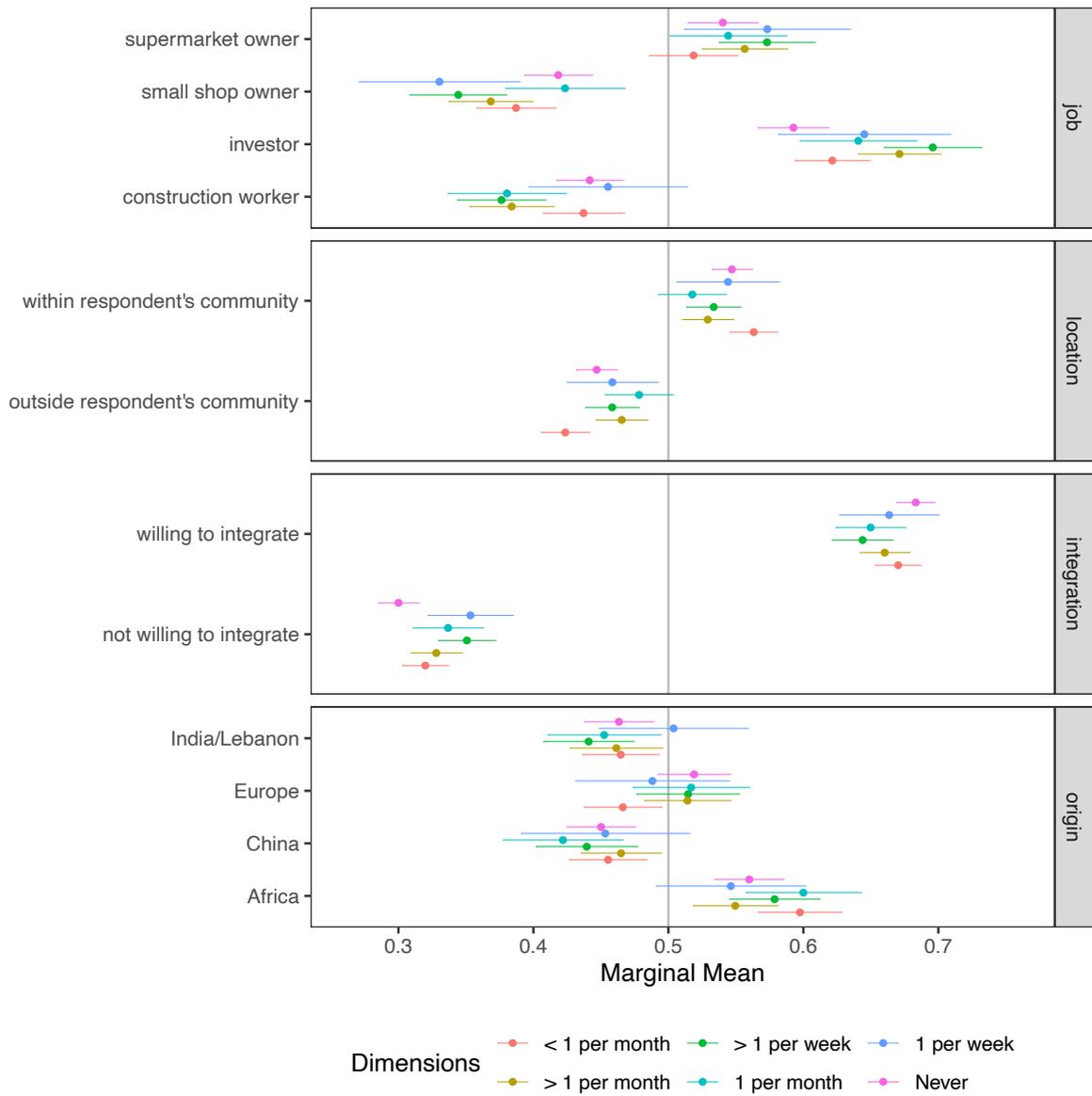
Note: The graph shows marginal means for equation 1 by country. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A13:** MMs for equation 1 by country



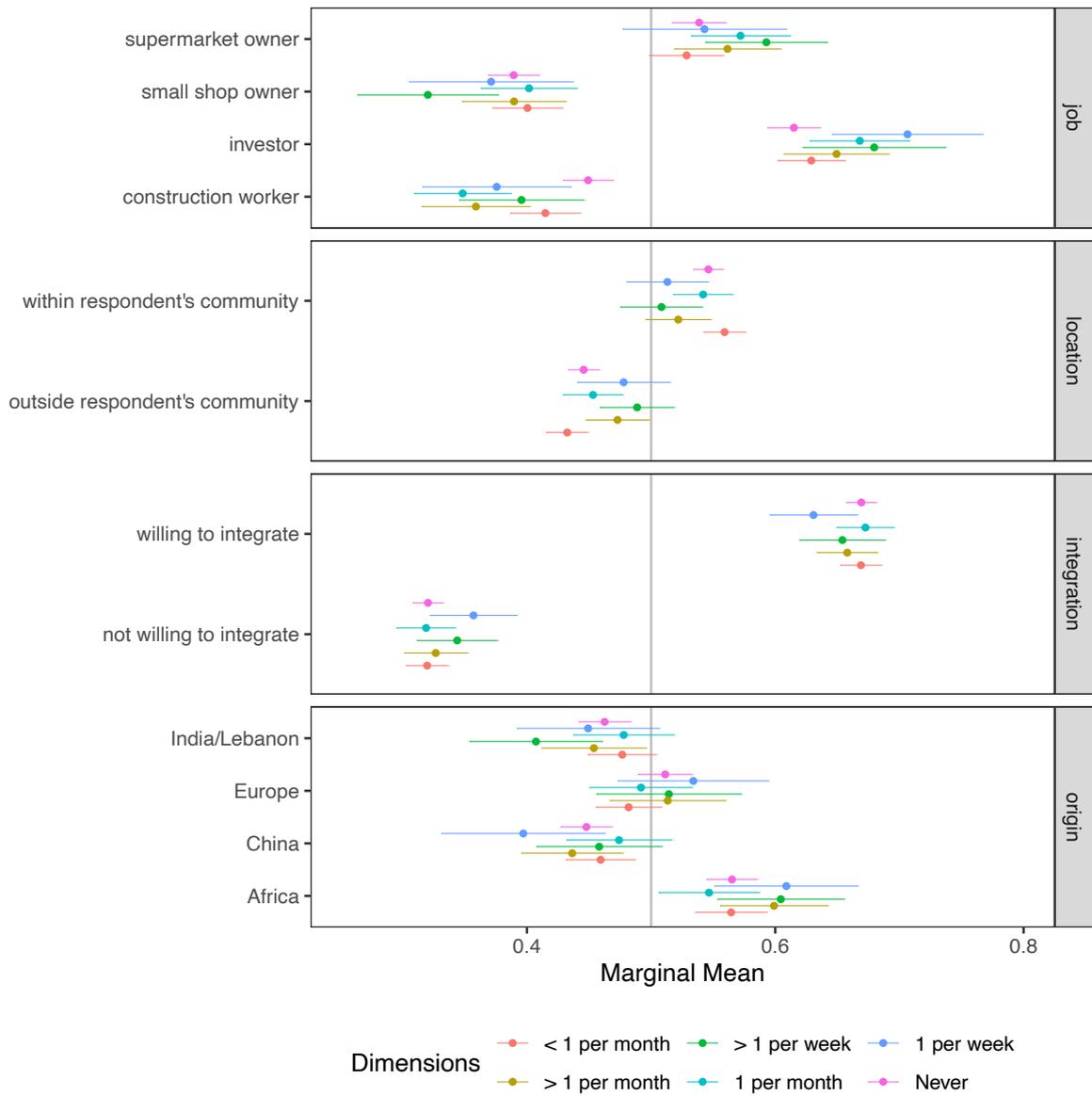
*Note:* The graph shows marginal means for equation 1 by respondents' absolute attitudes towards immigrants in the survey section. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A14:** MMs for equation 1 by absolute attitudes in survey section



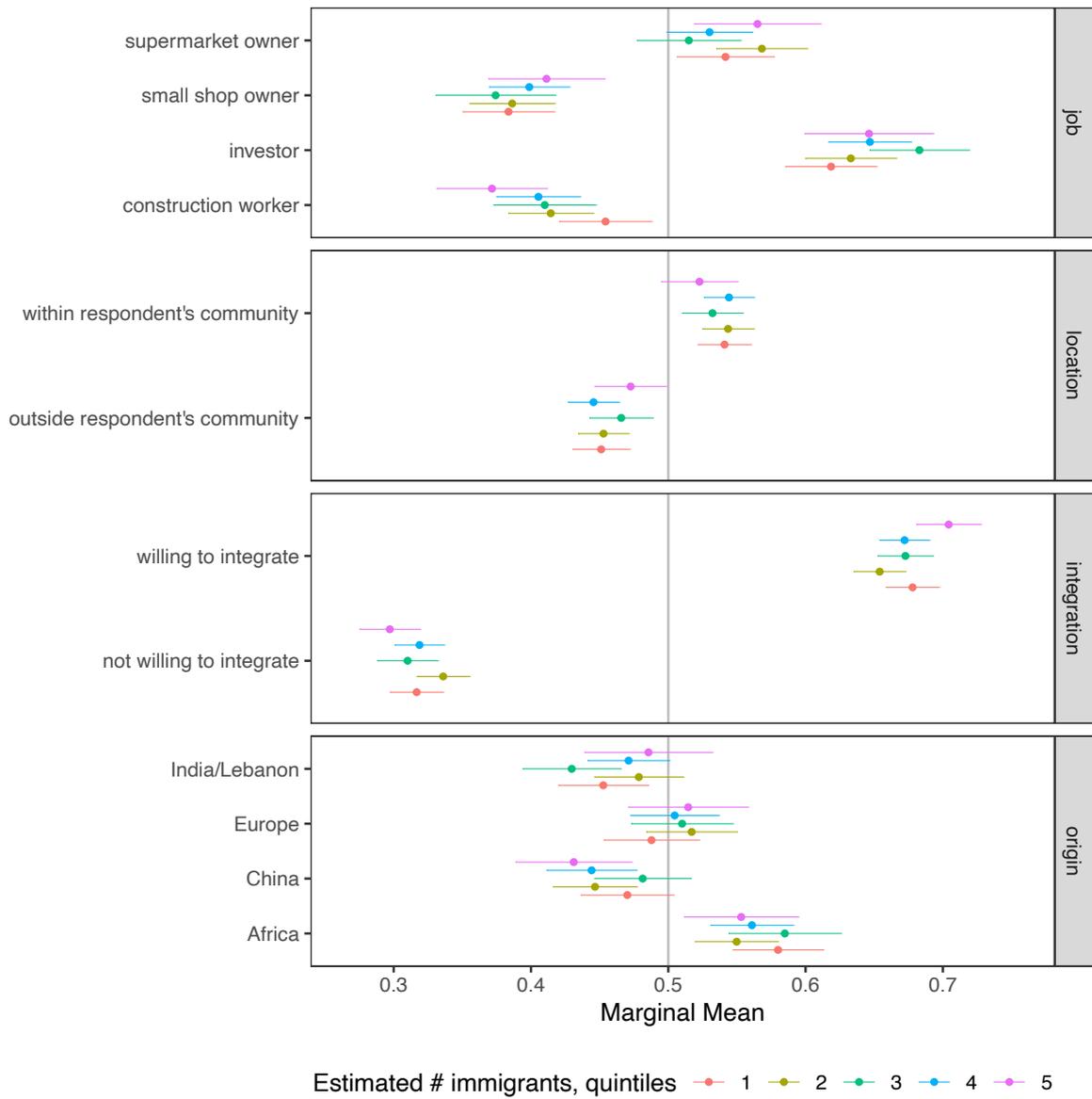
Note: The graph shows marginal means for equation 1 by respondents' self-reported contact with immigrants in general. Don't know or Refuse to answer are dropped from the estimation.

Figure A15: MMs for equation 1 by self-reported contact with immigrants in general



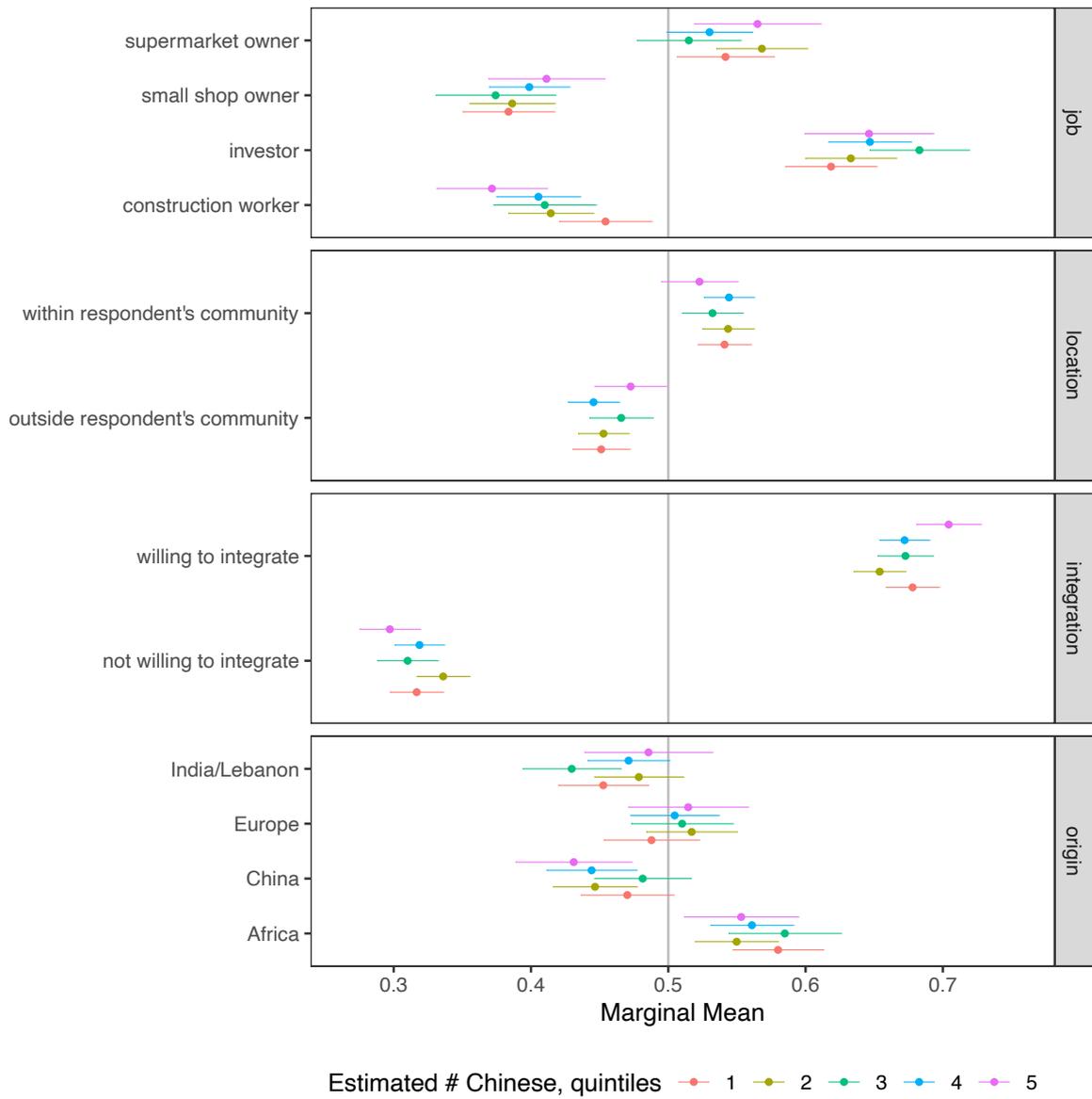
Note: The graph shows marginal means for equation 1 by respondents' self-reported contact with Chinese immigrants. Don't know or Refuse to answer are dropped from the estimation.

**Figure A16:** MMs for equation 1 by self-reported contact with with Chinese immigrants



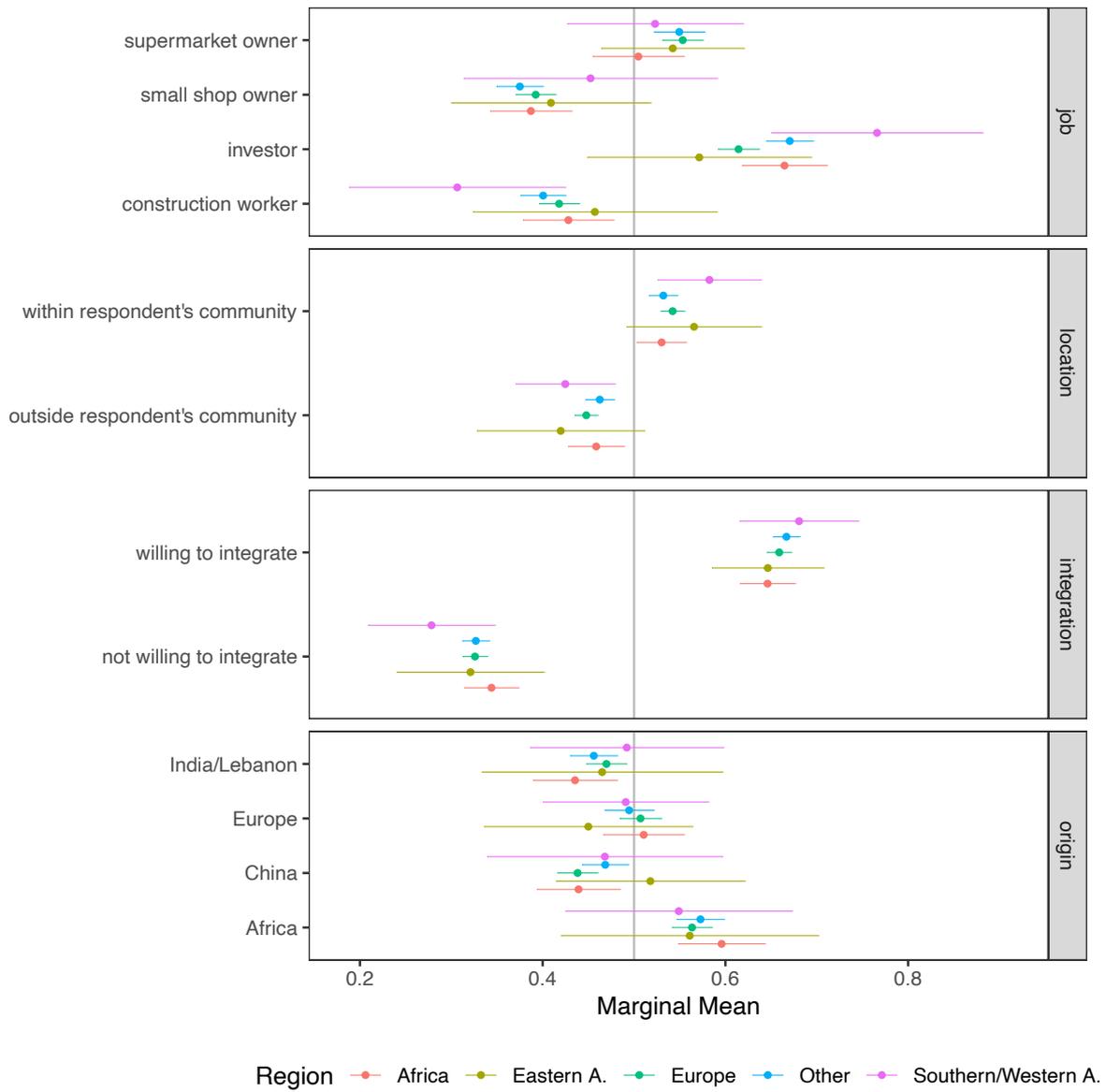
*Note:* The graph shows marginal means for equation 1 by country-specific quintiles of estimated number of immigrants in general in respondents' home region. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A17:** MMs for equation 1 by estimated number of immigrants in general



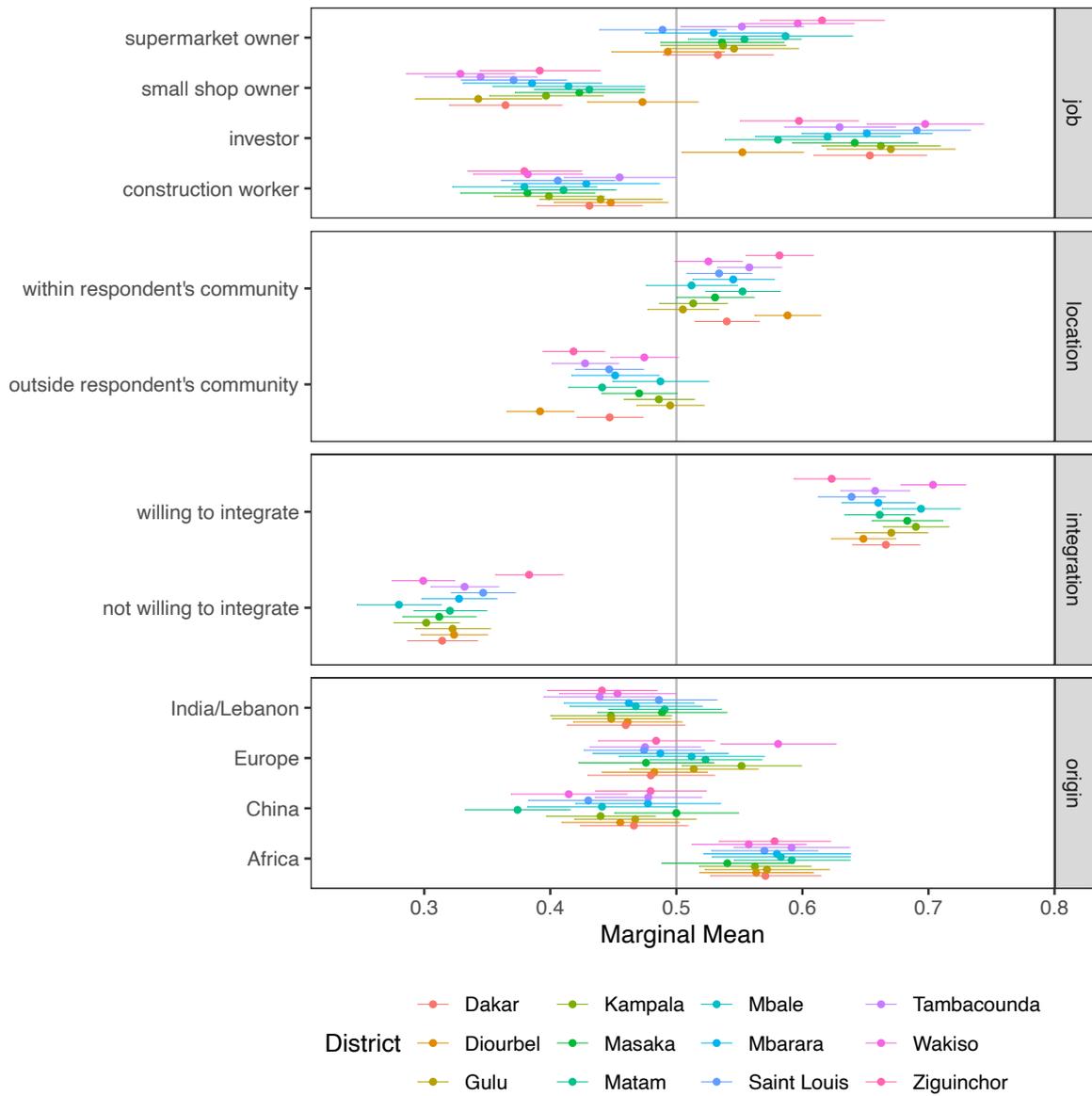
*Note:* The graph shows marginal means for equation 1 by country-specific quintiles of estimated number of Chinese immigrants in respondents' home country. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A18:** MMs for equation 1 by estimated number of Chinese immigrants



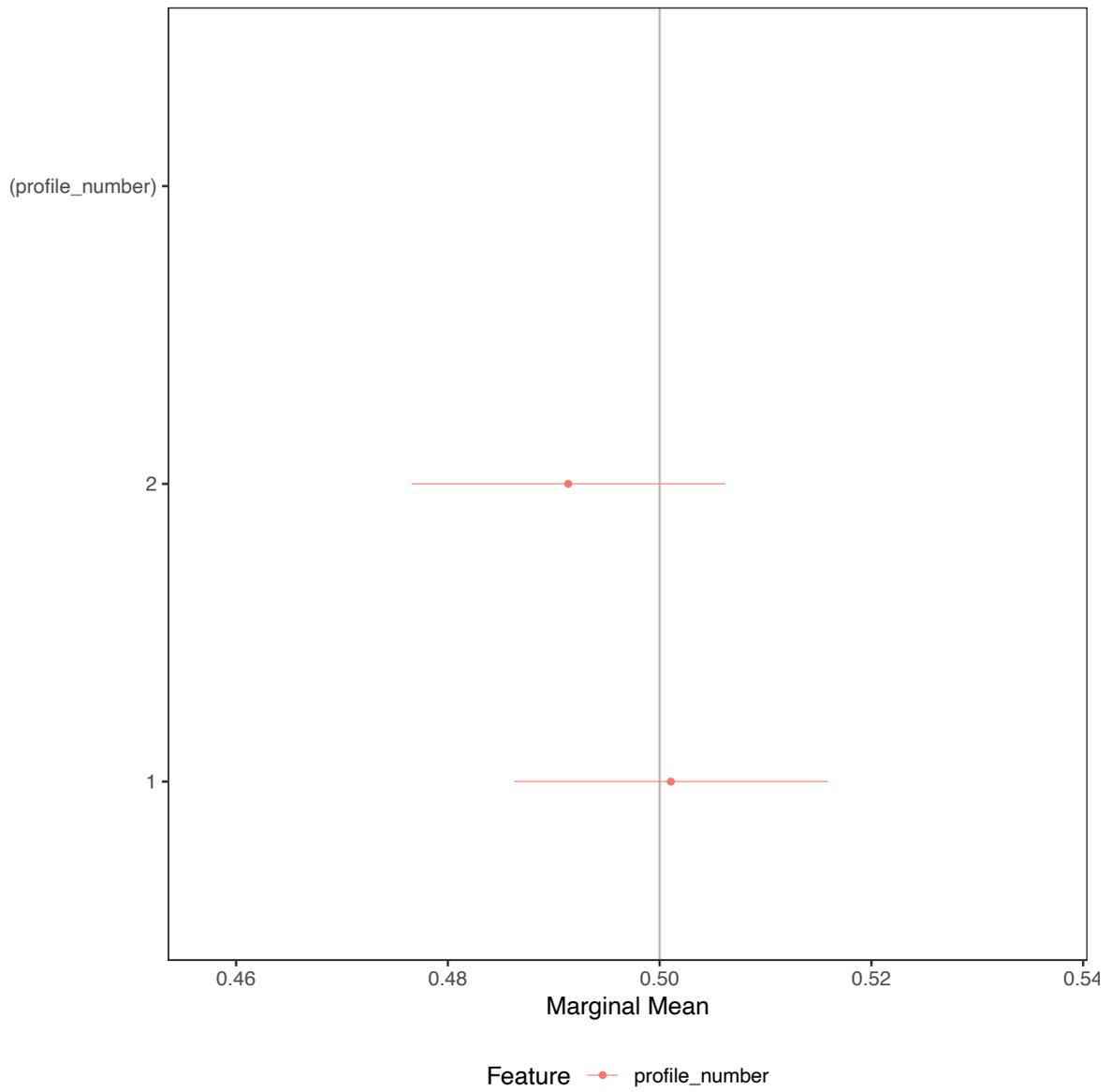
Note: The graph shows marginal means for equation 1 by respondents' favorite destination region. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A19:** MMs for equation 1 by favorite destination region



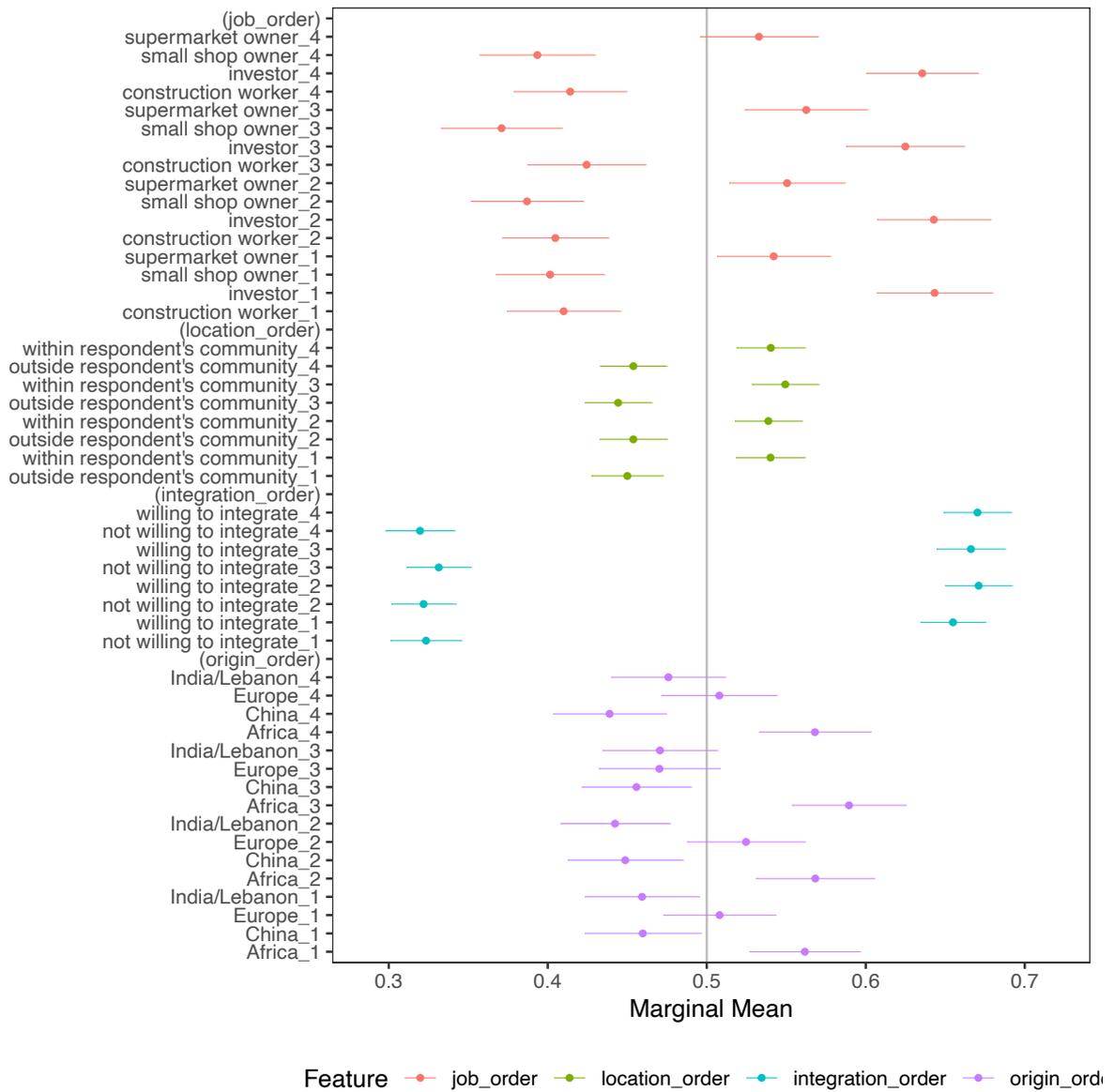
Note: The graph shows marginal means for equation 1 by respondents' district of residence. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A20:** MMs for equation 1 by district



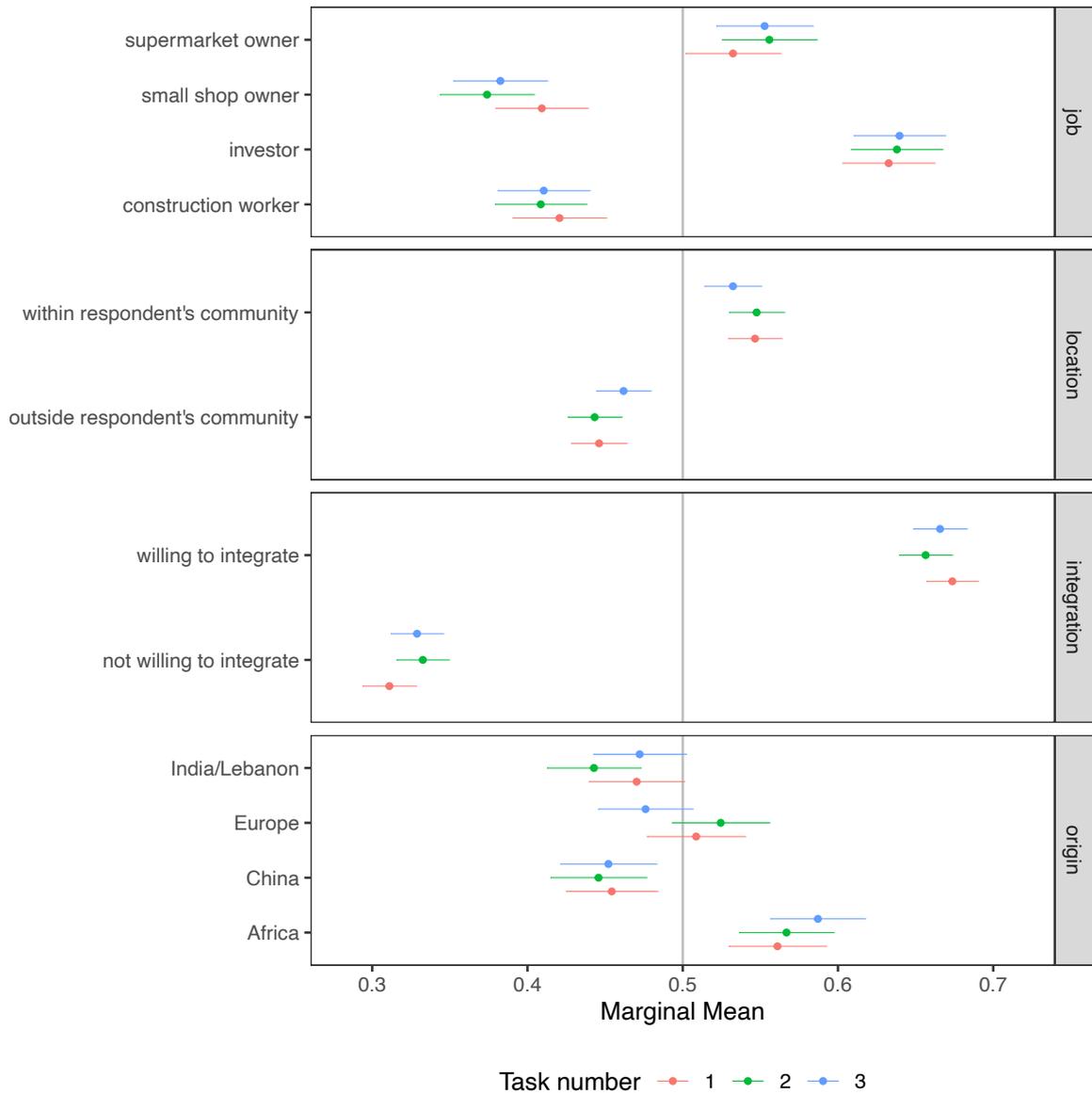
*Note:* The graph shows marginal means for equation 1 by profile order to test for profile order effects. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A21:** MMs for equation 1 by profile order



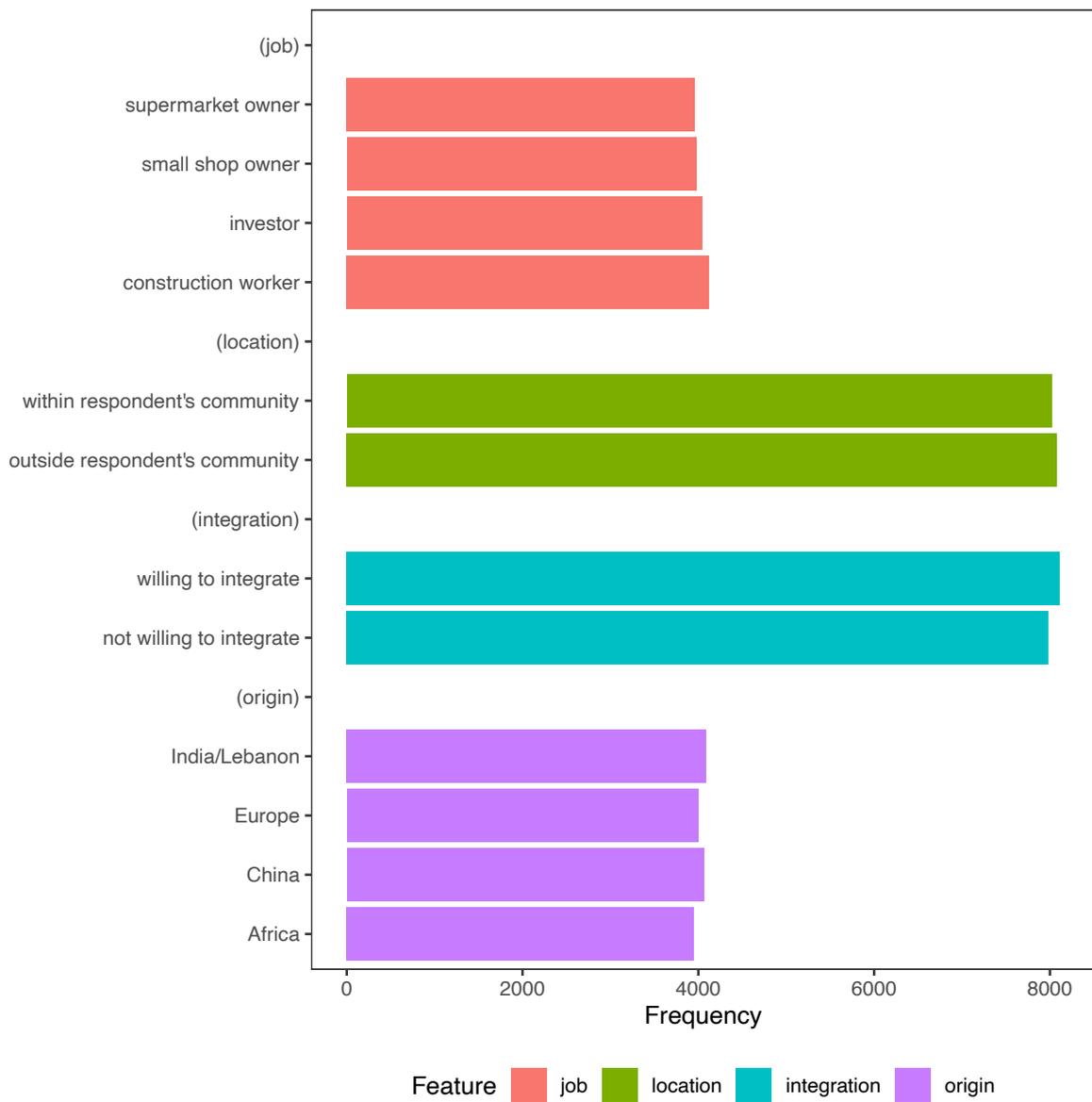
Note: The graph shows marginal means for equation 1 by attribute order to test for attribute order effects. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A22:** MMs for equation 1 by attribute order



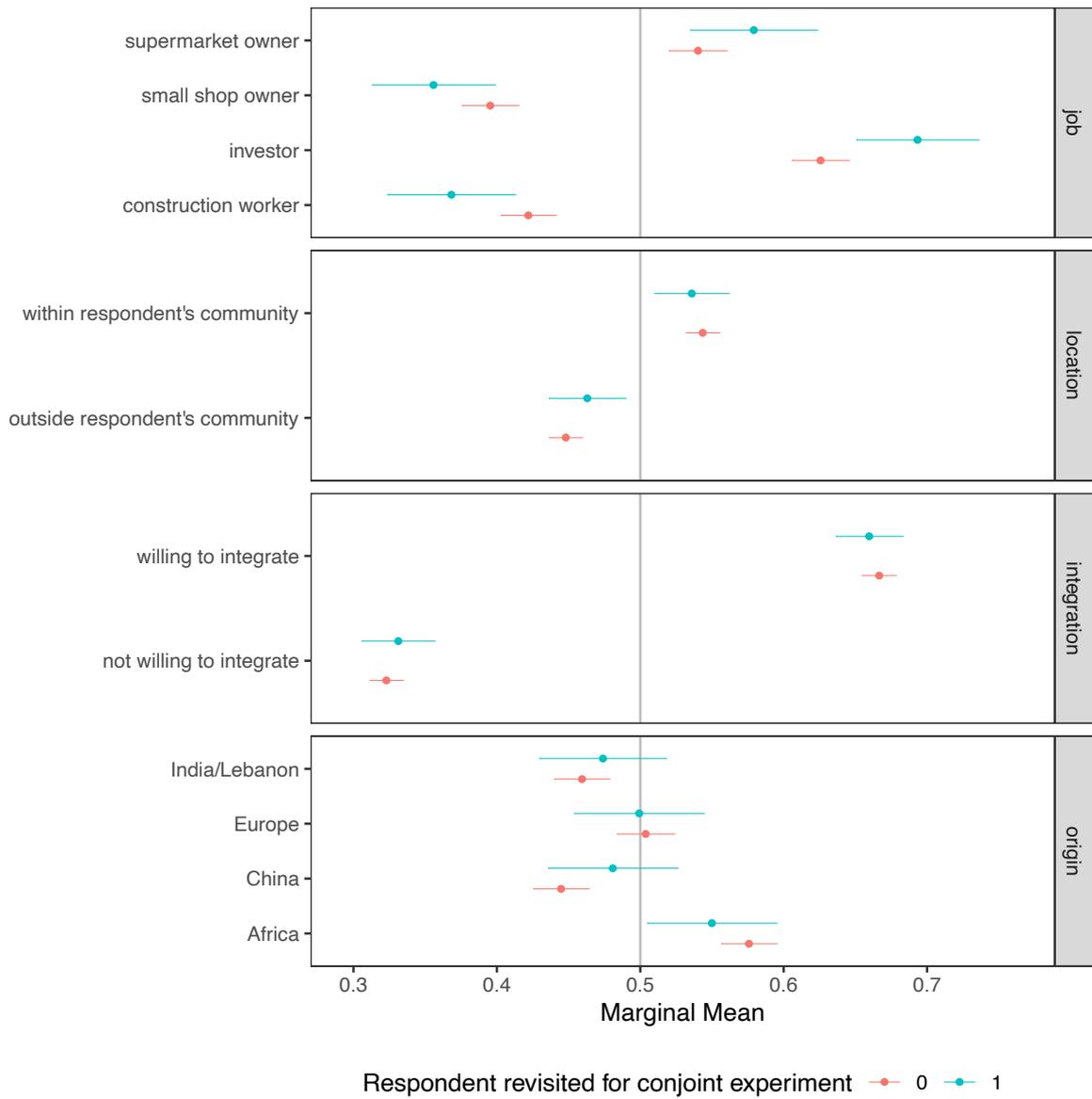
*Note:* The graph shows marginal means for equation 1 by task to test for carryover effects. Task number four has only been executed 6 times (due to programming mistakes), therefore standard errors are huge. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A23:** MMs for equation 1 by task



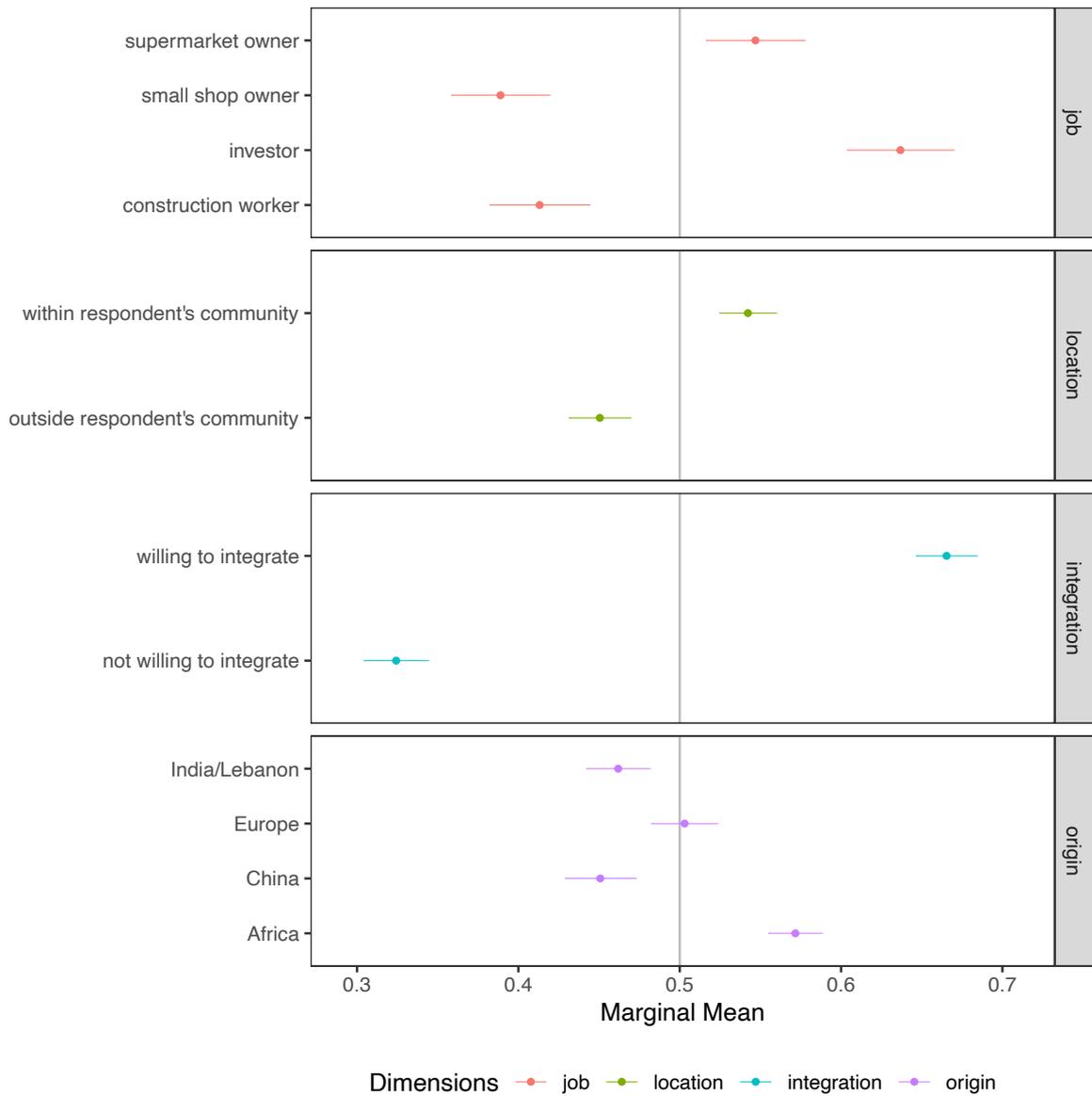
Note: The graph shows the frequency of each attribute level in the sample.

**Figure A24:** Frequency of attribute levels



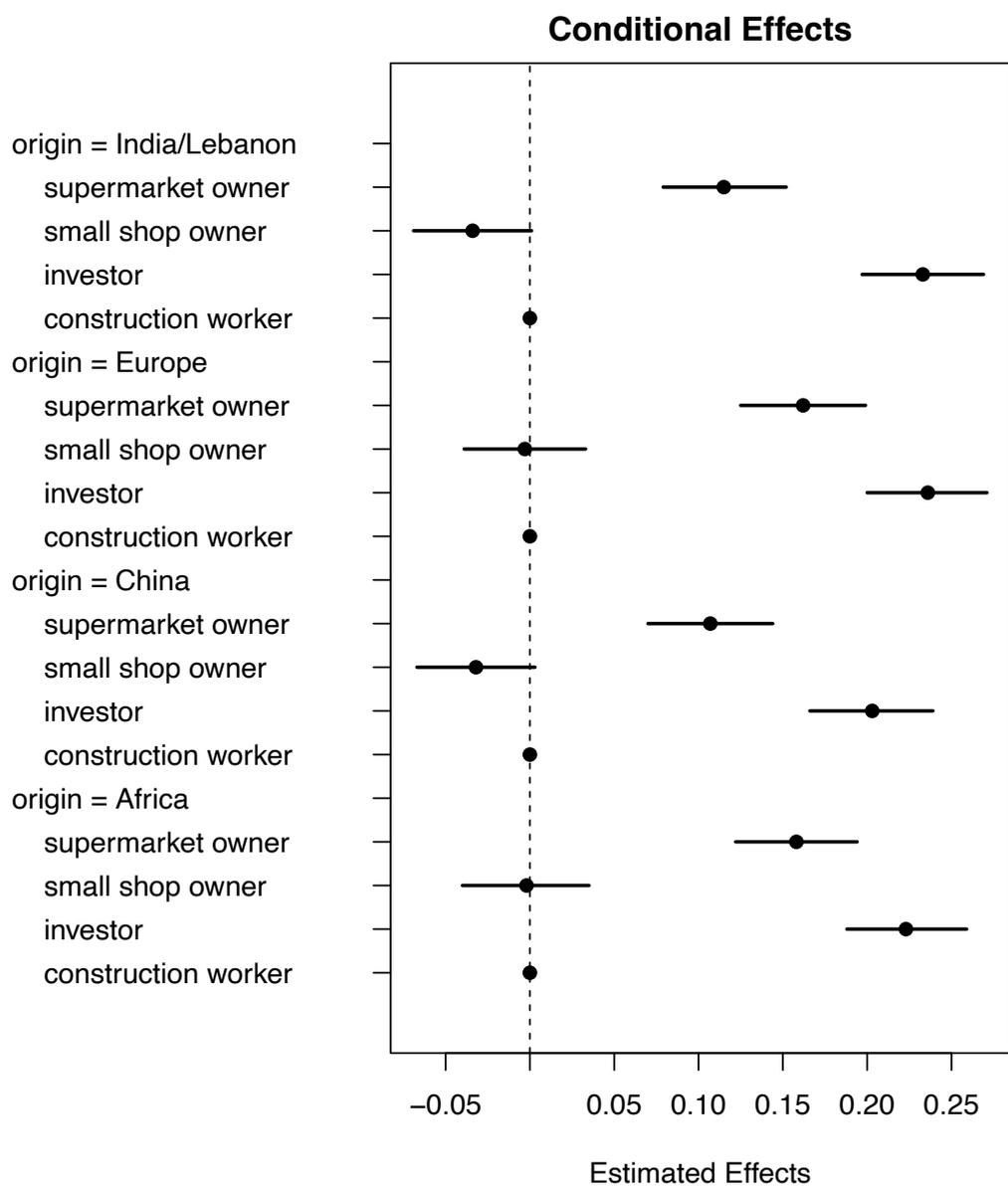
*Note:* The graph shows MMs for equation 1 by whether or not respondents that had to be revisited. Respondents which had to be re-visited are coded as 1. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A25:** MMs for equation 1 by whether or not respondents that had to be revisited



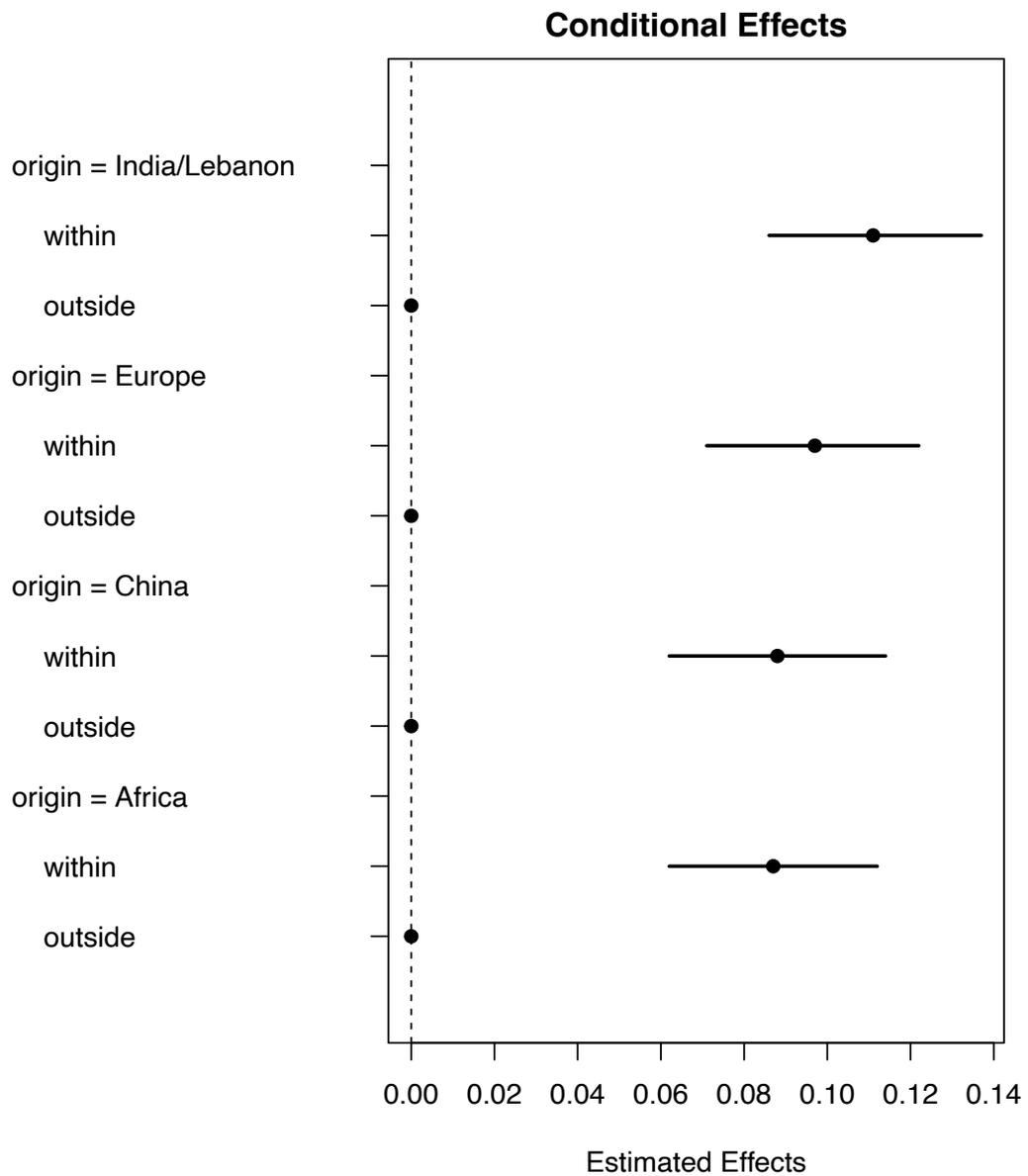
Note: The graph shows MMs for equation 1 with clustered standard errors at the enumerator level. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A26:** MMs for equation 1, standard errors clustered at the enumerator level.



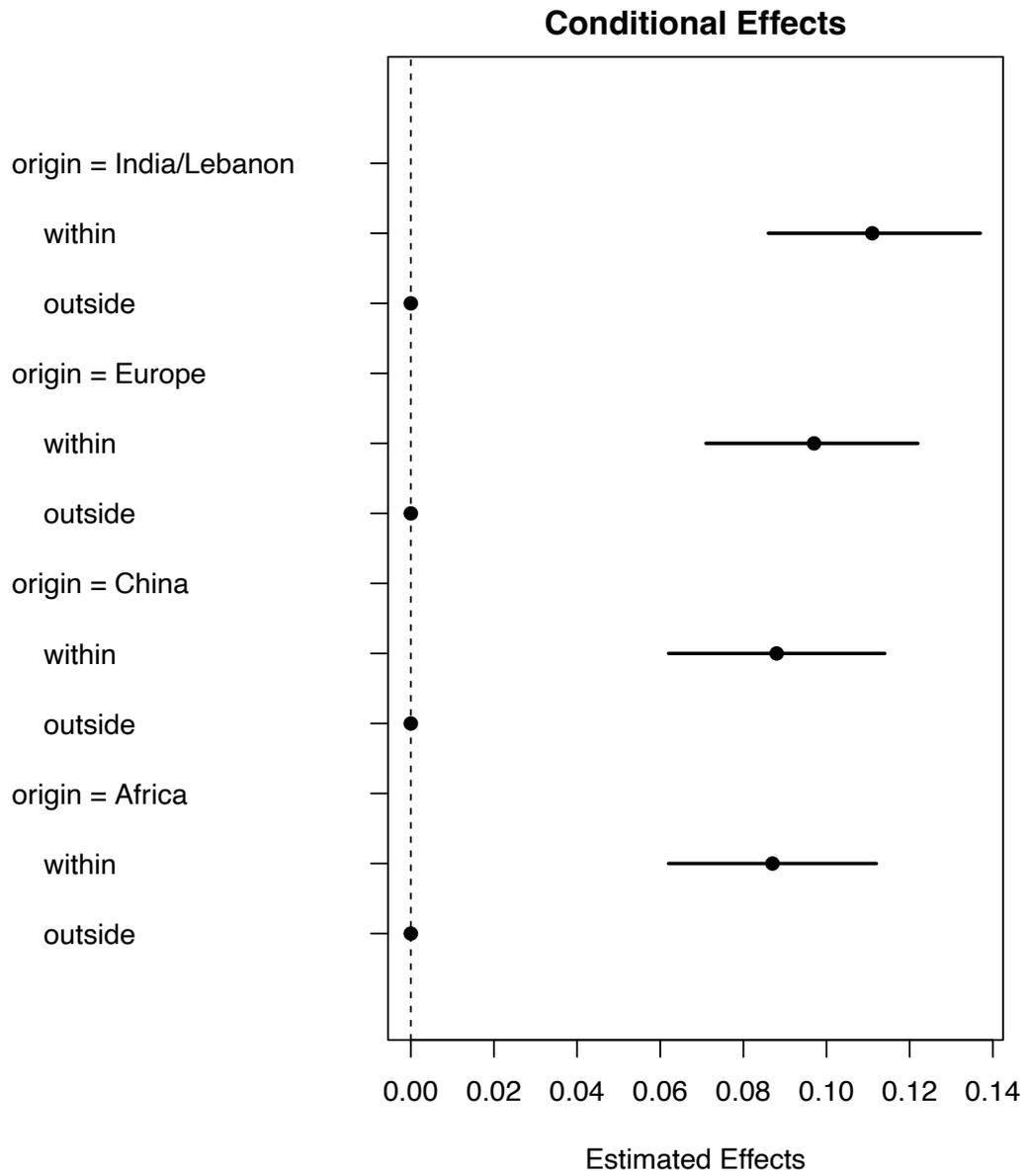
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' origin and immigrants' job. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A27:** AMIE for origin and job



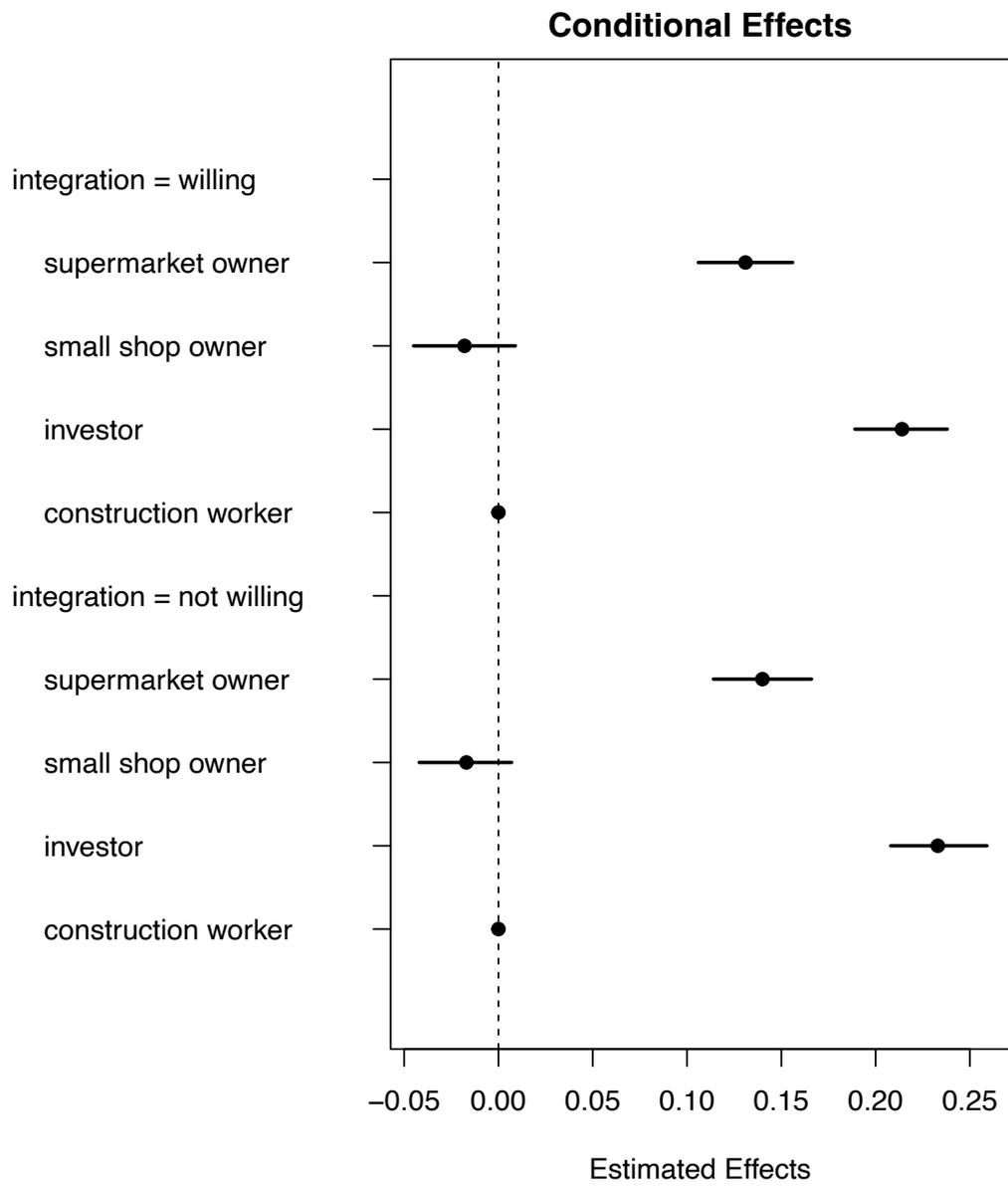
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' origin and immigrants' location. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A28:** AMIE for origin and job



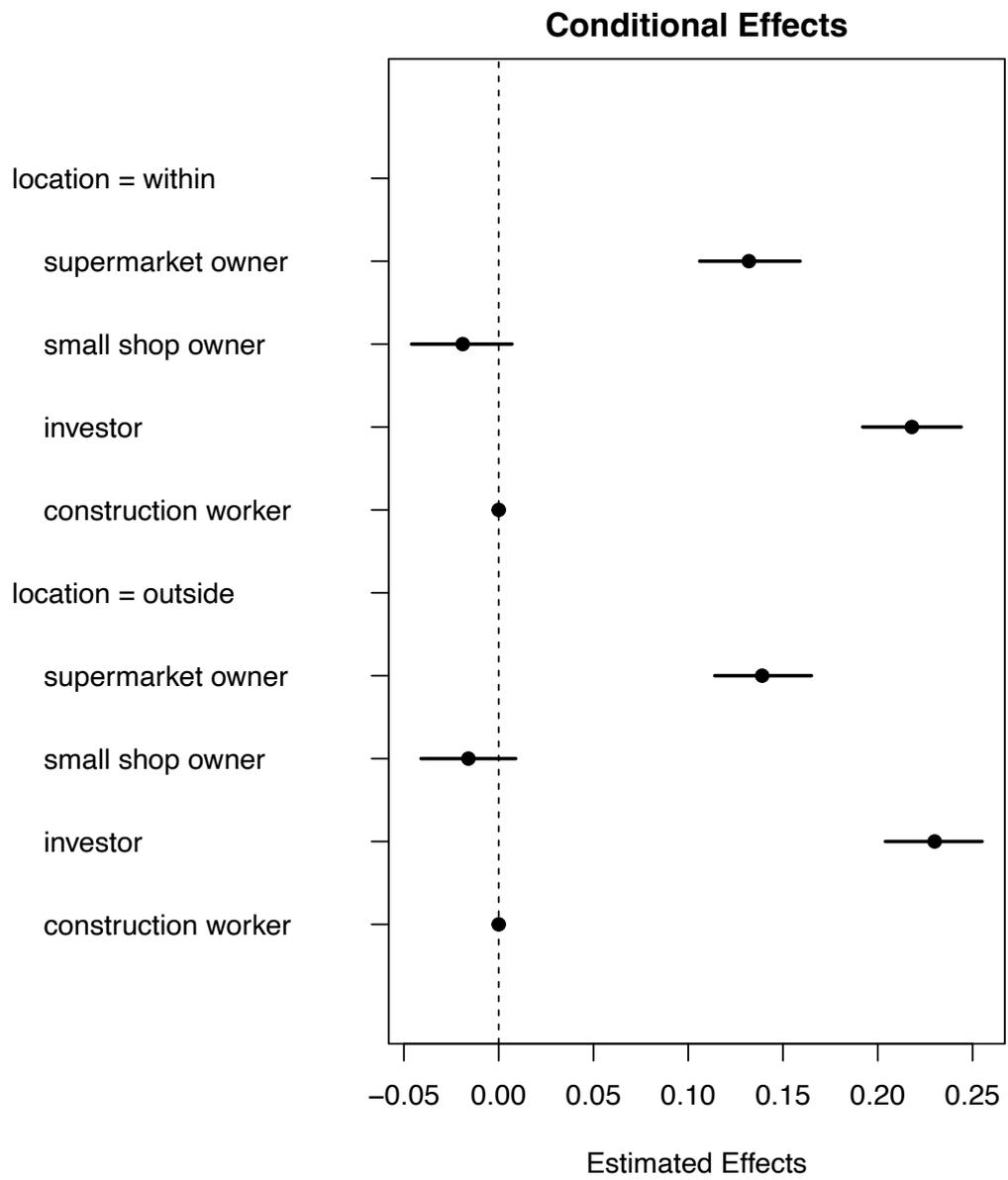
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' origin and immigrants' willingness to integrate. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A29:** AMIE for origin and willingness to integrate



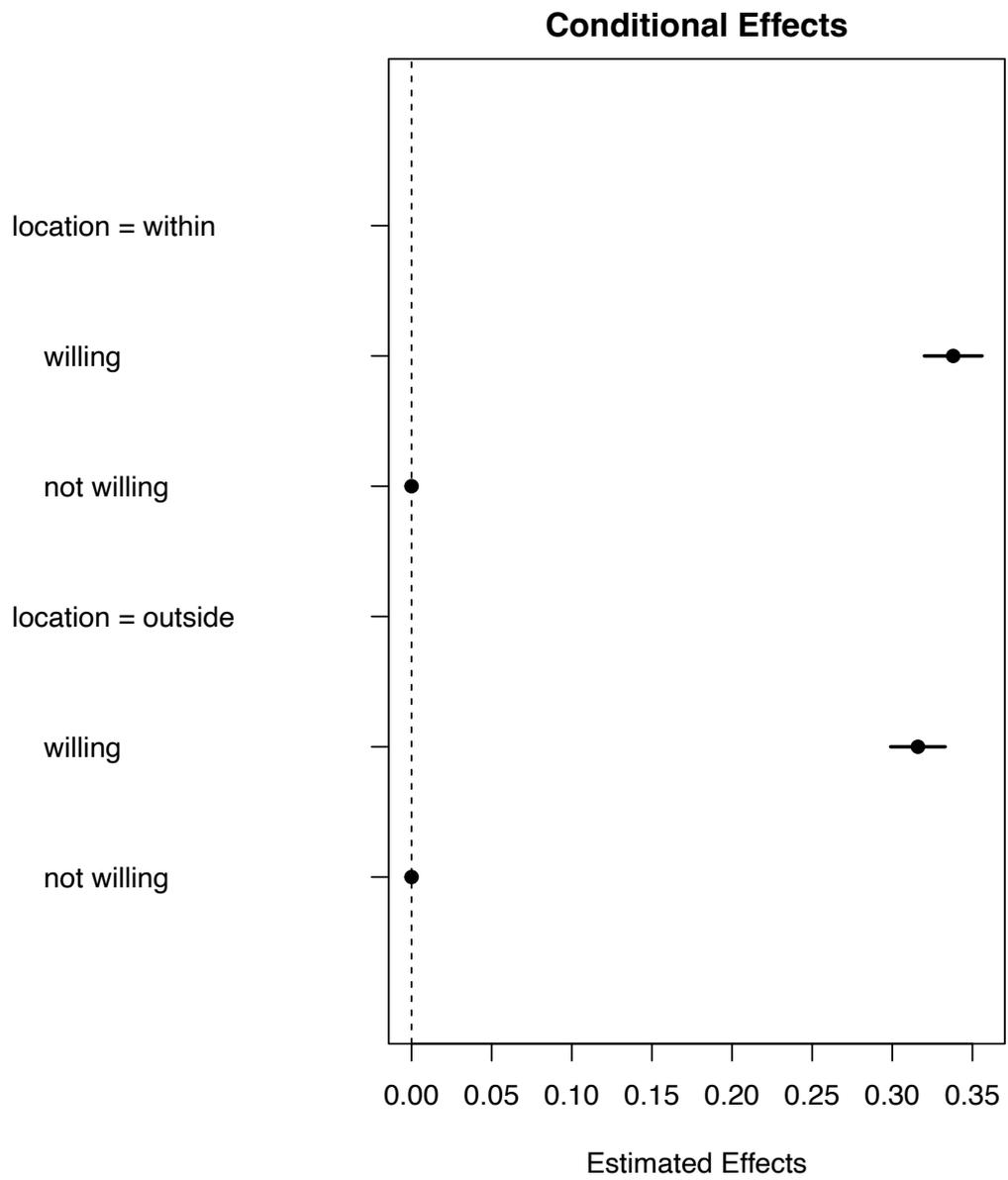
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' job and immigrants' willingness to integrate. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A30:** AMIE for job and willingness to integrate



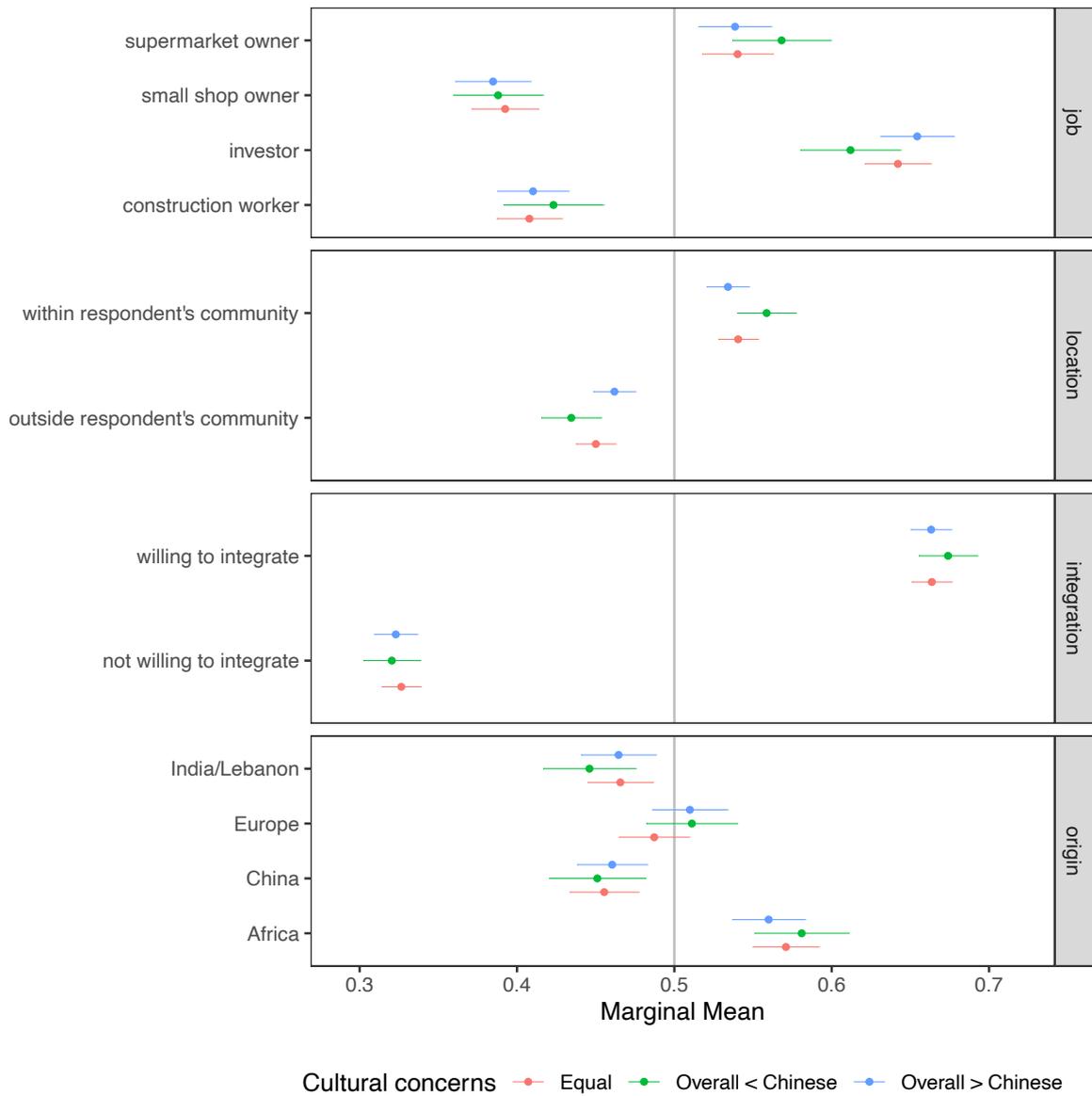
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' job and immigrants' location. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A31:** AMIE for job and location



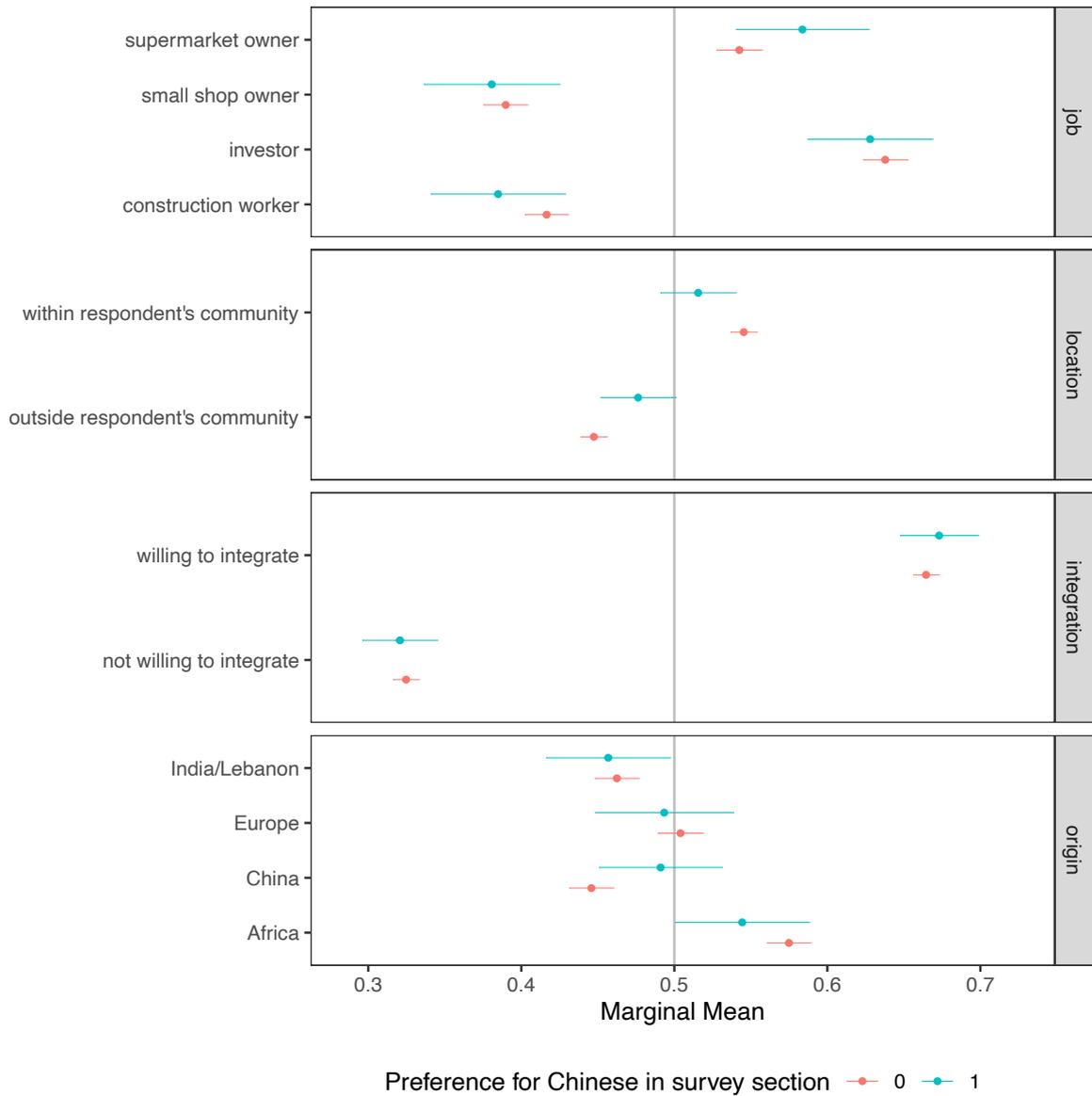
*Note:* The graph plots Average Marginal Interaction Effects for immigrants' willingness to integrate and immigrants' location. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A32:** AMIE for willingness to integrate and location



Note: The graph shows marginal means for equation 1 by differences in sociotropic cultural concerns between immigrants in general and Chinese immigrants. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A33:** MMs for equation 1 by differences in sociotropic cultural concerns between immigrants in general and Chinese immigrants



*Note:* The graph shows marginal means for equation 1 by relative preference for Chinese in the survey section. Respondents that preferred more Chinese immigrants than immigrants in general to come to their country are coded as 1. *Don't know* or *Refuse to answer* are dropped from the estimation.

**Figure A34:** MMs for equation 1 by relative preference for Chinese in survey section

## A.4 Appendix: Tables

**Table A1:** Country characteristics

	Uganda	Senegal	Sub-Sahara Africa
GDP per capita, PPP (constant 2017 international \$) <sup>1</sup>	2183	3430	3764
Population 18-40 (% of total population) <sup>1</sup>	35	34	34
Population 18-40 (% of adult population) <sup>1</sup>	74	66	66
Immigrant population % (2015) <sup>2</sup>	1.9	1.7	1.9
Unemployment % (2020) <sup>2</sup>	2.8	3.6	7.3
Unemployment youth % (2020) <sup>2</sup>	4.0	4.9	14.5
Vulnerable employment % (2019) <sup>2</sup>	73.1	62.8	73.1
Number of Chinese projects <sup>3</sup>	144	83	5995

<sup>1</sup> Source: UN DESA (2022)

<sup>2</sup> Source: World Bank (2022)

<sup>3</sup> Source: Custer et al. (2021)

**Table A2:** Attitudes toward immigrants - marginal means

feature	level	estimate	std.error	p
job	construction worker	0.41	0.01	0.00
job	investor	0.64	0.01	0.00
job	small shop owner	0.39	0.01	0.00
job	supermarket owner	0.55	0.01	0.00
location	outside respondent's community	0.45	0.00	0.00
location	within respondent's community	0.54	0.00	0.00
integration	not willing to integrate	0.32	0.00	0.00
integration	willing to integrate	0.67	0.00	0.00
origin	Africa	0.57	0.01	0.00
origin	China	0.45	0.01	0.00
origin	Europe	0.50	0.01	0.67
origin	India/Lebanon	0.46	0.01	0.00

*Note:* Marginal means for equation 1. "Don't know" or "Refuse to answer" are dropped from the estimation. Standard errors are clustered on the respondent level. The corresponding figure is 1. Results from the conjoint experiment align with the answers from the survey questions. E.g., respondents who would allow more Chinese immigrants than immigrants in general to come to their country in the survey section also have a preferences for Chinese immigrants in the conjoint experiment, see figure A34.

**Table A3:** Attitudes towards immigrants - AMCE

feature	level	estimate	std.error	p
job	construction worker	0.00		
job	investor	0.22	0.01	0.00
job	small shop owner	-0.02	0.01	0.05
job	supermarket owner	0.14	0.01	0.00
location	outside respondent's community	0.00		
location	within respondent's community	0.09	0.01	0.00
integration	not willing to integrate	0.00		
integration	willing to integrate	0.34	0.01	0.00
origin	Africa	0.00		
origin	China	-0.12	0.01	0.00
origin	Europe	-0.07	0.01	0.00
origin	India/Lebanon	-0.11	0.01	0.00

*Note:* AMCEs for equation 1. Null estimates indicate the reference attribute level. "Don't know" or "Refuse to answer" are dropped from the estimation. Standard errors are clustered on the respondent level. The corresponding figure is A4.

**Table A4:** Attitudes toward immigrants - marginal means by skill level

BY	feature	level	estimate	std.error	p
higher skilled	job	construction worker	0.41	0.01	0.00
higher skilled	job	investor	0.65	0.01	0.00
higher skilled	job	small shop owner	0.38	0.01	0.00
higher skilled	job	supermarket owner	0.56	0.01	0.00
higher skilled	location	outside respondent's community	0.46	0.01	0.00
higher skilled	location	within respondent's community	0.54	0.01	0.00
higher skilled	integration	not willing to integrate	0.32	0.01	0.00
higher skilled	integration	willing to integrate	0.67	0.01	0.00
higher skilled	origin	Africa	0.58	0.01	0.00
higher skilled	origin	China	0.45	0.01	0.00
higher skilled	origin	Europe	0.51	0.01	0.58
higher skilled	origin	India/Lebanon	0.46	0.01	0.00
lower skilled	job	construction worker	0.41	0.01	0.00
lower skilled	job	investor	0.62	0.01	0.00
lower skilled	job	small shop owner	0.40	0.01	0.00
lower skilled	job	supermarket owner	0.54	0.01	0.00
lower skilled	location	outside respondent's community	0.44	0.01	0.00
lower skilled	location	within respondent's community	0.55	0.01	0.00
lower skilled	integration	not willing to integrate	0.33	0.01	0.00
lower skilled	integration	willing to integrate	0.66	0.01	0.00
lower skilled	origin	Africa	0.56	0.01	0.00
lower skilled	origin	China	0.46	0.01	0.00
lower skilled	origin	Europe	0.50	0.01	0.98
lower skilled	origin	India/Lebanon	0.46	0.01	0.00

*Note:* Marginal means for equation 1 by respondents' skill level proxied by educational attainment, whereas at least some secondary education counts as higher-skilled. "Don't know" or "Refuse to answer" are dropped from the estimation. Standard errors are clustered on the respondent level. The corresponding figure is A5.

**Table A5:** Attitudes toward immigrants - marginal means by employment status

feature	level	estimate	std.error	p	
not working, doesn't want	job	construction worker	0.44	0.04	0.12
not working, doesn't want	job	investor	0.64	0.05	0.00
not working, doesn't want	job	small shop owner	0.30	0.03	0.00
not working, doesn't want	job	supermarket owner	0.64	0.05	0.00
not working, doesn't want	location	outside respondent's community	0.45	0.03	0.04
not working, doesn't want	location	within respondent's community	0.54	0.02	0.09
not working, doesn't want	integration	not willing to integrate	0.32	0.02	0.00
not working, doesn't want	integration	willing to integrate	0.69	0.02	0.00
not working, doesn't want	origin	Africa	0.59	0.04	0.02
not working, doesn't want	origin	China	0.42	0.04	0.04
not working, doesn't want	origin	Europe	0.45	0.05	0.32
not working, doesn't want	origin	India/Lebanon	0.51	0.04	0.76
not working, wanting	job	construction worker	0.41	0.01	0.00
not working, wanting	job	investor	0.62	0.01	0.00
not working, wanting	job	small shop owner	0.38	0.01	0.00
not working, wanting	job	supermarket owner	0.58	0.01	0.00
not working, wanting	location	outside respondent's community	0.45	0.01	0.00
not working, wanting	location	within respondent's community	0.55	0.01	0.00
not working, wanting	integration	not willing to integrate	0.33	0.01	0.00
not working, wanting	integration	willing to integrate	0.66	0.01	0.00
not working, wanting	origin	Africa	0.57	0.01	0.00
not working, wanting	origin	China	0.44	0.01	0.00
not working, wanting	origin	Europe	0.50	0.01	0.75
not working, wanting	origin	India/Lebanon	0.48	0.01	0.07
studying	job	construction worker	0.45	0.02	0.01
studying	job	investor	0.62	0.02	0.00
studying	job	small shop owner	0.37	0.02	0.00
studying	job	supermarket owner	0.55	0.02	0.03
studying	location	outside respondent's community	0.45	0.01	0.00
studying	location	within respondent's community	0.55	0.01	0.00
studying	integration	not willing to integrate	0.34	0.01	0.00
studying	integration	willing to integrate	0.65	0.01	0.00
studying	origin	Africa	0.59	0.02	0.00
studying	origin	China	0.44	0.02	0.01
studying	origin	Europe	0.50	0.02	0.92
studying	origin	India/Lebanon	0.45	0.02	0.04
working	job	construction worker	0.42	0.01	0.00
working	job	investor	0.64	0.01	0.00
working	job	small shop owner	0.40	0.01	0.00
working	job	supermarket owner	0.52	0.01	0.06
working	location	outside respondent's community	0.45	0.01	0.00
working	location	within respondent's community	0.54	0.01	0.00
working	integration	not willing to integrate	0.32	0.01	0.00
working	integration	willing to integrate	0.67	0.01	0.00
working	origin	Africa	0.57	0.01	0.00
working	origin	China	0.46	0.01	0.00
working	origin	Europe	0.50	0.01	0.96
working	origin	India/Lebanon	0.46	0.01	0.00

*Note:* Marginal means for equation 1 by respondents' employment status during the past 7 days. "Don't know" or "Refuse to answer" are dropped from the estimation. Standard errors are clustered on the respondent level. The corresponding figure is A6.

**Table A6:** Attitudes towards immigrants - marginal means by household income per capita quintiles

BY	feature	level	estimate	std.error	p
1	job	construction worker	0.44	0.01	0.00
1	job	investor	0.63	0.02	0.00
1	job	small shop owner	0.37	0.01	0.00
1	job	supermarket owner	0.54	0.02	0.01
1	location	outside respondent's community	0.45	0.01	0.00
1	location	within respondent's community	0.54	0.01	0.00
1	integration	not willing to integrate	0.32	0.01	0.00
1	integration	willing to integrate	0.67	0.01	0.00
1	origin	Africa	0.57	0.01	0.00
1	origin	China	0.46	0.02	0.01
1	origin	Europe	0.50	0.02	0.75
1	origin	India/Lebanon	0.45	0.01	0.00
2	job	construction worker	0.40	0.01	0.00
2	job	investor	0.65	0.01	0.00
2	job	small shop owner	0.39	0.01	0.00
2	job	supermarket owner	0.55	0.01	0.00
2	location	outside respondent's community	0.47	0.01	0.00
2	location	within respondent's community	0.53	0.01	0.00
2	integration	not willing to integrate	0.33	0.01	0.00
2	integration	willing to integrate	0.65	0.01	0.00
2	origin	Africa	0.57	0.02	0.00
2	origin	China	0.45	0.01	0.00
2	origin	Europe	0.52	0.01	0.19
2	origin	India/Lebanon	0.45	0.01	0.00
3	job	construction worker	0.43	0.02	0.00
3	job	investor	0.61	0.02	0.00
3	job	small shop owner	0.39	0.02	0.00
3	job	supermarket owner	0.56	0.02	0.00
3	location	outside respondent's community	0.43	0.01	0.00
3	location	within respondent's community	0.57	0.01	0.00
3	integration	not willing to integrate	0.32	0.01	0.00
3	integration	willing to integrate	0.67	0.01	0.00
3	origin	Africa	0.60	0.02	0.00
3	origin	China	0.43	0.02	0.00
3	origin	Europe	0.48	0.02	0.26
3	origin	India/Lebanon	0.47	0.02	0.06
4	job	construction worker	0.39	0.02	0.00
4	job	investor	0.67	0.02	0.00
4	job	small shop owner	0.39	0.02	0.00
4	job	supermarket owner	0.53	0.02	0.08
4	location	outside respondent's community	0.45	0.01	0.00
4	location	within respondent's community	0.54	0.01	0.00
4	integration	not willing to integrate	0.33	0.01	0.00
4	integration	willing to integrate	0.66	0.01	0.00
4	origin	Africa	0.55	0.02	0.00

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**Table A6 continued from previous page**

BY	feature	level	estimate	std.error	p
4	origin	China	0.46	0.02	0.01
4	origin	Europe	0.49	0.02	0.77
4	origin	India/Lebanon	0.48	0.02	0.37
5	job	construction worker	0.42	0.02	0.00
5	job	investor	0.63	0.02	0.00
5	job	small shop owner	0.41	0.02	0.00
5	job	supermarket owner	0.54	0.02	0.02
5	location	outside respondent's community	0.44	0.01	0.00
5	location	within respondent's community	0.55	0.01	0.00
5	integration	not willing to integrate	0.32	0.01	0.00
5	integration	willing to integrate	0.67	0.01	0.00
5	origin	Africa	0.56	0.02	0.00
5	origin	China	0.45	0.02	0.00
5	origin	Europe	0.53	0.02	0.08
5	origin	India/Lebanon	0.45	0.02	0.00

*Note:* Marginal means for equation 1 by country-specific quintiles of respondents' self-reported per household income per capita during the past 12 months. "Don't know" or "Refuse to answer" are dropped from the estimation. Standard errors are clustered on the respondent level. The corresponding figure is A7.

**Table A7:** Absolute attitudes towards immigrants: Overall vs. Chinese

	No controls, no power		No controls, no extrapol.		No controls, extrapol.		Full model		Full, non-standardized	
	(1) Overall	(2) Chinese	(3) Overall	(4) Chinese	(5) Overall	(6) Chinese	(7) Overall	(8) Chinese	(9) Overall	(10) Chinese
Egocentric economic concerns	-0.0684* (0.0352)	-0.0575 (0.0389)	-0.0573 (0.0391)	-0.0463 (0.0746)	-0.0573 (0.0391)	-0.0605 (0.0465)	-0.0416 (0.0427)	-0.0676 (0.0543)	-0.0318 (0.0326)	-0.0528 (0.0423)
Sociotropic economic concerns	-0.240*** (0.0395)	-0.301*** (0.0358)	-0.235*** (0.0400)	-0.257** (0.0712)	-0.235*** (0.0400)	-0.280*** (0.0434)	-0.230*** (0.0457)	-0.282*** (0.0486)	-0.154*** (0.0306)	-0.186*** (0.0320)
Sociotropic job concerns	-0.0810** (0.0273)	-0.138*** (0.0321)	-0.0812** (0.0280)	-0.133** (0.0414)	-0.0812** (0.0280)	-0.147*** (0.0300)	-0.0909** (0.0311)	-0.146*** (0.0318)	-0.0224** (0.00765)	-0.0358*** (0.00784)
Sociotropic cultural concerns	-0.0950*** (0.0284)	-0.0220 (0.0283)	-0.0752** (0.0287)	-0.0584 (0.0370)	-0.0752** (0.0287)	-0.0105 (0.0260)	-0.0738** (0.0244)	-0.00133 (0.0302)	-0.0170** (0.00563)	-0.000360 (0.00827)
Power concerns government			0.00560 (0.0341)	-0.00323 (0.0627)	0.00560 (0.0341)	0.0307 (0.0404)	-0.00167 (0.0352)	0.0153 (0.0437)	-0.000375 (0.00789)	0.00286 (0.00989)
Power concerns business			-0.0111 (0.0302)	0.0731 (0.0842)	-0.0111 (0.0302)	-0.00697 (0.0548)	-0.0185 (0.0308)	0.0119 (0.0557)	-0.00439 (0.00731)	0.00371 (0.0128)
Control variables	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Standardized variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Observations	2538	2511	2279	1166	2279	2308	1943	1969	1943	1969
R <sup>2</sup>	0.170	0.240	0.152	0.150	0.152	0.226	0.164	0.239	0.164	0.239

*Notes:* Estimated coefficients for equation 2. Negative coefficients indicate a negative relationship between specific concerns and attitudes towards immigrants. Outcome and explanatory variables are standardized in columns (1) to (8) and non-standardized in columns (9) and (10). Power concerns were not asked separately for Chinese government and businesses in Uganda. Column (4) only contains information for Senegal due to missing information regarding Chinese government and businesses in Uganda. Columns (5) to (10) assume attitudes towards Chinese government and businesses to be equal to attitudes towards foreign governments and businesses in general in Uganda. Control variables include respondents' age, gender, education, self-reported employment during the last 7 days (4 levels), location (rural-urban), self-reported contact with immigrants, country-specific quintiles for self-reported household income during the last 12 months, life satisfaction (0-10), and satisfaction with city/area of residence (1-5), and country fixed effects. Standard errors in parentheses and clustered on the district level. *Don't know* and *Refuse to answer* are coded as missing. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A8:** Linear hypothesis tests for differences in estimated coefficients from equation 2

(a) Immigrants in general						(b) Chinese immigrants							
	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$\beta_5$	$\beta_6$		$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$\beta_5$	$\beta_6$
$\beta_1$	0.035	0.34	0.502	0.43	0.742		$\beta_1$	0.048	0.26	0.483	0.31	0.274	
$\beta_2$	0.03	0.016	0.01	0.002			$\beta_2$	0.02	0.000	0.00	0.003		
$\beta_3$	0.920	0.02	0.202				$\beta_3$	0.009	0.01	0.052			
$\beta_4$	0.07	0.214					$\beta_4$	0.54	0.690				
$\beta_5$	0.695						$\beta_5$	0.983					

Wald test for differences between estimated coefficients, estimated using the *test* command in Stata.

**Table A9:** Policy attitudes: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	-0.00606 (0.00352)	-0.00681* (0.00341)	0.00108 (0.00408)	0.00129 (0.00408)
Female dummy	-0.130** (0.0517)	-0.0988** (0.0435)	-0.168*** (0.0433)	-0.161*** (0.0402)
1 = No education	Baseline category			
2 = Some primary education	0.130 (0.0756)	0.103 (0.0778)	0.0604 (0.0612)	0.0478 (0.0677)
3 = Completed primary education	-0.108 (0.123)	-0.109 (0.128)	0.0697 (0.173)	0.0582 (0.174)
4 = Some secondary education	-0.0139 (0.101)	-0.0468 (0.105)	0.0498 (0.113)	0.0400 (0.118)
5 = Completed secondary education	-0.000276 (0.137)	-0.0249 (0.134)	0.103 (0.145)	0.0990 (0.143)
6 = Vocational and technical training	-0.0651 (0.123)	-0.128 (0.126)	0.0907 (0.149)	0.108 (0.156)
7 = Tertiary education (Diploma/Degree)	-0.0219 (0.101)	-0.0681 (0.0961)	0.106 (0.115)	0.0922 (0.120)
Working	Baseline category			
Not working, does not want to	0.0976 (0.119)	0.0740 (0.117)	0.0501 (0.0625)	0.0488 (0.0634)
Not working but wants to	-0.0365 (0.0376)	-0.0303 (0.0363)	-0.0989* (0.0470)	-0.0934* (0.0504)
Studying	-0.0124 (0.0778)	-0.00707 (0.0747)	-0.0282 (0.0472)	-0.0219 (0.0489)
Senegal	Baseline category			
Uganda	-0.408*** (0.131)	-0.414*** (0.121)	-0.497*** (0.106)	-0.511*** (0.109)
Rural dummy	0.0513 (0.0861)	0.0632 (0.0847)	-0.0305 (0.0812)	-0.0239 (0.0837)
Contact with immigrants		0.0596** (0.0268)		0.0277 (0.0341)
Constant	0.391* (0.206)	0.236 (0.246)	0.269 (0.241)	0.204 (0.236)
Observations	2342	2316	2333	2319
$R^2$	0.056	0.065	0.069	0.070

The outcome variable is standardized. Higher values in the outcome variable imply more positive attitudes towards immigration. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A10:** Egocentric economic concerns: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	0.00489 (0.00343)	0.00516 (0.00342)	0.00806** (0.00355)	0.00771** (0.00337)
Female dummy	0.0348 (0.0468)	0.0118 (0.0452)	0.0974* (0.0541)	0.0834 (0.0541)
1 = No education	Baseline category			
2 = Some primary education	-0.0768 (0.101)	-0.0756 (0.105)	0.0837 (0.101)	0.0986 (0.100)
3 = Completed primary education	-0.0936 (0.0841)	-0.0932 (0.0858)	-0.00694 (0.134)	-0.00126 (0.132)
4 = Some secondary education	-0.0135 (0.0759)	0.00340 (0.0803)	0.0704 (0.0553)	0.0874 (0.0576)
5 = Completed secondary education	-0.142 (0.113)	-0.128 (0.116)	-0.0412 (0.131)	-0.0257 (0.131)
6 = Vocational and technical training	-0.184 (0.108)	-0.146 (0.103)	-0.0916 (0.125)	-0.0784 (0.121)
7 = Tertiary education (Diploma/Degree)	-0.160 (0.0926)	-0.139 (0.0989)	0.0856 (0.104)	0.108 (0.105)
Working	Baseline category			
Not working, does not want to	-0.208 (0.125)	-0.211 (0.125)	-0.0463 (0.0915)	-0.0523 (0.0931)
Not working but wants to	0.0861 (0.0583)	0.0821 (0.0584)	0.131* (0.0677)	0.118 (0.0730)
Studying	-0.0797 (0.0839)	-0.0848 (0.0813)	-0.0789 (0.0563)	-0.0788 (0.0617)
Senegal	Baseline category			
Uganda	-0.275** (0.0902)	-0.268** (0.0869)	-0.182 (0.109)	-0.144 (0.103)
Rural dummy	-0.00950 (0.0701)	-0.0131 (0.0731)	0.0431 (0.0760)	0.0289 (0.0769)
Contact with immigrants		-0.0367* (0.0167)		-0.0552* (0.0284)
Constant	0.0454 (0.148)	0.154 (0.153)	-0.274* (0.152)	-0.144 (0.165)
Observations	2316	2290	2318	2307
$R^2$	0.033	0.037	0.022	0.027

The outcome variable is standardized. High values in the outcome variable imply stronger egocentric economic concerns. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A11:** Sociotropic economic concerns: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	0.0000275 (0.00374)	0.000621 (0.00368)	0.00732* (0.00363)	0.00699* (0.00364)
Female dummy	0.0531 (0.0338)	0.0318 (0.0373)	0.138*** (0.0363)	0.132*** (0.0322)
1 = No education	Baseline category			
2 = Some primary education	-0.0580 (0.118)	-0.0525 (0.119)	-0.0286 (0.109)	-0.0204 (0.108)
3 = Completed primary education	-0.0500 (0.170)	-0.0483 (0.173)	-0.122 (0.138)	-0.119 (0.137)
4 = Some secondary education	0.0110 (0.121)	0.0252 (0.125)	-0.00874 (0.0858)	-0.00311 (0.0877)
5 = Completed secondary education	-0.118 (0.167)	-0.107 (0.172)	-0.0613 (0.140)	-0.0565 (0.141)
6 = Vocational and technical training	-0.222* (0.106)	-0.190 (0.110)	-0.241* (0.125)	-0.259* (0.129)
7 = Tertiary education (Diploma/Degree)	-0.142 (0.138)	-0.115 (0.140)	-0.0597 (0.0929)	-0.0492 (0.0919)
Working	Baseline category			
Not working, does not want to	-0.100 (0.133)	-0.0774 (0.127)	-0.227** (0.103)	-0.229* (0.106)
Not working but wants to	0.0104 (0.0530)	0.00644 (0.0546)	0.0991 (0.0650)	0.0938 (0.0692)
Studying	-0.115 (0.0696)	-0.113 (0.0693)	-0.0606 (0.0584)	-0.0581 (0.0597)
Senegal	Baseline category			
Uganda	-0.346** (0.132)	-0.338** (0.130)	-0.261** (0.106)	-0.245** (0.0998)
Rural dummy	-0.0109 (0.104)	-0.0188 (0.108)	0.0583 (0.0872)	0.0513 (0.0908)
Contact with immigrants		-0.0352 (0.0233)		-0.0263 (0.0347)
Constant	0.195 (0.199)	0.287 (0.212)	-0.164 (0.163)	-0.0963 (0.191)
Observations	2315	2292	2304	2290
$R^2$	0.037	0.040	0.036	0.038

The outcome variable is standardized. Higher values in the outcome variable imply stronger sociotropic economic concerns. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A12:** Sociotropic job concerns: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	-0.00268 (0.00340)	-0.00264 (0.00325)	-0.00230 (0.00341)	-0.00196 (0.00329)
Female dummy	0.137*** (0.0385)	0.128*** (0.0343)	0.0809 (0.0544)	0.0727 (0.0500)
1 = No education	Baseline category			
2 = Some primary education	-0.124 (0.152)	-0.138 (0.155)	-0.121 (0.101)	-0.114 (0.100)
3 = Completed primary education	-0.183 (0.260)	-0.183 (0.261)	-0.200 (0.203)	-0.195 (0.201)
4 = Some secondary education	-0.0322 (0.138)	-0.0373 (0.141)	-0.183** (0.0799)	-0.176* (0.0821)
5 = Completed secondary education	-0.221 (0.201)	-0.217 (0.204)	-0.277** (0.121)	-0.262** (0.118)
6 = Vocational and technical training	-0.100 (0.149)	-0.0850 (0.144)	-0.230* (0.119)	-0.210* (0.114)
7 = Tertiary education (Diploma/Degree)	-0.0594 (0.149)	-0.0568 (0.153)	-0.106 (0.113)	-0.0912 (0.112)
Working	Baseline category			
Not working, does not want to	-0.160 (0.120)	-0.135 (0.116)	-0.0185 (0.167)	-0.0214 (0.169)
Not working but wants to	0.0209 (0.0337)	0.0325 (0.0321)	0.0624 (0.0700)	0.0592 (0.0724)
Studying	-0.205** (0.0727)	-0.202** (0.0709)	-0.137 (0.111)	-0.141 (0.110)
Senegal	Baseline category			
Uganda	-0.296 (0.171)	-0.292 (0.173)	0.171 (0.117)	0.191 (0.124)
Rural dummy	-0.0892 (0.107)	-0.0879 (0.107)	0.0157 (0.0781)	0.00926 (0.0839)
Contact with immigrants		-0.00359 (0.0252)		-0.0299 (0.0310)
Constant	0.268 (0.154)	0.277 (0.164)	0.0705 (0.121)	0.126 (0.150)
Observations	2315	2291	2306	2293
$R^2$	0.035	0.034	0.017	0.019

The outcome variable is standardized. Higher values in the outcome variable imply stronger sociotropic concerns about the effect of immigration on jobs. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A13:** Sociotropic cultural concerns: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	0.00500 (0.00310)	0.00455 (0.00339)	-0.00000650 (0.00393)	-0.0000485 (0.00399)
Female dummy	-0.00254 (0.0541)	0.00915 (0.0557)	0.0119 (0.0481)	0.0279 (0.0510)
1 = No education	Baseline category			
2 = Some primary education	0.158* (0.0878)	0.153* (0.0791)	0.00377 (0.0871)	-0.0127 (0.0894)
3 = Completed primary education	0.0912 (0.110)	0.0995 (0.106)	0.0351 (0.0752)	0.0316 (0.0775)
4 = Some secondary education	0.196* (0.0920)	0.183** (0.0808)	0.0961 (0.0638)	0.0860 (0.0667)
5 = Completed secondary education	0.0714 (0.133)	0.0637 (0.133)	0.112 (0.101)	0.0925 (0.107)
6 = Vocational and technical training	0.173 (0.114)	0.141 (0.100)	0.00355 (0.219)	-0.0377 (0.219)
7 = Tertiary education (Diploma/Degree)	0.193 (0.111)	0.188* (0.0986)	0.0767 (0.0773)	0.0676 (0.0759)
Working	Baseline category			
Not working, does not want to	-0.149 (0.123)	-0.135 (0.115)	-0.0312 (0.115)	-0.0315 (0.112)
Not working but wants to	-0.0131 (0.0528)	-0.0131 (0.0524)	0.00450 (0.0388)	0.00865 (0.0382)
Studying	0.0435 (0.0702)	0.0520 (0.0679)	-0.0851 (0.0583)	-0.0788 (0.0554)
Senegal	Baseline category			
Uganda	0.315** (0.136)	0.311** (0.140)	0.455*** (0.0958)	0.433*** (0.104)
Rural dummy	-0.143 (0.0937)	-0.138 (0.0977)	-0.175** (0.0638)	-0.171** (0.0670)
Contact with immigrants		0.0278 (0.0280)		0.0309 (0.0177)
Constant	-0.352 (0.203)	-0.428 (0.253)	-0.191 (0.153)	-0.256 (0.149)
Observations	2319	2292	2302	2289
$R^2$	0.049	0.052	0.076	0.078

The outcome variable is standardized. Higher values in the outcome variable imply stronger sociotropic cultural concerns. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A14:** Power concerns foreign governments: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	-0.00405 (0.00316)	-0.00479 (0.00312)	0.000537 (0.00791)	0.000665 (0.00722)
Female dummy	-0.168*** (0.0423)	-0.161*** (0.0406)	0.00698 (0.0282)	0.0279 (0.0302)
1 = No education	Baseline category			
2 = Some primary education	0.270*** (0.0633)	0.251*** (0.0678)	0.166** (0.0602)	0.146** (0.0544)
3 = Completed primary education	0.0529 (0.0965)	0.0472 (0.0955)	0.205 (0.136)	0.202 (0.131)
4 = Some secondary education	0.316*** (0.0919)	0.297*** (0.0924)	0.170* (0.0707)	0.154* (0.0637)
5 = Completed secondary education	0.421*** (0.0767)	0.401*** (0.0759)	0.199 (0.139)	0.178 (0.136)
6 = Vocational and technical training	0.209* (0.111)	0.181 (0.105)	0.287 (0.292)	0.263 (0.284)
7 = Tertiary education (Diploma/Degree)	0.368*** (0.0731)	0.346*** (0.0756)	0.175 (0.141)	0.150 (0.136)
Working	Baseline category			
Not working, does not want to	0.148 (0.136)	0.139 (0.127)	-0.153 (0.231)	-0.147 (0.220)
Not working but wants to	-0.0213 (0.0495)	-0.0131 (0.0488)	0.0751* (0.0324)	0.0869** (0.0310)
Studying	-0.0308 (0.0741)	-0.0240 (0.0744)	-0.0740 (0.0814)	-0.0468 (0.0750)
Senegal	Baseline category			
Uganda	0.00282 (0.116)	0.0105 (0.115)		
Rural dummy	-0.112 (0.0957)	-0.108 (0.0932)	-0.0468 (0.102)	-0.0426 (0.109)
Contact with immigrants		0.0199 (0.0181)		0.0545 (0.0391)
Constant	0.00862 (0.205)	-0.0306 (0.237)	-0.119 (0.271)	-0.242 (0.209)
Observations	2145	2124	1170	1165
$R^2$	0.036	0.036	0.011	0.015

The outcome variable is standardized. Higher values in the outcome variable imply stronger concerns about the influence of foreign governments. Power concerns towards the Chinese government in particular are only available for Senegal. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A15:** Power concerns foreign businesses: predictors by immigrant group

	Overall		Chinese	
	Restricted	Full	Restricted	Full
Age	0.00194 (0.00401)	0.00112 (0.00431)	-0.00420 (0.00429)	-0.00437 (0.00353)
Female dummy	-0.133** (0.0558)	-0.108* (0.0543)	0.0615 (0.0747)	0.0794 (0.0701)
1 = No education	Baseline category			
2 = Some primary education	0.208 (0.123)	0.180 (0.124)	0.163* (0.0721)	0.143 (0.0786)
3 = Completed primary education	0.119 (0.159)	0.116 (0.157)	0.0592 (0.107)	0.0582 (0.105)
4 = Some secondary education	0.420*** (0.117)	0.382** (0.124)	0.278* (0.108)	0.267* (0.115)
5 = Completed secondary education	0.411** (0.168)	0.374** (0.169)	0.364 (0.231)	0.346 (0.232)
6 = Vocational and technical training	0.453** (0.167)	0.393** (0.170)	0.225 (0.163)	0.205 (0.152)
7 = Tertiary education (Diploma/Degree)	0.565*** (0.133)	0.512*** (0.139)	0.273* (0.132)	0.259* (0.127)
Working	Baseline category			
Not working, does not want to	0.0440 (0.183)	0.0109 (0.176)	-0.308* (0.141)	-0.301* (0.126)
Not working but wants to	-0.0188 (0.0566)	-0.0217 (0.0549)	-0.0342 (0.0664)	-0.0156 (0.0603)
Studying	-0.0136 (0.0802)	-0.0123 (0.0764)	-0.147* (0.0709)	-0.124 (0.0694)
Senegal	Baseline category			
Uganda	0.00441 (0.128)	-0.000940 (0.141)		
Rural dummy	-0.0219 (0.0770)	-0.0194 (0.0884)	-0.0182 (0.124)	-0.00913 (0.129)
Contact with immigrants		0.0669*** (0.0214)		0.0614 (0.0306)
Constant	-0.273 (0.183)	-0.434** (0.193)	-0.00539 (0.216)	-0.140 (0.194)
Observations	2135	2116	1180	1176
$R^2$	0.041	0.054	0.018	0.025

The outcome variable is standardized. Higher values in the outcome variable imply stronger concerns about the influence of foreign businesses. Power concerns towards Chinese businesses in particular are only available for Senegal. Standard errors in parentheses. Significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table A16:** Marginal Means: Bonferroni and Weights

feature	level	Baseline		Bonferroni		Weighted	
		estimate	p	estimate	p	estimate	p
job	construction worker	0.41	1.08E-36	0.41	3.14E-35	0.44	1.32E-07
job	investor	0.64	5.63E-85	0.64	1.63E-83	0.61	9.52E-20
job	small shop owner	0.39	1.48E-57	0.39	4.29E-56	0.40	1.72E-15
job	supermarket owner	0.55	5.37E-11	0.55	1.56E-09	0.53	7.37E-03
location	outside respondent's community	0.45	5.81E-33	0.45	1.69E-31	0.43	5.95E-26
location	within respondent's community	0.54	1.33E-24	0.54	3.84E-23	0.56	2.33E-18
integration	not willing to integrate	0.32	0.00E+00	0.32	0.00E+00	0.32	1.69E-152
integration	willing to integrate	0.67	0.00E+00	0.67	0.00E+00	0.66	1.43E-126
origin	Africa	0.57	3.76E-25	0.57	1.09E-23	0.56	2.33E-08
origin	China	0.45	1.09E-12	0.45	3.16E-11	0.46	2.66E-03
origin	Europe	0.50	6.73E-01	0.50	1.00E+00	0.50	7.21E-01
origin	India/Lebanon	0.46	3.23E-08	0.46	9.35E-07	0.46	4.07E-04

Columns 1 and 2 display estimates and p-values for our baseline Marginal Means estimation. Columns 3 and 4 adjust for 29 hypothesis that we tested in the conjoint experiment using the Bonferroni method. Columns 5 and 6 use weights to adjust for sampling design and non-response. P-values are shown in scientific notation to display changes for very small p-values.