Veiling and the Economic Integration of Muslim Women in France*

Working Paper

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Abstract

The economic implications of policies limiting the wearing of the Islamic veil for Muslim women in Western countries are still poorly understood. This paper investigates the relationship between veiling behavior and economic participation using the largest sample of Muslim women in France. Firstly, we present new descriptive evidence about Muslim women in France. We demonstrate a significant negative relationship between veiling and economic participation, which contrasts with the existing economic theory of veiling in Muslim-majority countries. Secondly, we extend this theory by including elements relevant to the Muslim-minority context, such as potentially-reduced economic opportunities for veiled women. In so doing, we are able to rationalize the contrast between the Muslim-majority and Muslim-minority contexts. Thirdly, we develop and estimate a discrete-choice model of veiling and labor force participation to disentangle the various motivations behind the joint decision to veil and to be economically active. Our findings indicate that veiled women are less economically active not due to religious preferences, but rather because the benefits of economic participation are lower for women who veil compared to those who do not. This result echoes previous findings in the literature regarding labor market discrimination against individuals who signal their religious affiliation. Additionally, our results emphasize the significance of personal religious motives in the decision to veil, rather than community-based religious pressure. This calls into question the rhetoric used to justify policies that restrict the wearing of religious symbols in France.

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1 Introduction

Veiling among Muslim women has been at the center of public debates in Western countries for several decades. The Islamic veil is often perceived as a signal of both cultural distance from the majority, and of the subordination of women. It is a particularly burning issue in France, where state secularism (*laïcité*) "constitutes a pillar, even the identity and foundation of the community life."[1] At the heart of the debates lies the idea that Muslim women wear the veil against their own will and must be freed from such oppression.

To be sure, the adoption of this cultural practice entails numerous costs such as reduced employment prospects, discrimination, and physical discomfort (Abdelhadi 2019, Valfort 2020). Yet, as many politicians advocate for a strengthening of secular policies, it is crucial to understand the real motives behind veiling, and how it affects the economic participation of Muslim women. First, do women veil willingly despite these costs, or is veiling mostly a result of communitarian pressures? The answer to this question may lead to opposite policy recommendations: if veiling is driven by individual motives, then further restrictions on veiling may inhibit the socio-economic integration of Muslim women even more and reduce social welfare (Carvalho 2013, Shofia 2020). But if veiling is community-driven, then those restrictions may help emancipate them (Maurin and Navarrete-Hernandez 2023). Second, are veiled women less economically active because of religious preferences, or because they face more obstacles in the labor market? If the latter is true, the objective of policymakers who wish to improve the economic participation of veiled women shouldn't be to ban the veil in the workplace, thus alienating Muslim women from the workforce even further, but instead to find ways to remove the barriers to economic integration that veiled women are already facing.

Despite the considerable media, political, and academic attention, the reasons why women veil in a secular and Muslim-minority country like France are still poorly understood. This is in contrast with the context of Muslim-majority countries, which has received attention both in economics (Carvalho 2013, Shofia 2020) and in the wider social science literature. In Muslim-minority countries, most of the empirical evidence on veiling behavior remains based on interviews conducted over small samples of women (or adolescents). Moreover, in France, such interviews are typically conducted in the Parisian region, even though Muslims are increasingly present over the whole territory. In addition to this representativeness issue, this

[1] Andriantsimbazovina et al. (2020), p. 7.

methodology has the inherent drawback that, especially for such sensitive topics, interviewees may be susceptible to social desirability bias. This is even more true because respondents are typically aware that the topic of the interview is veiling behavior. It is thus not clear how individuals' responses reflect true individual preferences for veiling or influences from their community.

In this paper, we make one of the first attempts at analyzing the relationship between veiling and economic participation, using rich survey data over more than 3,000 Muslim women in France. This sample constitutes the largest source of data on Muslim women in France and their veiling practices that we are aware of. In addition, its wide geographical coverage arguably improves representativeness compared to interview-based data. The survey also records other detailed information about respondents, providing important controls for our analysis. Overall, these data allow us to study veiling and economic participation among Muslim women empirically on a scale which hasn't been done in a Muslim-minority country before. Furthermore, this paper also extends the existing economic theory of veiling to the context of Muslim-majority countries. The structure of the model notably helps us to disentangle the role of religious motives versus those of economic motives in women's veiling and economic participation decisions.

A second objective of this paper is to unpack the various motives for veiling. By matching our main data with other sources, we are able to measure the influence of the local community on women's veiling and economic participation. We also exploit the richness of the survey to proxy for parental religious transmission, individual religiosity, and the individual's religious environment.

Our study begins with an in-depth descriptive analysis, where we provide evidence that in France, wearing conspicuous religious symbols is associated with much lower levels of economic participation. Using a rich set of controls, we notably find that the practice of always wearing such a symbol in public is associated with a decline of 23 percentage points in economic participation (defined as being active on the labor market or studying) in the cross-section. This correlation is large and economically significant. In our preferred specification for instance, veiling is associated with a decline in economic participation which is equivalent to having an additional 1.4 children aged less than 4 years old. We find that this negative relationship is robust to several alternate specifications. In particular, exploiting the information on respondents' employment history, we construct a retrospective panel dataset of economic participation. We show that the estimated negative correlation is robust to the inclusion of year fixed effects and

random effects and is similar in magnitude to that obtained in the cross-section.

In a second step, we develop a model to analyze the joint decision of veiling and economic participation. Our goal is to provide a conceptual framework to understand the respective roles of religious motives (such as individual religiosity or religious social pressure) and of economic motives (such as employment opportunities and on-the-job discrimination) in this joint decision. The model nests Carvalho's (2013) seminal theory of veiling, but also extends it to fit the French context based on our descriptive results and on our understanding of the ethnographic evidence. In the original theory, veiling is a response to individual and social religious incentives: veiling acts as a commitment device to follow religious norms and as a signal of the woman's commitment to her community. In addition to this religious incentives channel, we introduce economic incentives to (un)veil in the model, which reflect the documented barriers to economic participation that veiled women face. These two mechanisms have different implications for how the decisions to veil and to participate economically interact: according to the religious incentives channel, women should veil more when they participate (in order to signal their religious commitment despite their social integration), while according to the economic incentives channel, they should veil less (because veiling directly reduces their economic opportunities).

Finally, we translate our conceptual framework into an empirical static discrete-choice model of veiling and economic participation. We formulate and test direct implications of the theory for the religious incentives and economic incentives channels. For the religious incentives channel, we distinguish between intrinsic motives and social religious pressure in the joint decision. We measure the intrinsic motives using multiple indicators of religiosity (of both subjective feelings and actual religious practices) available in the survey data. For social religious pressure, we develop several proxies. Parental influence is measured using the (self-reported) importance of religion in the education received by the respondent and religious name-giving. For communitarian pressure, given that data on religious diversity is not available in France, we use the share of Maghrebi immigrants in the local population as well as the local number and size of Muslim places of worship (mosques and prayer rooms).

Our main empirical findings are twofold. First, we find supporting evidence for the economic discrimination channel described in the theory, but not for the religious incentives channel. This result suggests that the impact of religious motives on the economic participation decision is mostly indirect (through the decision to veil), while economic motives seem to have a direct impact on the decision to veil. In other words, the primary reason why veiled Muslim women

work less (or, equivalently, that working Muslim women veil less) seems to be that veiling itself reduces their economic opportunities, and not that religiosity disincentivizes working. As such, the lower economic participation of Muslim women could be understood as a demand-side problem on the labor market, more than a supply-side one.

Second, we measure the respective roles of the different religious motives in the decision to veil. While measures of social religious pressures are correlated with veiling behavior, we find that a much larger share of the variation in veiling patterns can be explained by individual religiosity. Our results thus question the rhetoric often used to justify policies restricting the wearing of religious symbols in France. Consistent with our analytical results, we conjecture that regulations which limit the expression of religious faith in public are likely to impede integration of Muslim women into Western societies.

1.1 Related literature and contributions

This paper contributes to several strands of the literature. First, it provides novel empirical evidence to the vast literature on Islamic veiling in the social sciences.[2] In this literature, most of the evidence is based on interviews with Muslim women since veiling behavior is rarely observed in surveys or other standard datasets. While interviews have the potential to dig deeper into specific questions of interest and uncover a large number of potential channels, they often suffer from small sampling and representativeness issues. In a recent contribution, Shofia (2020) measures the veiling rate at the district level to circumvent this problem and provides robust empirical evidence that better economic opportunities for women induce Indonesian women to veil. In contrast, in this paper, we study the case of a secular country in which Muslims form a minority and where wearing the veil is frowned upon rather than encouraged. Similar conclusions to that of Shofia (2020) were reached by Aksoy and Gambetta (2016), the closest study to ours, for the case of Turkey. Aksoy and Gambetta (2016) also attempt to study the determinants of veiling in a Western country, namely Belgium. However, they do not have a direct measure of veiling behavior , but rather a measure of attitudes towards veiling in public. Moreover, the richness of our data allows us to further unpack the relative weight of various incentives that are difficult to measure in the decision to wear the Islamic veil over a large sample. In particular, we can distinguish between private and communitarian incentives to veil, a question which has

[2]We review in detail the literature on veiling in France in section 2. Recent contributions in other contexts include Harrison (2016) for the United States as well as Aksoy (2017) and Aksoy and Gambetta (2016, 2021) for Turkey.

so far eluded empirical researchers. Another close study is that of Abdelhadi (2019) who finds that the wearing of the veil is associated with lower employment in the United States, but does not investigate the motives for veiling. Her result is consistent with our findings for France for which we document large differences in economic participation between veiled and non-veiled women.

Second, we bring new evidence on motives for adopting costly cultural practices both theoretically and empirically. In the vast literature in on the economics of religion and identity, it is now acknowledged that individuals may choose their identity via rational decision-making even if it requires costly investments or sacrifices (Iannaccone 1992, Akerlof and Kranton 2000, Atkin et al. 2021, Jia and Persson 2021). However, though potentially rational, adopting (or transmitting) certain cultural practices can be an impediment to social and economic integration of certain groups. A strand of the literature has investigated the incentives that might justify such choice. Recent examples include foot-binding in China (Fan and Wu 2022), female genital cutting in Africa (Bellemare et al. 2015, Novak 2020, Gulesci et al. 2021), and baby-naming choice in France (Algan et al. 2022).[3] We contribute to this literature in three ways. First, we document that in France, veiling is associated with poorer economic integration of Muslim women rather than being an integration strategy as suggested by evidence in Muslim-majority countries (Aksoy and Gambetta 2016, Shofia 2020). Second, we provide detailed descriptive evidence of why Muslim women might wear such a costly signal of religious identity in France. Third, we uncover novel empirical patterns concerning the wearing of *discreet* signs of religious affiliation, which have received little attention in the literature. In particular, they appear to be worn by Muslim women who are educated and moderately religious. These patterns might suggest discreet symbols, in the French context, play a similar role to that of the veil in Muslim-majority countries.[4]

Third, our results have implications for State secularisation policies. Of particular interest in our context, two recent empirical studies reach opposite conclusions on the effects of the French headscarf ban in public schools. On the one hand, Abdelgadir and Fouka (2020) find that the 2004 ban depressed schooling outcomes of French girls of North-African origin.[5] On the

[3]There is also a relevant literature looking at incentives to abandon certain costly cultural traits and adopting less harmful ones. For example, Biavaschi et al. (2017) find important economic payoffs for the Americanization of migrants' names. See also Bisin et al. (2011, 2016) and Drydakis (2013) on economic returns of assimilation for migrants.

[4]We, however, have little statistical power to test this hypothesis because few Muslim women wear only discreet symbols in our sample.

[5]In a similar spirit, Benzer (2022) finds that the re-introduction of Islamic schools, which do not prohibit the

other hand, Maurin and Navarrete-Hernandez (2023) obtain that the 1994 ministerial circular asking school principals to prohibit the wearing of the veil in schools had a positive impact on their educational attainment. Even if they are comparing different cohorts of adolescents and different treatments, these contradictory pieces of evidence are puzzling. By focusing on why Muslim women are willing to sacrifice economic opportunities to veil, we can offer a new perspective to this debate. If incentives to veil are mainly *private*, more stringent secular regulations should reduce incentives to integrate for religious women who wish to veil. On the contrary, if *communitarian* incentives prevail, such veil bans may help women emancipate and liberate them from a costly religious norm which limits their economic opportunities. Our results lend support to the former interpretation. The main observed drivers of veiling behavior in France appear to be the woman's religiosity as well as non-religious identity such as her origins. Religious pressures from women's close community are also correlated with veiling behavior, but turn out to explain only a small share of variation in veiling behavior in our regressions. Proponents of French secular regulations often base their arguments on the idea that Muslim women simply do not want to veil and are forced to do so by other Muslims. Our analysis thus casts serious doubts on this assumption and suggests that the French secular regulations most likely inhibit social and economic integration of Muslim women in France rather than facilitating their emancipation.

The rest of the article is structured as follows. Section 2 describes the institutional context. Section 3 describes the data sources and provides a detailed descriptive analysis of veiling patterns in France. In section 4 we outline our theoretical framework. In section 5 we translate this framework into an empirical model and estimate its main parameters. Finally, section 6 concludes.

2 Historical and sociological background

The wearing of the Islamic veil has been a burning issue in France since at least three decades. In 1989, the "*affaire des foulards*" (headscarf affair) garnered nationwide attention when three girls were expelled from their middle school for refusing to remove their headscarves. The incident sparked heated debates but eventually culminated in the highest French administrative court ruling in favor of the expelled girls (Scott 2009). Despite this ruling, in 1994 the Ministry of

headscarf, had positive impacts on girls' educational attainment in Turkey.

Education issued a circular asking school principals to prohibit conspicuous religious symbols worn by students. This controversial position was later enshrined in a 2004 law, whose supporters argued that headscarves "infringed on the liberty of conscience of other pupils and represented the triumph of communitarian pressures" (Abdelgadir and Fouka 2020 p. 4). The debate then shifted to other public spaces, with a nationwide ban of full-face veils (*burqa*) in 2010, and later with several city bans of the *burkini* in swimming areas and beaches.[6]

Despite the significance of these policies for Muslim women and girls, they have largely been excluded from the conversation. In fact, this "one-sided debate"[7] has revealed a lack of understanding among policymakers about the realities and constraints faced by the Muslim population (Scott 2009, Nordmann 2004). Nevertheless, considerable research in sociology and anthropology has been dedicated to understanding the experience of Muslims in France, and particularly the reasons for women to wear the veil. In the following paragraphs we focus on two factors which have been shown to be significant in that decision: balancing religious and family expectations with societal integration, and the potential impact of veiling on economic participation due to discrimination.

Why do women veil? France's secular policies against veiling have been justified by the idea of a "silent majority" of Muslim women who are forced to wear the veil by their families or communities. According to this idea, the benefits of helping this silent majority outweigh the harm imposed on other female Muslims who truly want to veil (Maurin and Navarrete-Hernandez 2023). However, existing evidence on the motives behind veiling behavior contradicts this argument. In fact, interviews and surveys conducted in France suggest that the vast majority of Muslim women who wear the veil do so by individual choice and not out of coercion (IFOP 2019, Institut Montaigne 2016). Even within the Muslim community, the motives behind veiling seem to be misinterpreted. For instance, non-veiled Muslim women are more likely to believe that veiling is done out of coercion or imitation (IFOP 2019). This discrepancy highlights a key limitation of interview data: it is unclear whether "individual choice" reflects the preferences of the women themselves, or the internalization by these women of the preferences of their social networks.

[6] The question of veiling in public resurfaced for instance during the debates surrounding the adoption of the "law on separatisms" of August 2021, with some Senators suggesting a complete ban of all religious symbols in public spaces (see Sénat 2021).

[7] Gresh (2020).

In a series of interviews with Muslim girls and women,[8] Gaspard and Khosrokhavar (1995) identified three broad categories of veiled women: "veiled immigrants," i.e. middle-aged women who arrived in France veiled and kept the practice; adolescent girls born in France who wear the veil either by force or by choice; and young women who wear the veil willingly to reconcile their religious duties and integration into French society. The veil worn by first-generation immigrants is well tolerated by French society. Animosity is instead directed towards the veils worn by adolescents and young women born in France, which is perceived as a symbol of failed integration – "a sign of inherent non-Frenchness" (Scott 2009, p. 15).

When asked why they wear the veil, Muslim women mostly invoke religious duty (76%) and issues of safety (35%) (Institut Montaigne 2016). Young women in particular mention "the difficulty to reconcile their families' demands with those of the society" (Khosrokhavar 2004 p. 90). Familial pressures typically discourage them from engaging in activities that favor their integration, such as going out with friends or finding a job. In this respect, veiling can be a tool which allows them to "exempt themselves from the constraints that traditionally weigh on women" (Gaspard and Khosrokhavar 1995, p. 37) and to resolve the tension between religious duty, families' demands, and integration.[9]

This interpretation of veiling as facilitating integration is in line with research in economics which has explored veiling practices in relation to economic participation (Carvalho 2013, Shofia 2020). The theory of Carvalho (2013) considers veiling as a technology available to Muslim women in order to alleviate the intrinsic and social costs of their integration. By providing a practical protection against opportunities to engage in religiously prohibited behaviors, veiling acts both as a commitment to oneself and as a signal of this commitment to others. This commitment aspect of veiling is confirmed by survey evidence and interviews conducted in France and elsewhere.[10] Furthermore, Shofia (2020) provided evidence for this mechanism in a study of veiling among Indonesian schoolgirls.

[8] Gaspard and Khosrokhavar (1995) conducted around one hundred interviews with Muslim girls and women in the Paris and Dreux suburbs.

[9] The following interview excerpts collected by Atasoy (2006) in Canada also illustrate this tension well:

> "It is hard as a young woman not to have a boyfriend in this society. [...] The veil reminds you that this isn't allowed [in Islam]."
>
> Sarah believes the veil keeps her away from doing "stupid things like dating a guy."
>
> "The veil reminds me that I submit to Allah... If I don't wear it, people might take it as I'm doing something wrong."
>
> "If you are not covered, you feel isolated from other Muslim girls. They don't socialize with you. They think you are doing bad things."

[10] See for example Atasoy (2006) for Canada and Read and Bartkowski (2000) and Droogsma (2007) for the United States.

Veiling and economic participation. The sociological and anthropological record documents the challenges faced by veiled women in France when trying to integrate into the workforce (Adida et al. 2010, 2016, Jouili 2020). Alongside the policies restricting religious expression in public areas, veiled women encounter various constraints in the workplace. For example, French civil servants have an obligation of religious neutrality – a strict application of *laïcité*, the French conception of state secularism. This obligation prohibits the expression of religious beliefs while on duty, including the wearing of conspicuous religious symbols. Breaching this obligation is considered a serious offense that can lead to sanctions or even dismissal.

Veiled women also encounter obstacles in the private sector (Ajbli 2011). Private-sector workers providing a public service are also subject to neutrality requirements. Furthermore, studies have shown that Muslims, particularly those who display higher levels of religiosity (a trait associated with wearing the veil), face discrimination when seeking employment. Valfort (2020) uses a correspondence-test method to demonstrate that while signalling religiosity increases call-back rates for Christian applicants, it significantly reduces them for Muslim applicants in France.[11] Similar discriminatory hiring practices have been reported in other European countries.[12]

Employers claim that discrimination against Muslims is due to religious expression causing conflicts, and accommodating religious practices is viewed as a challenge (Adida et al. 2016, Cintas et al. 2012). Muslims, in particular, face discrimination as some of their religious practices, such as daily prayers and fasting, are perceived as reducing productivity (Bouzar and Bouzar 2009, Maillard 2017).[13] In its yearly surveys of French managers, the *Observatoire du Fait Religieux en Entreprise* documents a rise in observed religious behaviors requiring managerial intervention, with Islam being by far the most cited religion (Institut Montaigne 2014–2021).[14]

[11] Valfort (2020) uses extra-curricular activities (volunteering for a Christian or a Muslim Scout association) as a signal of religiosity.

[12] Weichselbaumer (2020) and Fernández-Reino et al. (2022) also use correspondence tests to confirm the existence of discrimination against veiled women in Germany, the Netherlands, and Spain.

[13] Hu and Wang (2021) provides empirical evidence suggesting that Ramadan fasting does not in fact reduce productivity.

[14] The *Observatoire du Fait Religieux en Entreprise* conducts surveys on religious behaviors in the workplace. Islam is most frequently associated with observed religious behaviors (73% in 2021), and the proportion of observed religious behaviors requiring managerial intervention has risen from about 25% in 2014 to over 50% in 2021. Of those cases requiring intervention, 19.5% resulted in conflicts in 2021, compared to 6% in 2014. When discriminatory situations in hiring are observed, they involve Muslims in 70% of cases, according to manager reports. In addition, 10% of managers feel overburdened by religious behaviors in their company (Institut Montaigne 2014–2021).

Of course, Muslim women report wearing the veil for various other reasons, including signaling piety to potential husbands, or even fashion (Patel 2012). Worth mentioning are identity motives that are not necessarily religious. For some Muslim women, the veil is a means to affirm their distinction with the rest of society and to feel closer to their community of origin (Silhouette-Dercourt et al. 2019). For instance, adolescents who want to distinguish themselves from their peers may use the veil as a visible sign of difference from the "rooted French" (Khosrokhavar 2004, van der Hasselt 2019). In some cases, wearing the veil is a form of rebellion against a society that claims to defend liberty of choice but discriminates against Muslims, as evidenced by studies on "identity backlash" (Abdelgadir and Fouka 2020).[15]

3 Data and descriptives

In this section we start to explore empirically the relationship between veiling behavior and economic participation. We present our main data sources, and we describe them along several dimensions of interest.

3.1 Data

Our primary data source is the cross-section from the *Trajectoires et Origines* survey (henceforth TeO; Beauchemin et al. 2016). Conducted in 2008–2009 by the French National Institute for Demographic Studies (INED) and the National Institute of Statistics and Economic Studies (INSEE), the TeO survey targeted adults between 18 and 60 years old residing in metropolitan France. Purposefully oversampling immigrants and minorities, it includes 3,033 women who identify as Muslim. To our knowledge, this is the largest sample of this kind in France.

The TeO dataset is a comprehensive source of information on various aspects of respondents' lives, including living conditions (such as employment, education, housing, commune of residence, and health), social life (such as migration history, language use, family, and children), and public life (such as political views, experiences of discrimination, and social relationships). Of particularly value for this study is the religion section, which is a rare inclusion in French surveys since the collection of individual information on religion is closely monitored. This section includes variables such as religious affiliation, measures of religiosity, religious symbols worn, and intergenerational religious transmission.

[15] See also Fouka (2020) and Sakalli (2019) for evidence of cultural backlash against assimilation policies in other contexts.

We also use the TeO survey to create a panel dataset of respondents' lifetime education and labor-market status. The dataset is constructed by analyzing respondents' retrospective accounts, year by year, of their work status including salaried work, self-employment, unemployment, studying, staying at home, inactive for other reasons, or out of metropolitan France.

Our second data source is the *Annuaire des mosquées de France* (La Boussole 2004), a comprehensive directory of mosques and Muslim praying rooms in France. This is a novel data source in the literature, which we digitized manually. Compiled by a Muslim association in 2003–2004, the directory provides for each worship facility at the time its full address and estimated capacity by gender.

3.2 Measurement

Alongside standard metrics of economic activity, our empirical analysis relies on measures of religious practice and religious social pressure which we describe here.

Veiling. We use the following question from the TeO survey:

> *In your daily life, do you wear in public a piece of clothing or jewelry that might evoke your religion?* *(1) Never* *(2) Sometimes* *(3) Always*

If applicable, respondents were subsequently asked to report which religious symbols they wear. Answers were later sorted by the survey institute into four categories: Jewelry, Clothing, Headcoverings, or Others.

Because they visibly signal religion and are the ones usually targeted by secular policies, we group the Clothing and Headcoverings categories together as *conspicuous symbols*. Among Muslim women this is an excellent proxy for veiling, since headcoverings represent 93% of these conspicuous symbols. In contrast, we group Jewelry and Other symbols, which can usually be hidden, as *discreet symbols*.[16] We then cross these categories with the initial answer on frequency of wearing religious symbols. Thus, in our measure of veiling each respondent is categorized as wearing either (1) *no symbol* (if they answered *Never* to the initial question), (2) *sometimes discreet symbols*, (3) *always discreet symbols*, (4) *sometimes conspicuous symbols*, or (5) *always conspicuous symbols*.[17]

[16] A respondent who wears both discreet and conspicuous symbols is categorized as wearing conspicuous symbols.
[17] A limitation of this data is that appreciations like "sometimes" or "always" remain subjective. For instance,

Individual religiosity. The TeO survey includes several questions which relate to individual religiosity. Our preferred measure is the frequency of attendance of religious ceremonies, a standard measure of religiosity which focuses on religious practice (Iyer 2016). To analyze incentives for veiling we combine this measure with other questions related to individual religiosity: the self-reported importance of religion in the respondent's life, whether she uses her religion to self-identify, the respect of religious dietary restrictions, and religious marriage. In order to aggregate the answers to these questions into a single measure of individual religiosity, we use a measurement system to construct a latent index of individual religiosity, as in Heckman et al. (2013) or Bolt et al. (2021). The advantage of this method is that we are able to leverage the variation on several survey questions while keeping the convenience of a single, continuous measure of religiosity. (In Appendix A.1 we provide details on the procedure and on the survey questions.)

Family and community pressures. As discussed in section 2, religious social pressures play a role in women's decisions to integrate socio-economically and to veil. Drawing on insights from the literature on cultural transmission (Bisin and Verdier 2000), and particularly on the distinction between vertical transmission (from parents to children) and horizontal transmission (between peers), our measures of social pressure aim to disentangle the respective influences of women's families and of their larger communities on their decisions.

To capture vertical religious pressure by parents, our preferred measure is a question on the self-reported importance of religion in the respondent's education. We also use whether or not the respondent has a religious first name.[18] As for individual religiosity, we then combine these measures into a single index.

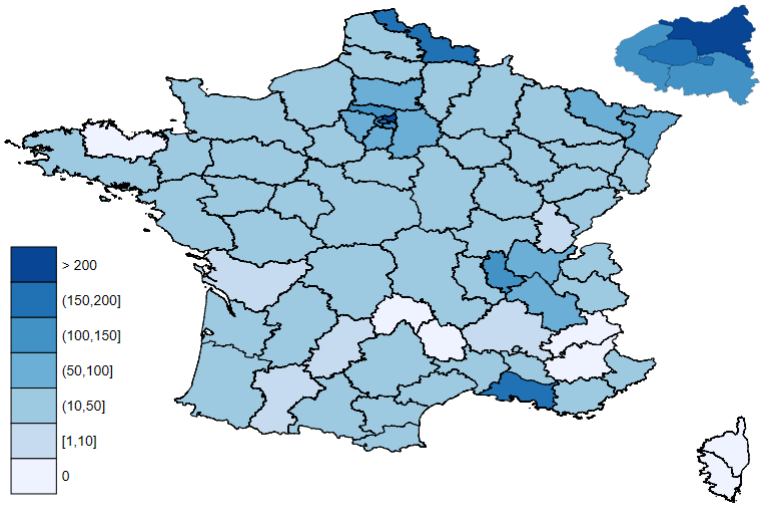
For social pressure stemming from the local community, our preferred measure is the share of Maghrebi immigrants in the neighborhood (IRIS level).[19] We also use a second measure, the local worship capacity per thousand inhabitants for all TeO respondents. We construct this

a woman who removes her veil in the workplace by obligation might still consider that she "always" wears it – when she is able to. In our data, a few Muslim women do report veiling "always" even though they work in the public sector, where conspicuous religious symbols are prohibited (cf. section 2).

[18]Name-giving has been recognized as an important cultural transmission channel (Fryer and Levitt 2004, Abramitzky et al. 2020, Algan et al. 2022). We classify as religious the names of the Islamic prophet's wives, Khadija, Sawda, Aicha, Hafsa, Zainab, Hind, Juwairiya, Safiya, Ramla, and Maimuna (Morsy 1989); and of his daughter Fatima. Variations in spelling are permitted. For male first names, we follow Sakalli (2019) by considering a name as religious if it is a variation of the prophet's name (Mohamed in French) or if it begins with "Abd-" ("servant of…" in Arabic).

[19]Having a parent (especially a father) born in Maghreb is a strong predictor of Muslim affiliation in France (Abdelgadir and Fouka 2020).

Figure 1: Geographical distribution of Muslim women in the TeO survey.



Note: Number of places of residence of Muslim women in the TeO survey per *département*. Some *départements* are collapsed together when counts are low due to confidentiality reasons. The top-right subfigure zooms in on Paris and its suburban area.

measure using our novel data on Muslim worship facilities in France, by combining information on the place of residence of TeO respondents' with the addresses and estimated capacity of these worship facilities. Since these measures are already continuous, we use them as they are and do not aggregate them into an index.

3.3 Descriptive evidence

Using the TeO data, we provide novel summary statistics on Muslim women in France. We provide new empirical evidence for the negative relationship which exists between veiling and economic participation among Muslim women in France, as already suggested by the ethnographic evidence outlined in section 2. Through summary statistics and regression analysis, we confirm that veiling is associated with reduced economic participation. Our preferred specification suggests that consistently wearing a conspicuous religious symbol is associated to the same decrease in economic activity as having an additional 1.4 preschool-age children.

3.3.1 Geographical coverage

The representativeness of the ethnographic studies discussed in section 2 is limited due to their predominant focus on the Parisian suburbs, some of which are distressed areas that may not accurately reflect the living situations of Muslim women as a whole. In contrast, the TeO survey includes Muslim women from a diverse range of locations, as illustrated in Figure 1. Although

some respondents remain concentrated in major urban centers such as Paris, Marseille, and Lille, the survey has a wide geographical coverage across the country.

3.3.2 Summary statistics

Table 1 presents summary statistics for our main variables of interest, disaggregated by veiling behavior. Panel A examines demographic characteristics and economic outcomes, such as employment and educational attainment. The data reveals that veiled Muslim women have significantly worse economic outcomes compared to those who wear no symbol or discreet ones. On average, they are much less educated, less likely to be employed, and have fewer years of work experience, despite being older. Particularly striking is the sharp difference in activity rates (activity being defined as either working, looking for a job, or studying). Almost two-thirds of women who always veil are inactive, compared to less than 20% for non-veiled women, indicating significant barriers to integration linked to the veil.

Panel B examines our primary measures of religiosity and religious social pressure. We observe a positive link between both individual religiosity and veiling, and religious social pressure. On average, veiled Muslim women attend religious ceremonies more frequently, received an education which stressed the importance of religion more, and they now live in neighborhoods with higher proportions of Maghrebi immigrants. Our other measures of religiosity and religious social pressure confirm these patterns (Appendix Table A.1).

3.3.3 Veiling is negatively correlated with economic participation

Our summary statistics provide some preliminary evidence of the negative link between veiling and economic participation, which we now investigate further using regression analysis. We perform two regression exercises, which complement each other.

First, we explore the relationship between Muslim women's active status and veiling in the cross-section. With this approach, we are able to include a rich set of controls by using the wide range of information on respondents available in the TeO survey. We also check the robustness of our results by restricting attention to particular subsamples and by conducting placebo tests on populations other than Muslim women.

Our second approach is to explore this relationship in the panel dataset that we constructed from respondents' retrospective accounts of their studies and professional trajectories. Since this retrospective account does not include most other questions in the survey, our set of controls is

Table 1: Summary statistics by veiling status, Muslim women.

	Veiling behavior				
	No symbol	Sometimes discreet	Always discreet	Sometimes consp.	Always consp.
Panel A: demographics and economic outcomes					
Demographics					
Age in 2008	35.55	28.40	25.06	35.94	36.00
First-gen. immigrant	0.61	0.24	0.51	0.68	0.78
Second-gen. immigrant	0.39	0.66	0.49	0.32	0.22
Number of children	1.78	1.11	0.63	2.26	2.79
Lives in a couple	0.59	0.49	0.48	0.68	0.74
Not a French speaker	0.07	0.02	0.01	0.14	0.32
Labour-force status in 2008					
Employed	0.54	0.43	0.36	0.44	0.22
Unemployed	0.18	0.23	0.27	0.12	0.09
Inactive	0.19	0.15	0.24	0.30	0.65
Student	0.09	0.20	0.13	0.14	0.03
Has never worked	0.19	0.29	0.48	0.31	0.50
Schooling attainment and work experience					
Completed high school	0.78	0.85	0.58	0.68	0.61
Higher education degree	0.22	0.24	0.10	0.20	0.19
Years of schooling	15.30	17.41	15.69	12.86	11.11
Years of work experience	7.06	3.93	3.44	5.75	2.66
Panel B: religious characteristics					
Attends religious ceremonies					
Familial ceremonies only	0.29	0.32	0.29	0.30	0.18
Religious feasts only	0.20	0.34	0.21	0.32	0.27
Once or twice a month	0.03	0.05	0.02	0.08	0.09
At least once a week	0.02	0.01	0.03	0.11	0.19
Importance of religion in education received					
A little important	0.18	0.11	0.05	0.04	0.04
Quite important	0.31	0.30	0.29	0.33	0.15
Very important	0.47	0.58	0.64	0.63	0.81
Percentage of Maghrebi immigrants in neighborhood					
Fourth quintile	0.27	0.31	0.19	0.32	0.32
Top quintile	0.43	0.40	0.54	0.44	0.47
Observations	2,017	166	151	148	516

Note: This table reports means of variables of interest by veiling status as defined by the type of symbol and the frequency at which they are worn. Observations are weighted using the survey weights provided in TeO dataset.

restricted in this approach. However, the panel dimension allows us to verify that the relationship between veiling and economic activity status is not merely due to the particular timing of the survey. Timing might indeed be a concern since the survey was conducted around the time of the Great Recession, which may have affected veiled women disproportionately, e.g. if they face stronger discrimination. Together, the two exercises thus provide a robust assessment of the correlation between veiling and economic participation.

Cross-sectional analysis. Table 2 shows the results of linear regressions where the outcome variable is the activity status (0 if inactive, 1 if active), and the main explanatory variable is the respondent's veiling behavior. Other important explanatory variables include our measures of individual religiosity and religious social pressure, economic characteristics which are usual predictors of labor market participation such as education and experience, and other demographic predictors. The sample is restricted to Muslim women with non-missing covariates, yielding 2433 observations.

Column (1) includes veiling behavior as the only predictors of active status. Veiling behavior alone is an important predictor of the activity rate, explaining 13.5% of the variation in the activity status. In columns (2) to (6) we add more controls, including dummy variables for birth year, age of arrival in France, birthplace, and region of residence. We further include a set of dummy variables capturing the conditions in which the survey took place (whether the partner was present, whether parents were present, survey month dummies, age group of surveyor dummies, and surveyor's gender), which gives us confidence that social desirability bias is minimized in our regressions.

We include additional groups of control variables one by one to investigate the relative contribution of different mechanisms. The last column reports the results of a regression controlling for all of the covariates. In this last specification, the only significant predictors of the activity status are the wearing of conspicuous symbols, the number of children, age, birthplace, and the education level. The magnitude of the main coefficients of interest is reduced compared to specifications with a sparser choice of controls, but it remains statistically and economically significant. The point estimates indicate that Muslim women who always wear a conspicuous symbol are 23 p.p. less likely to be active compared to those who never wear any symbol. Even in this most parsimonious specification, the estimated effect is substantial: it is equivalent to having an additional 1.4 preschool-age children.

Table 2: Veiling and economic participation, Muslim women.

	Woman is active (= 1 if active, = 0 if inactive)					
	(1)	(2)	(3)	(4)	(5)	(6)
Veiling behavior						
Sometimes discreet symbol	0.029	-0.052	-0.054	-0.054	-0.028	-0.036
	(0.041)	(0.037)	(0.035)	(0.037)	(0.036)	(0.034)
Always discreet symbol	0.117***	0.019	0.036	0.028	0.038	0.055*
	(0.028)	(0.028)	(0.029)	(0.028)	(0.029)	(0.031)
Sometimes conspicuous symbol	-0.107*	-0.090**	-0.072	-0.083*	-0.053	-0.055
	(0.055)	(0.046)	(0.044)	(0.047)	(0.038)	(0.037)
Always conspicuous symbol	-0.441***	-0.351***	-0.300***	-0.328***	-0.268***	-0.232***
	(0.048)	(0.032)	(0.030)	(0.033)	(0.031)	(0.030)
Demographics						
Number of children			-0.051***			-0.028**
			(0.012)			(0.011)
Number of children below age 4			-0.165***			-0.171***
			(0.022)			(0.020)
Lives in a couple			-0.065**			-0.065*
			(0.031)			(0.033)
Educational attainment and work experience						
Years of schooling					0.011***	0.010***
					(0.003)	(0.002)
Completed high school					-0.017	-0.021
					(0.025)	(0.024)
Higher education degree					0.059**	0.040*
					(0.024)	(0.021)
Years of work experience					0.041***	0.039***
					(0.004)	(0.004)
Experience squared					-0.001***	-0.001***
					(0.000)	(0.000)
Constant	0.812***	0.514***	0.341**	0.481***	0.055	-0.144
	(0.016)	(0.138)	(0.140)	(0.157)	(0.146)	(0.157)
Other demographic controls			✓			✓
Religiosity controls				✓		✓
Religious influence controls				✓		✓
Birthyear dummies		✓	✓	✓	✓	✓
Age of arrival in France dummies		✓	✓	✓	✓	✓
Birthplace dummies		✓	✓	✓	✓	✓
Region of residence dummies		✓	✓	✓	✓	✓
Observations	2433	2433	2433	2433	2433	2433
R^2	0.147	0.358	0.428	0.374	0.450	0.511

Note: This table reports results of linear regressions on a dichotomous variable taking the value of 1 if a woman reports being in the labor force or studying. The sample is restricted to Muslim women with no missing covariates. Observations are weighted using the weights provided in the TeO survey. Robust standard errors in parentheses. Level of statistical significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Robustness checks, cross-sectional data

				Other religious groups (placebo)		
	Excl. students (1)	Born in France (2)	Excl. "other" symbols (3)	Muslim men (4)	Excl. Muslims and Catholics (5)	All non-Muslims (6)
Veiling status						
Sometimes discreet	-0.033	0.035	-0.040	0.021	0.017	-0.017
	(0.040)	(0.032)	(0.034)	(0.013)	(0.018)	(0.012)
Always discreet	0.072	0.049	0.058	0.040***	-0.008	-0.022*
	(0.037)	(0.034)	(0.031)	(0.012)	(0.019)	(0.012)
Sometimes conspicuous	-0.063	0.075*	-0.058	-0.050*	0.022	0.012
	(0.044)	(0.036)	(0.037)	(0.029)	(0.068)	(0.044)
Always conspicuous	-0.234***	-0.246***	-0.226***	0.016	0.080	0.066
	(0.031)	(0.052)	(0.030)	(0.078)	(0.154)	(0.141)
Controls	✓	✓	✓	✓	✓	✓
Observations	2,158	1,199	2,427	2,197	1,756	5,744
R^2	0.510	0.411	0.517	0.204	0.245	0.196

Controls included in the regressions are the full set of variables included in Table 2, column (6). In column (1), we exclude students so that the dependent variable becomes labor-market participation. In column (2), the estimation sample is restricted to second-generation immigrant Muslim women (born in France of foreign parents). In column (3), individuals reporting to wear a religious symbol that is neither jewelry, a headcovering, or clothing (symbols labelled as "other") are excluded from the sample. Columns (4) to (6) estimate the same regression on other religious groups. Robust standard errors in parentheses. Level of statistical significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Robustness checks. Overall, the regression results of Table 2 confirm a strong negative association between veiling and economic participation. We further verify the validity of this statement through a series of robustness checks, the results of which are summarized in Table 3. The first three columns correspond to re-estimations of our preferred specification (column 6, Table 2) in different subsamples. The goal of this exercise is to verify that our results are not driven by particular observations or simply capturing something else apart from the potential impact of veiling. The first row excludes students to use a more conventional measure of economic participation, that is, labor-market participation. The second row excludes individuals born outside France, since summary statistics suggested an important difference in immigration status between veiled and non-veiled women. The third row excludes women whose religious symbol is categorized as Other (i.e. neither Clothing, Headcoverings, or Jewelry). Restricting attention to these subsamples yields point estimates for the effect of conspicuous-symbol wearing which are of similar magnitude to those obtained on the complete sample.

Columns four to six of Table 3 re-estimate the same specification, this time on groups other than Muslim women, thus providing a form of placebo test. We find that wearing a religious symbol has no significant association with economic participation for Muslim men, nor for

women and men with different religious affiliations. These results confirm the unique place of the Islamic veil among other religious symbols, as evidenced by the debates mentioned in section 2. Whether it is because of individual preferences, social pressure, legal restrictions on veiling at work, or discrimination, veiling seems to be the only widespread religious symbol which is strongly associated with decreased economic participation.

Panel analysis. We perform another robustness check in order to control for timing effects, in particular in the event that veiled women's employment prospects were differentially affected by the 2008 economic crisis (which coincided with the time of the survey). To investigate this possibility, we use the retrospective panel dataset, where we exclude observations for which individuals report multiple activities as well as periods in which the respondent was out of metropolitan France. This empirical strategy allows us to control for time-varying observables and time fixed effects, to substantially increase the number of observations, as well as to include random effects. For the sake of space, we present this analysis in Appendix A.3. The results overall confirm the findings obtained in the cross-sectional analysis, with the wearing of a conspicuous symbol being associated with a significant decline in economic participation, similar in magnitude to that obtained in the cross-sectional analysis.

4 A model of veiling and labor supply

In the previous section, we have shown that veiling displays a strong negative association with economic participation in France. Our discussion of the literature on veiling from section 2 suggests that such an association can originate from two sources of incentives, namely religious (women who veil are more religious and therefore less likely to engage with an environment they perceive as dangerous) and economic (women who veil face discrimination on the labor market).

In order to structure our empirical analysis of these motives, in this section we model Muslim women's joint decision of economic participation and veiling. This model notably builds on the theory of Carvalho (2013), who considers the veil as a tool available for women to mitigate the socio-religious cost of their integration. We expand on this model by proposing a general analytical framework which remains agnostic as to the reasons why women veil. We then show that this general framework can be specified to accommodate together both religious motives in the spirit of Carvalho (2013), as well as economic motives stemming from anti-veil discrimination on the labor market.

4.1 General model

We consider a static model in which an agent must simultaneously decide on her labor supply and her veiling behavior. For her labor supply, she allocates her total time budget $T = 1$ between time worked, t, and time devoted to leisure, $1-t$. In addition, she chooses what degree of veiling to adopt at work, v_1, and what degree of veiling to adopt during her leisure time, v_0. The flow utility that the agent derives from work and leisure then depends on her degree of veiling in each of these activities. The model remains agnostic about whether veiling has a positive or negative effect on the flow utility of working or leisure. In this way, it is able to account for a wide range of mechanisms linking veiling behaviors and labor supply decisions, from the religious stigma faced by working Muslim women to identity-based discriminations at and outside work.

Formally, the utility that the agent derives from working, u_1, and the utility that she derives from leisure, u_0, take the form

$$u_j(v_j) = a_j + b_j\, v_j - c(v_j). \tag{1}$$

The parameters a_j and b_j are constants which are specific to activity j. They may be positive or negative. The parameter a_j represents the baseline return to activity j when not veiling. It could account for motivations as diverse as, for instance, the agent's baseline wage rate, the religious social pressure that she might face against her working, or how much she appreciates her colleagues.

The parameter b_j represents how veiling affects this baseline return to activity j. This could be a combination of positive effects, such as alleviating the religious stigma faced by working Muslim women (as in Carvalho 2013); and negative ones, such as triggering discriminations or hostile reactions from peers.

Finally, there is an intrinsic cost $c(\cdot)$ to wearing the veil, which is the same across activities j. Following Carvalho (2013), this cost can for instance be interpreted as physical discomfort. We assume that the cost function $c(\cdot)$ is convex, with $c'(0) = 0$ and $\lim_{v \to 1} c'(v) = \infty$.

With this, we can write the complete utility function of the agent:

$$\begin{aligned} U(t, v_1, v_0) &= t\, u_1 + (1-t)\, u_0 - d(t) \\ &= t \big[\underbrace{a_1 + b_1\, v_1 - c(v_1)}_{\text{flow utility from work}} \big] + (1-t) \big[\underbrace{a_0 + b_0\, v_0 - c(v_0)}_{\text{flow utility from leisure}} \big] - d(t). \end{aligned} \tag{2}$$

The component $d(t)$ represents a disutility of working, which we assume is increasing and convex, with $d'(0) = 0$ and $\lim_{t \to 1} d'(t) = \infty$.

4.2 Optimal choices

The problem of the agent is to find the time allocation t and the degrees of veiling v_0 and v_1 which maximize her utility (2). This problem can be solved sequentially. First, the agent determines for each activity the degree of veiling which maximizes her flow utility. Second, she chooses her labor supply based on those optimized flow utilities.

Veiling. Call v_j^* the optimal degree of veiling in activity j. If the agent has negative returns to veiling in activity j, i.e. $b_j \leq 0$, then she has no incentive to veil in that activity and her optimal degree of veiling is $v_j^* = 0$. Otherwise, if $b_j > 0$, then her optimal degree of veiling maximizes the utility (1) that she derives from activity j:

$$c'(v_j^*) = b_j, \tag{3}$$

so that v_j^* is positive, increasing in the agent's return to veiling b_j.

Thus, in this model, differences in veiling behavior between work and leisure time are reflective of different returns to veiling for the agent across these activities. We summarize this result in the following lemma, which will become useful later on.

Lemma 1. The agent veils more at work than during leisure time if and only if $b_1 > b_0$.

We now move on to the labor supply problem. In what follows, we denote by $u_j^* = u_j(v_j^*)$ the indirect utility that the agent derives from activity j.

Labor supply. Call t^* the optimal labor supply. If her indirect utility obtained from working is less than that obtained from her leisure, i.e. $u_1^* \leq u_0^*$, then the agent has no incentive to work and her optimal labor supply is $t^* = 0$. Otherwise, if $u_1^* > u_0^*$, her optimal labor supply t^* solves the first-order condition

$$d'(t^*) = u_1^* - u_0^*, \tag{4}$$

so that t^* is positive, increasing in the indirect utility of working u_1^*, and decreasing in the indirect utility of leisure u_0^*.

In the case whereby the agent has equal returns on veiling for both activities, i.e. $b_1 = b_0$, veiling has no impact on the labor supply decision. Indeed, in this case the agent chooses the same degree of veiling at work and during leisure time: $v_1^* = v_0^*$. Therefore the difference in indirect utilities is simply $u_1^* - u_0^* = a_1 - a_0$, which depends only on the baseline return to each activity. Thus, veiling has an impact on the agent's labor supply decision only if it distorts the returns to work and leisure in distinct ways. In particular, if veiling motives are purely personal and do not interact with the environment, the veiling and labor supply decisions are orthogonal.

4.3 Mechanisms

In this section we provide two concrete examples of theoretical mechanisms which may underpin the relationship between the veiling and labor supply decisions, based on the discussion from section 2. We use these examples to provide micro-foundations to the generic parameters a_j and b_j that we have introduced in our general framework above.

We begin by examining the theoretical mechanism studied by Carvalho (2013), which relates to social norms and expectations. In some communities, women may face social pressure to limit their labor supply in order to conform to gender role expectations and maintain social approval. This social pressure can be amplified for religious women who may themselves feel reluctant to integrate into a work environment they perceive as religiously unsafe. Here, veiling can serve a dual purpose as a self-commitment to religious beliefs and as a signal to their community of their religious intentions. As a result, veiling can help mitigate the social cost of women's employment, making it a useful tool for their economic integration.

Second, we consider a mechanism which relates to the role of discrimination. Veiled women may face discrimination in the workplace due to negative stereotypes or biases held by their employers or colleagues. This discrimination may limit their opportunities for employment or career advancement, and could ultimately lead them to reduce their labor supply. We predict that women with higher wage potential, who face a greater opportunity cost of unemployment or limited career advancement, will incur higher costs associated with veiling.

Religious motives: the Carvalho model. Let us show that the Carvalho model of veiling is a particular case of the framework that we have developed above. In the Carvalho model, the incentive to veil stems from a combination of the individual religiosity of the agent, r, and of the religious social pressure, R. Together, these religious factors determine the penalty that the

agent suffers if she engages in religiously-prohibited behavior. This penalty, equal to $-(r+R)$, is both self- and socially-imposed, reflecting personal regret on the one hand, and social stigma on the other hand. It is steeper if the agent herself has higher religiosity, and if there is more religious social pressure. Note that in this context both r and R can be negative, meaning individual or social approval for religiously-prohibited behavior.

Each activity j, working or leisure,[20] is then characterized by an exogenous risk of engaging in religiously-prohibited behavior, p_j. Crucially, the agent is able to attenuate that risk by veiling. Specifically, if she chooses a degree of veiling v_j, then the probability that she engages in religiously-prohibited behavior becomes $p_j(1-v_j)$. Veiling also entails a cost $c(v_j)$ (e.g. physical discomfort).

Finally, there is a material reward m_j associated with each activity j. As a result, the expected utility that the agent derives from activity j is

$$u_j(v_j) = -p_j(1-v_j)(r+R) - c(v_j) + m_j. \tag{5}$$

This utility function is a particular case of equation (1), which is obtained by taking $a_j = -p_j(r+R) + m_j$ and $b_j = p_j(r+R)$.

In the Carvalho model, the exogenous risk of engaging in religiously-prohibited behavior is assumed to be greater at work than during leisure time: $p_1 > p_0$. This assumption implies that a woman will always choose a higher degree of veiling at work than during leisure time. Indeed, recall that for the agent to veil at all, she must have positive returns to veiling, i.e. $b_j > 0$. For this to hold here, the agent must have $r + R > 0$, and as a consequence $p_1(r+R) > p_0(r+R)$, i.e. $b_1 > b_0$. Thus, according to our lemma 1, a woman will always veil more at work than during leisure time in the Carvalho model.

Regarding the choice of activity, Carvalho considers a discrete choice $j \in \{0, 1\}$. Again this is a particular case of our framework, obtained by ignoring the disutility of working: $d(t) = 0$. Following our analysis of the labor supply decision, the agent will work if her indirect utility from working is greater than that from leisure, $u_1^* > u_0^*$. This happens if and only if the material reward for working m_1 is large enough.

Here Carvalho shows an interesting result, namely that within a range of values of this material reward m_1, (i) low-religiosity women choose to work, (ii) high-religiosity women choose

[20] Carvalho gives a broader interpretation of this decision as a choice between *integration* or *segregation*.

not to work, and (iii) low-religiosity women veil more than high-religiosity ones. This happens provided that the surrounding population approves of the veil, i.e. $R > 0$, because in this case low-religiosity working women choose to attenuate the social penalty associated with working by veiling. Shofia (2020) finds evidence for this pattern of veiling among women in Indonesia.

Economic motives: labor market discrimination against veiling. Our general model above can also account for discrimination against veiling on the labor market. Consider a simple consumption–leisure framework: the agent has quasilinear utility $U(x,t) = x + g(1-t)$ where x is her consumption of a numeraire good and $1-t$ is her leisure (the function $g(\cdot)$ is increasing and concave). Consumption is the only source of spending, so that the budget constraint is $x = w\,t$, where w is the agent's wage rate.

We assume that discrimination against veiling has a direct negative effect on the agent's effective wage. Indeed, such discrimination can typically make it more difficult for women who wear the veil to secure and keep a job or to advance in their career (cf. section 2). This suggests that the financial cost of discrimination may be greater for women with higher earning potential. For example, the opportunity cost of job loss or slower career progression is proportional to one's earning potential.[21] Therefore, we assume that for an agent with wage potential w, the financial cost of adopting the veiling level v is equal to $-wv$. The budget constraint of the agent can then be expressed as $x = w(1-v)t$.

Aside from the financial cost of discriminations, suppose that veiling at work provides a return y to the agent (maybe through the religious incentive mechanism discussed above), and entails a cost $c(v)$. In this case, her utility function is

$$U(t,v) = \big[w + (y-w)v - c(v)\big]\,t - d(t) \tag{6}$$

where $d(t) = -g(1-t)$, so that the function $d(\cdot)$ is increasing and convex. Again, this is a particular case of the utility function (1), obtained by taking $a_1 = w$, $b_1 = y - w$, and $a_0 = b_0 = 0$. This model predicts that women with a higher wage potential w should work more and veil less than those with a lower wage. This result is a direct consequence of veiling having a negative, proportional impact on the agent's effective wage.

[21] That the financial cost of discrimination is higher for higher-paid women does not mean in general that the welfare (utility-related) cost is higher for them (although with a quasilinear utility function this is the case).

The two mechanisms above mostly play in opposite directions. According to the first mechanism, women who are religious or who face religious pressure from their family or community have an incentive to veil at work in order to mitigate the social penalty associated with working. But according to the second mechanism, discrimination at work provides an opposite incentive to unveil at the workplace. In the next section we pool these two motives together in a unified empirical model. We then use data on veiling behaviors and employment of Muslim women to quantify the various effects at hand.

5 Empirical analysis

5.1 Econometric model

Our econometric specification is derived by pooling together the two motives for (un)veiling described in the previous section, religious and economic. To capture these motives, we focus on three main individual characteristics: individual religiosity r_i, the religious social pressure faced by the individual R_i, and earning potential w_i. We obtain a unified expression for the utility that woman i receives by jointly choosing the degree of veiling v and the activity j:

$$u_{ij}(v) = \underbrace{-p_j(1-v)(r_i + R_i)}_{\text{religious motives}} + \underbrace{\mathbf{1}_{\{j=1\}} w_i(1-v)}_{\text{economic motives}} - c(v). \tag{7}$$

Our empirical approach relies on measures of the individual characteristics r_i, R_i, and w_i. We use the data and constructed measures that we described in section 3.2. Regarding individual religiosity, we use our index measure aggregated from six different survey questions, $\mathsf{Religiosity}_i$. Regarding religious social pressure, we use our index measure of vertical pressure, $\mathsf{VertiReligiousPressure}_i$, and two measures of horizontal pressure, $\mathsf{ShareMaghrebi}_i$ (the share of Maghrebi immigrants in the individual's neighborhood) and $\mathsf{MosqueCapacity}_i$ (the local capacity for Muslim worship). Regarding the earning potential, we use measures of both the individual's educational attainment using her years of schooling, $\mathsf{Education}_i$, and her years of professional experience, $\mathsf{Experience}_i$. To summarize, we use the following proxies for the

individual characteristic of woman i:

$$r_i \sim \text{Religiosity}_i \tag{8}$$

$$R_i \sim \text{VertiReligiousPressure}_i + \text{ShareMaghrebi}_i + \text{MosqueCapacity}_i \tag{9}$$

$$w_i \sim \text{Education}_i + \text{Experience}_i. \tag{10}$$

Next, we formulate an econometric model informed by the theory which is based on these variables. We use a multinomial logit model to explain the joint decision of activity and veiling, (j, v), with three levels of veiling $v \in \{0, 1, 2\}$, and two activity statuses $j \in \{0, 1\}$. Adapting equation (7) into an econometric model which uses the proxies described above, the utility for woman i to jointly choose activity j and veiling level v is given by

$$\begin{aligned} u_{ijv} = \alpha_{jv} &+ \beta^1_{jv} \times \text{Religiosity}_i + \beta^2_{jv} \times \text{VertiReligiousPressure}_i \\ &+ \beta^3_{jv} \times \text{ShareMaghrebi}_i + \beta^4_{jv} \times \text{MosqueCapacity}_i \\ &+ \gamma^1_{jv} \times \text{Education}_i + \gamma^2_{jv} \times \text{Experience}_i + X_i' \theta_{jv} + \varepsilon_{ijv}. \end{aligned} \tag{11}$$

Here X_i is a set of individual-level controls, and ε_{ijv} is the unobserved part of the utility. The coefficients β_{jv}, γ_{jv} and θ_{jv} are estimated with respect to a baseline, $(j, v) = (0, 0)$. We assume that the unobserved components of utility ε_{ijv} are distributed i.i.d. Gumbel, giving rise to a standard multinomial logit model in which the probability to choose alternative (j, v) is given by

$$\text{Prob}_{jv} = \frac{\exp u_{jv}}{\sum_{j'v'} \exp u_{j'v'}}. \tag{12}$$

5.2 Implications of the model

According to the model, the religious motives and the economic motives channels have clear implications on the values of parameters to estimate. Table 4 outlines the correspondence between parameters of our estimating equation (11) and the theoretical components of the model.

The correspondence of Table 4 allows us to establish model implications for our empirical parameter estimates. To lay out these implications, in the following we separate our explanatory variables into two categories. The first category of variables are "religiosity variables" – they correspond to the religious motives behind the joint decision of economic participation and

Table 4: Correspondence between estimated parameters and theoretical model

Explanatory variable	Parameter	Proportional to...	Varies with v	Varies with j
Religiosity variables				
$\mathsf{Religiosity}_i$	β^1_{jv}	$-p_j(1-v)$	$+$	$-$
$\mathsf{VertiReligiousPressure}_i$	β^2_{jv}	$-p_j(1-v)$	$+$	$-$
$\mathsf{ShareMaghrebi}_i$	β^3_{jv}	$-p_j(1-v)$	$+$	$-$
$\mathsf{MosqueCapacity}_i$	β^4_{jv}	$-p_j(1-v)$	$+$	$-$
Economic variables				
$\mathsf{Education}_i$	γ^1_{jv}	$\mathbf{1}_{\{j=1\}}(1-v)$	$-$	$+$
$\mathsf{Experience}_i$	γ^2_{jv}	$\mathbf{1}_{\{j=1\}}(1-v)$	$-$	$+$

veiling. These religiosity variables are associated with the β_{jv} parameters: β^1_{jv}, β^2_{jv}, β^3_{jv}, and β^4_{jv}. The second category of variables are "economic variables," and they correspond to economic motives. They are associated with the γ_{jv} parameters: γ^1_{jv} and γ^2_{jv}.

We describe below the empirical implications of the religious and economic motives of the model for our parameter estimates. Note that the same implications apply to β^1_{jv}, β^2_{jv}, β^3_{jv}, and β^4_{jv} on the one hand; and to γ^1_{jv} and γ^2_{jv} on the other hand. Therefore, we drop the superscripts 1, 2, 3 and 4 in the statements below and refer to generic parameters β_{jv} and γ_{jv} instead.

Implication 1. Within activity,

(a) religiosity variables have a milder (negative) impact on utility for women who veil more:

$$\text{at } j \text{ fixed}, \quad \beta_{j0} < \beta_{j1} < \beta_{j2},$$

(b) economic variables have a milder (positive) impact on utility for women who veil more:

$$\text{at } j \text{ fixed}, \quad \gamma_{j0} > \gamma_{j1} > \gamma_{j2}.$$

Implication 2. For a given degree of veiling,

(a) religiosity variables have a stronger (negative) impact on utility for women who participate economically:

$$\text{at } v \text{ fixed}, \quad \beta_{0v} > \beta_{1v},$$

(b) economic variables have a stronger (positive) impact on utility for women who participate economically:

$$\text{at } v \text{ fixed}, \quad \gamma_{0v} < \gamma_{1v}.$$

To interpret these implications of the model, let us focus on the meaning of the parameters to

estimate. For instance, the parameter β^1_{jv} indicates how own religiosity impacts the probability of choosing the alternative (j, v). According to the theory, this impact is negative since religiosity implies more limitations on acceptable behavior and a higher intensity of regret. In magnitude, the impact should be milder for women who veil – this is the purpose of veiling in the Carvalho model – hence β^1_{jv} should be increasing in v (Implication 1a). Furthermore, the impact should be greater for working women – because the work environment is more risky than the home environment – hence β^1_{jv} should be decreasing in j (Implication 2a). Similar predictions apply for β^2_{jv}, β^3_{jv} and β^4_{jv}, which relate to the social religious pressure.

Next, the parameter γ^1_{jv} indicates how education impacts the probability of choosing the alternative (j, v). In the model education plays a role by increasing the working wage. Therefore the impact of education should be lower for women who veil more – they have lower expected wage because of discrimination (Implication 1b); and it should be greater for women who work compared to those who do not (Implication 2b). Similar predictions apply to γ^2_{jv}, which relates to professional experience.

Implications 1 and 2 above focus on veiling and economic participation choices independently. However, our main interest is to understand how veiling and economic participation choices interact, and what are the relevant mechanisms in this interaction. In the model there are two such mechanisms: the religious motives channel, inspired by the Carvalho model; and the economic discrimination channel. Because they relate to the interaction between veiling and economic participation decisions, these mechanisms will be captured by studying the signs of double differences in the parameters β_{jv} and γ_{jv}.

According to the religious motives mechanism, the religious benefits of veiling are greater for women who integrate economically. This is stated formally as follows:

Implication 3: Religious motives channel. The religious returns on utility to increasing one's degree of veiling are larger for women who participate economically, compared to those who don't:

$$\text{for } v < v' \text{ fixed}, \quad \beta_{1v'} - \beta_{1v} > \beta_{0v'} - \beta_{0v}.$$

Finally, according to the economic discrimination mechanism, the economic losses induced by veiling are greater for women who integrate economically. This is stated formally as follows:

Implication 4: Economic discrimination channel. The economic returns to being economically active are smaller for women who veil, compared to those who don't:

$$\text{for } v < v' \text{ fixed}, \quad \gamma_{1v'} - \gamma_{0v'} < \gamma_{1v} - \gamma_{0v}.$$

Having established these empirical implications of the model's different mechanisms, we now turn to the estimation and to testing the model implications 1–4.

5.3 Results

Table 5 presents the results for the estimation of equation (11). Recall that all parameter estimates are relative to the baseline of an inactive woman who never wears religious symbols. This estimation is performed without controls – in Appendix A.4 we perform the same exercise while including controls, and observe that results remain sensibly similar.

The parameter estimates suggest two main findings. To ease interpretation, we focus on the predicted marginal effects (panel B in Table 5). First, individual religiosity is a strong and

Table 5: Determinants of joint employment and veiling decision, multinomial logit.

Activity choice (j)	Inactive ($j=0$)			Active ($j=1$)		
Veiling choice (v)	None (*baseline*)	Discreet (1)	Conspicuous (2)	None (3)	Discreet (4)	Conspicuous (5)
Panel A: Parameter estimates						
Indiv. religiosity (β^1_{jv})	0	**0.78** (0.21)	**2.26** (0.28)	0.17 (0.16)	**1.00** (0.21)	**2.18** (0.34)
Vert. pressure (β^2_{jv})	0	–1.74 (2.97)	1.54$^+$ (0.81)	0.05 (0.69)	0.56 (0.88)	0.96 (0.94)
Horiz. pressure						
ShareMaghrebi$_i$ (β^3_{jv})	0	4.14 (3.23)	0.68 (1.20)	0.18 (0.85)	0.28 (1.01)	2.14 (1.39)
CapacityMosques$_i$ (β^4_{jv})	0	–0.15 (0.12)	**0.10** (0.04)	0.02 (0.02)	–0.03 (0.02)	0.05 (0.03)
Schooling (γ^1_{jv})	0	0.03$^+$ (0.02)	–0.03$^+$ (0.02)	**0.15** (0.02)	**0.15** (0.02)	**0.06** (0.02)
Work experience (γ^2_{jv})	0	–0.11$^+$ (0.07)	–0.06* (0.03)	**0.12** (0.02)	**0.08** (0.02)	**0.06** (0.02)
Panel B: Average marginal effects						
Indiv. religiosity (β^1_{jv})	**–0.09** (0.01)	0.00 (0.01)	**0.13** (0.02)	**–0.17** (0.02)	**0.05** (0.02)	**0.08** (0.02)
Vert. pressure (β^2_{jv})	–0.03 (0.07)	–0.08 (0.12)	0.11* (0.05)	–0.08 (0.11)	0.04 (0.08)	0.03 (0.04)
Horiz. pressure						
ShareMaghrebi$_i$ (β^3_{jv})	–0.08 (0.09)	0.13 (0.14)	–0.00 (0.08)	–0.12 (0.14)	–0.03 (0.09)	0.09 (0.07)
CapacityMosques$_i$ ($\beta^4_{jv} \times 10$)	–0.02 (0.02)	–0.06 (0.05)	**0.08** (0.03)	0.03 (0.04)	–0.05* (0.02)	0.02 (0.01)
Schooling ($\gamma^1_{jv} \times 10$)	**–0.10** (0.01)	**–0.02** (0.01)	**–0.09** (0.01)	**0.18** (0.02)	**0.05** (0.01)	–0.02$^+$ (0.01)
Work experience ($\gamma^2_{jv} \times 10$)	**–0.07** (0.02)	–0.06$^+$ (0.04)	**–0.10** (0.02)	**0.21** (0.02)	0.01 (0.01)	0.01 (0.01)
Observations	2802					
Sampling weights	✓					
Pseudo R^2	0.159					

Note: This table reports estimates of the parameters of the econometric model (11). The baseline category is the choice of inactivity and not wearing any religious symbol. Individual religiosity and vertical religious pressures are measured as indices (with mean zero and variance 1) constructed from multiple proxies available in the TeO data (see Appendix A.1 for details). ShareMaghrebi$_i$ is the proportion of the local population that is of Maghrebi origin. CapacityMosques$_i$ is the estimated capacity in Muslim places of worship in the area of residence. Robust standard errors in parentheses. Point estimates in bold are significant at the 1% level ($p < 0.01$), * $p < 0.05$, $^+$ $p < 0.1$.

significant predictor of changes in veiling behavior, but the same observation does not hold for social pressures. For example, we estimate that a 1 standard deviation increase in individual religiosity decreases the probability of not wearing any religious symbol and being active (resp. inactive) by 17 percentage points (resp. 9 p.p.). On the contrary, it increases the probability of wearing a conspicuous symbol and being active (resp. inactive) by 8 percentage points (resp. 13 p.p.). Social religious pressure (both vertical and horiztonal) is also associated with higher degrees of veiling, although most parameter estimates are not significantly different from 0 at the conventional levels. For instance, a 1 s.d. increase in vertical social pressure is associated with an 11 p.p. increase in the probability of wearing a conspicuous symbol and being inactive, while an extra 10 Muslim worship seats per 1000 inhabitants is associated with an 8 p.p. increase in the same probability. Overall, both the magnitude of the estimates and their significance level suggest that individual religious motives are the strongest predictors of veiling behavior, above (and conditional on) other social religious pressures.

Second, both schooling and work experience substantially increase the probability of being active and decrease the probability of veiling. For instance, 10 additional school years are associated with an 18 p.p. increase (resp. 5 p.p.) in the probability of being active and wearing no symbol (resp. wearing a discrete symbol). Interestingly however, these human capital factors are not associated with an increase in the probability of being active while wearing a conspicuous symbol. This result might suggest that veiling at work offsets the benefits of human capital on economic activity, an expected consequence of the labor-market discrimination channel.

We illustrate these results in Figure 2 by plotting the utility obtained by veiling for an 'average' woman in our sample, according to our estimates.[22] We observe that this average woman has a disincentive to veil overall if she is active, which is a consequence of the economic motives being stronger than the religious ones. On the contrary, an inactive woman has an incentive to veil, because she is less affected by economic motives.

We then compute the same utilities in a counterfactual, Muslim-majority environment in which there is no economic discrimination against wearing the veil at work.[23] In this case, we see that active and inactive women have somewhat equivalent incentives to veil, which sharply

[22] We set the following values for this 'average' Muslim woman: Individual Religiosity: 0.1, Vertical Religious Pressure: 0.1, Local share of Maghrebi immigrants: .10, Muslim worship seats per thousand inhabitants: 2, Schooling: 15 years, Work experience: 4 years. One can compare those values with the summary statistics of Tables A.1 and A.2 to verify that this roughly corresponds to an average Muslim woman in our sample.

[23] To compute this counterfactual, we shut down the economic discrimination channel, and set the share of local Maghrebi immigrants to 0.6 (instead of 0.1) and the number of worship seats to 4 (instead of 2).

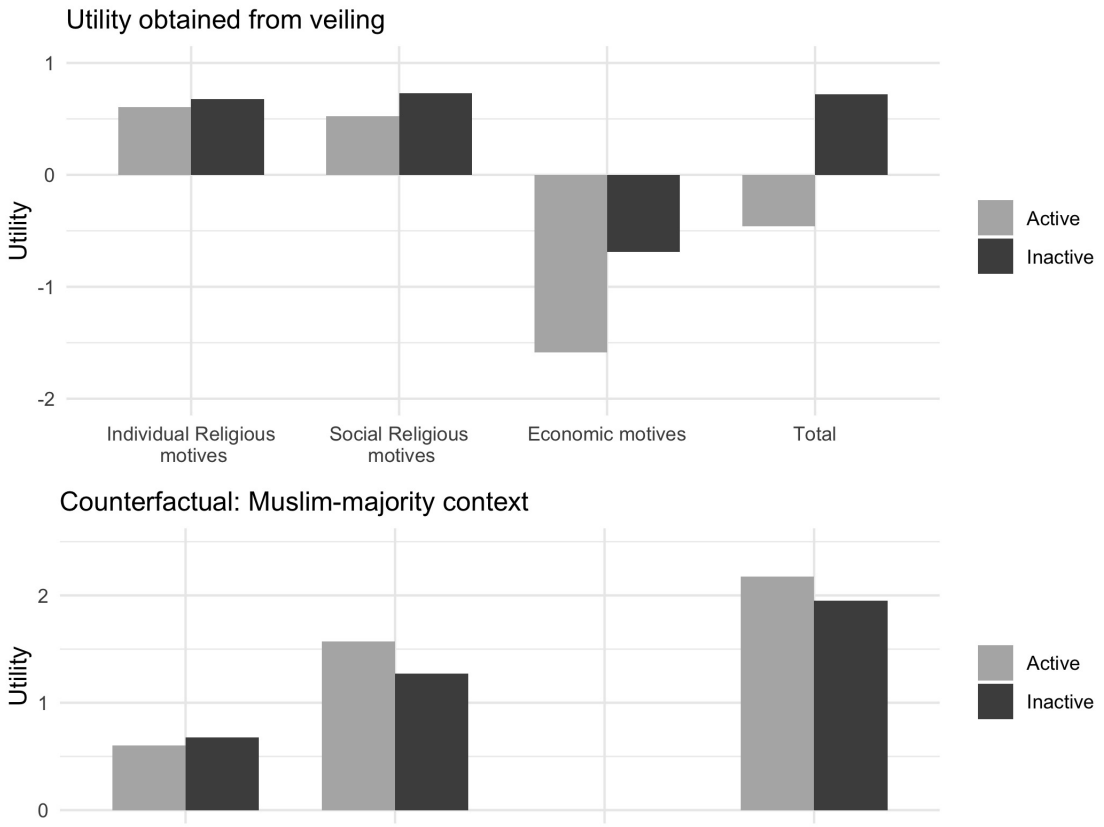


Figure 2: Utility obtained from veiling (i.e. difference of utility between choosing $v = 0$ and $v = 2$) according to the estimates of Table 5, and based on an 'average' woman in our sample (cf. footnote 22). The lower panel is obtained by counterfactual, shutting down the economic discrimination channel and modifying some characteristics of this average woman to reflect a Muslim-majority environment (cf. footnote 23).

contrasts with our findings in the French setting. Active women benefit slightly more from veiling than inactive ones overall, a finding which is consistent with the religious channel of the Carvalho (2013) model and with the evidence from Shofia (2020) on Indonesia, although the difference here is small.

In the rest of this section, we verify these results formally using the tests formulated in Implications 1–4. Detailed results for these tests are available in Appendix A.5.

Baseline implications. Implications 1 and 2 concern the direction of variation for the coefficients β_{jv} and γ_{jv}, respectively with the veiling level v and the activity j. Tests of these implications should indicate whether our joint outcomes react to our predictors in the direction expected by the model.

Implication 1. Our first model implication concerns the relationship of our predictor variables with veiling behavior, within a given economic activity. Consider for instance our measure of individual religiosity. We can see clearly from Table 5 that individual religiosity is associated with an increase in the degree of veiling, both for active and inactive women. Indeed, at activity j fixed, our estimates for β^1_{jv} increase across veiling levels v, indicating that higher measures of individual religiosity are associated with an increased propensity to wear the veil.

To verify this formally, we conduct hypothesis tests of the form $\beta^1_{jv'} - \beta^1_{jv} > 0$ for the different possible combinations of j, v and v' such that $v' > v$. (We present the detailed results in Figure A.1, Appendix A.5.) In this case, we find that Implication 1 holds at the 95% confidence level for all possible combinations of v and v', thus confirming the positive association between individual religiosity and veiling.

We then perform similar tests of Implication 1 for our five other main predictors. Most of our point estimates for the tests associated with the different predictors agree with Implication 1, although several tests do not reach statistical significance. Regarding vertical social pressure, five estimates out of six fall in the predicted region. For our first measure of horizontal pressure, i.e. the percentage of people from Maghrebi origin in the neighborhood, again five out of six point estimates fall in the predicted region. For our second measure of horizontal pressure, i.e. the local number of seats in religious facilities per 1000 inhabitants, four out of six point estimates fall in the predicted region, with two of those being significant at the 95% confidence level. Finally, both for our work experience variable and for our schooling variable, five out of six point estimates fall in the predicted region, with three of those being significantly different from zero.

Furthermore, if we ignore the 'discreet symbols' veiling category for which we have few observations, then our point estimates systematically fall in the half-space predicted by the model, with a majority of the tests yielding statistically significant predictions.

Put together, we interpret these results as providing partial evidence for Implication 1. Although a majority of the tests do not hold at the 95% level, the overall pattern of point estimates falling in the predicted region suggests some validity for the statement of Implication 1. Notably, statistical power might be an issue here, as we observed by discarding the estimates linked to the 'discreet symbols' category, for which we have few observations: doing so decreases the rejection rate for our tests. Overall, the tests of Implication 1 thus confirm that our religiosity variables are broadly associated with an increased propensity to veil, while our

economic variables are associated with a decreased propensity to veil.

Implication 2. Our second implication concerns the relationship of our predictor variables with economic activity, holding the degree of veiling fixed. As we did with Implication 1, we perform tests of Implication 2 for our six main predictors, the results of which are presented in Figure A.2. First, regarding our four religiosity variables, there does not seem to be much support for Implication 2. There is no systematic pattern for point estimates as we observed for Implication 1, and all tests fail at the 95% confidence level. Therefore, we do not find any evidence for our religious variables being associated with an increased or decreased propensity to be economically active.

On the contrary, we find that our economic variables are strongly associated with economic activity. Indeed, Implication 2 holds for both our work experience and schooling variables. This indicates a strong positive association between these economic variables and the propensity to be economically active.

Since we do not find that religiosity variables are strongly associated with the propensity to be economically active, the 'religious motives channel' is already undermined by the tests of Implication 2. This is because this channel predicts that, when holding the degree of veiling constant, women who are more religious or who face more external religious pressure should be less economically active. However, this is not what we find here: our results suggest that the religiosity variables do not have a direct effect on economic participation, but only an indirect one through the practice of veiling. We discuss this further with the test of Implication 3 below.

Mechanisms. We now move on to the tests of Implications 3 and 4, which are more directly related to the two mechanisms that we highlighted above: the religious motives channel, and the economic discrimination channel.

Implication 3. Our third implication can be interpreted as a formal test for the religious motives channel, since it examines whether veiling has higher religious returns for women who are economically active, compared to those who are not. Our results for these tests are presented in Figure A.3. In this case, neither test significance nor point estimates suggest that the formal statement of Implication 3 holds. As such, we do not find evidence for this mechanism.

This result is in line with those of the tests for Implication 2, which already suggested an absence of association between our religious variables and economic participation among

Muslim women. Taken together, these results point towards religious motives having an effect on economic participation only through the practice of veiling. This supports the idea that the negative correlation between veiling and economic participation that we observed in the descriptive analysis may be mostly due to veiling having a cost on the labor market, as opposed to religious women having different preferences from non-religious women regarding economic participation.

Implication 4. Finally, our fourth implication can be interpreted as a formal test for the economic discrimination channel, by examining whether economic participation has higher returns for women who do not veil, compared to those who do. Results are presented in Figure A.4.

Regarding our first economic variable, work experience, we do not find support for the statement of Implication 4: the tests reject the hypothesis at the 95% confidence level, and there is no pattern of point estimates mostly belonging to the predicted region. This is perhaps because, on average, work experience does not substantially differs by veiling status (see Table A.1) since veiled women are older and thus had more time to accumulate experience. However, we find some support in the tests associated with our second economic variable, schooling, which most women in our sample had time to complete. In this case, all point estimates fall within the predicted region. Furthermore, the test which ignores the 'discreet symbols' category suggest statistically significant differences (although those which involve these categories do not hold at this level).

This second result offers support the economic discrimination channel: higher-educated women are less likely to integrate economically if they veil, even if we hold religiosity variables constant. In other words, the utility returns on schooling are lower for women who veil compared to those who do not. We have seen in our discussion of Implication 2 that this seems to be unrelated to an underlying preference towards economic participation linked with individual religiosity or social religious pressures. Therefore, this result seems to support the idea that there is an economic cost to veiling, in the sense that veiled women face weaker economic opportunities than those who do not veil.

To sum up, our results suggest that the interaction between the decision to veil and that of economic participation is mostly driven by economic concerns. First, both religious motives and economic ones play important roles in the decision to veil. Second, while economic motives are

strong drivers of economic participation, the same is not true for religious motives, suggesting that the veil itself (and not underlying religious preferences) is linked to decreased economic participation. Third, non-veiled women seem to enjoy higher economic returns on their education compared to veiled women (holding individual religiosity and social religious pressures fixed), as evidenced by their higher propensity to be economically active.

Overall, those results suggest that the religious mechanism suggested by Carvalho (2013) cannot fully explain veiling and economic participation patterns in France. Instead, the interaction between veiling and the economic incentives to economic participation, such as the discrimination against veiled women on the labor market, seems to play an important role in this context. Furthermore, and of particular importance for the French debate, we note that individual religious motives turn out to be at least as important as communitarian influences in the decision to veil.

6 Conclusion

Theoretical and empirical studies of veiling in economics have so far mainly focused on Muslim-majority countries, perhaps because of the paucity of data on veiling in developed countries. With the rising immigration flows of Muslims to secular countries, getting a better understanding of why women veil is nonetheless crucial as many countries, of which France is maybe the most emblematic, limit the expression of religious faith in public.

In this paper, we tackle this question using rare rich observational data on Muslim women in France. The richness of the data notably allows us to distinguish between private and communitarian incentives to veil. We first document that in France, wearing conspicuous religious symbols is associated with a much lower economic integration for Muslim women. The magnitude of this relationship is large, comparable to having a child less than 4 years old for instance. Second, we find that, among the main incentives for veiling highlighted in the economic literature, the wearing of conspicuous symbols appears to be strongly driven by private religious motivations. Third, we find that the joint decision to veil and being economically active can be mostly explained by economic (dis)incentives. Our results thus suggest that the veiling mechanism proposed by Carvalho (2013) and evidenced in the context of Indonesia by Shofia (2020) may be second-order in a non-Muslim-majority country such as France. Instead, when choosing whether to work and to wear the veil, Muslim women seem to be more sensitive to

incentives related to how veiling impacts their economic opportunities.

Because they underline the role of private religious motives instead of community pressure ones, our results question the rhetoric often used to justify policies restricting the wearing of religious symbols in France. In the media and in political spheres, journalists and politicians almost always defend veiling restrictions on the basis that Muslim women are being forced to veil by their husband and community. If these claims were true, it is believed that secular policies could have the potential to "free" Muslim women from religious pressures and promote gender equality (e.g. Maurin and Navarrete-Hernandez 2023). Actually, even in this case, Carvalho (2013) shows that banning the wearing of the veil in public might lead to *more* segregation because women would lose the ability to signal their piety to their community. However, consistent with existing evidence from qualitative interviews with Muslim women, we find that the main incentives for veiling appear to be private. In other words, Muslim women who veil do so for personal reasons linked to their own beliefs, first and foremost. Therefore, further restricting the wearing of conspicuous religious symbols is likely to lead to even poorer integration of Muslim women if these private benefits are high and discreet symbols are imperfect substitutes. Our complementary analysis of the Turkish case, a country which also imposed secular constraints in the public sphere, is consistent with this argument.

Furthermore, our results call attention to the importance of the discriminations that women who wear the veil face on the labor market. For instance, hiring discriminations against people who signal their Muslim affiliation were already documented by Valfort (2020). Because we find that individual religiosity and other religious factors seem to be associated with the decision to be economically active mainly through the act of veiling, a possible interpretation is that women who veil are less economically active not because of underlying preferences linked with their religiosity, but rather because the veil represents an obstacle to economic participation.

Our empirical approach in this paper is descriptive and should not be interpreted as causal. Still, our results suggest that veiling in France entails significant costs to economic integration, is driven by private incentives before social ones. Given the importance of better integrating Muslim populations in developed countries, future work could provide more robust assessments of the patterns uncovered in this paper. For example, if larger databases on Muslim women become available, one could evaluate the effect of external shocks to the local religious composition, such as exogenous migration waves, on veiling patterns. We finally note that data limitations inherent to studies of this type call for more initiatives like the TeO survey to better document

the experiences of minority populations in a context of increasing global migrations.

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Online Appendix

A Data and additional results

A.1 Measurement of individual religiosity and communitarian pressures

The TeO dataset contains rich information on respondents' religious life. We first describe the variables we use to proxy for individual religiosity, vertical religious influence (from parents), and horizontal pressures (from Muslim peers). We then detail how we combine those multiple measures into meaningful indices through a measurement system.

Individual religiosity. In TeO1, we measure individual religiosity using survey questions on the frequency of attendance of religious ceremonies, the self-reported importance of religion in the respondent's life, whether she uses her religion to self-identify, the respect of religious dietary restrictions, and religious marriage. In TeO2, an additional variable is available, that is, the frequency of praying. We list details of these variables below:

Variable name	Values	Question	Type
attendance of religious ceremonies	never; for familial ceremonies only; for religious feasts only; one or twice a month; weekly	"How often do you attend religious ceremonies?"	ordinal
importance of religion in respondent's life	no importance; a little; quite important; very important	"What importance do you give to religion in your life today?"	ordinal
uses religion to self-identify	yes; no	"Among the following characteristics, which ones define you best? [...] Your religion?"	indicator
respect of dietary restrictions	never; sometimes; always; none (coded as a dummy if "always")	"In your daily life, do you respect your religion's dietary restrictions?"	indicator
religious marriage	yes; no	"Did you and your husband do a religious wedding?"	indicator

Vertical religious pressure. We measure vertical religious pressures using two variables, namely the self-reported importance of religion in the respondent's education and religious name-giving.

Variable name	Values	Question	Type
importance of religion in education	no importance; a little important; quite important; very important	"What importance did religion have in the education you received in your family?"	ordinal
religious first name	yes; no	constructed by authors using respondent's first name	indicator

Horizontal religious pressure. We measure horizontal religious pressures (from Muslim peers) using two variables, namely the share of Maghrebi immigrants in the respondent's neighborhood (IRIS) and the local capacity in Muslim places of worship. In TeO1, the share of Maghrebi immigrants is reported in deciles of the distribution across France. We select the middle point of each bin, except for the extremes – zero or above 40%, where we set the value of the variable to 0 and 0.4 respectively. Our second proxy of local Muslim presence is the estimated capacity (by the Muslim association who produced the inventory) in Muslim places of worship at the local level. In TeO1, this is measured at the *commune* (municipal) level of residence for all French cities except Paris, Lyon, and Marseille, for which we observe the *arrondissement*.

Measurement system. For the first two concepts above, since there is no natural way to combine the ordinal and indicator variables into meaningful indices, we formulate a measurement system. We are interested in two latent variables, *individual religiosity* and *vertical religious pressure*, which we assume load into their respective proxies listed above. We interpret those proxies as noisy measures of the associated unobserved, underlying concept. Denote by Z and W the vectors of proxies for individual religiosity and for vertical pressure respectively. We assume ordinal relationships between measures $\{Z, W\}$ and underlying factors $\text{IndivReligiosity}_i$ and VertPressure_i:

$$Z_{i,j} = \mu^z_{1,j} + \lambda^z_j \, \text{IndivReligiosity}_i + \varepsilon^z_{i,j} \tag{13}$$

$$W_{i,j} = \mu^w_j + \lambda^w_j \, \text{VertPressure}_i + \varepsilon^w_{i,j} \tag{14}$$

where ε are measurement errors assumed to be i.i.d. and to follow a logistic distribution. As the latent factors do not have a natural scale or location, to simplify interpretations, we normalize the means of $\text{IndivReligiosity}_i$ and VertPressure_i to zero, and their variances to one. We then predict the latent factors for each individual by calculating their empirical Bayes means (Skrondal and Rabe-Hesketh 2009).

A.2 Summary statistics (TeO)

We present some novel summary statistics of Muslim women by veiling status in Table A.1. We distinguish between four categories for the wearing of religious symbols, which depend on (1) whether the symbol is "discreet" or "conspicuous", and (2) whether it is worn "sometimes" or "always". Since there is very little variation in the number of symbols worn (most women report

only wearing one), we do not use that information and focus on the extensive margin. Along with the outside option of not wearing any symbol, we thus compare five veiling levels. In terms of the theoretical model, we interpret the veiling level (v) as being increasing in the following order: no symbol ($v = 0$), sometimes worn, and always worn. Overall, Muslim women wearing conspicuous religious symbols differ from other Muslim women in many respects. For example, they are on average older, have more children, and are more likely to live in a couple. Moreover, while most Muslim women wearing a discreet symbol are second-generation immigrants, the vast majority of women who wear a conspicuous symbol are first-generation immigrants. In line with a potential learning of the French social norms by women wearing discreet signs compared to those wearing the veil, the former are more likely to report being discriminated against for non-religious reasons, not to trust the French institutions, and to believe that racism is widespread in France.

In Table A.1, we report summary statistics of all religion-related variables by veiling status. As expected, as we move toward "higher" veiling status, individuals report higher degrees of religiosity and live in more religious environments. For example, 79% of women who always wear conspicuous symbols report that religion is very important in their life, while less than half of women not wearing a religious symbol do so. Women wearing discreet symbols appear to be moderately religious, but still report higher degrees of religiosity than women without any symbol. Women who wear conspicuous symbols also seem to live in more religious environments: they are more likely to have a Muslim partner and to report that most of their friends are Muslims. Moreover, they live in communes (and neighborhoods) populated by a larger Muslim community (proxied by Maghrebi immigrants and Muslim places of worship). Veiled women also seem to be subject to stronger parental religious pressures. They are significantly more likely to report that religion was very important in their education and to be given a religious first name. In short, all of the core potential mechanisms mentioned so far display some association with veiling behavior in the expected directions (see Table 4).

The main fact that motivates the first part of our analysis is that women wearing religious symbols, in particular those who always do so, have much poorer labor-market and schooling outcomes than the rest of the sample. Indeed, women who always wear conspicuous religious symbols are much less economically active on average. Our measure of economic activity is the activity rate, that is, whether the woman is either working, studying, or looking for a job (unemployed) at the time of the survey. While less than 20% of women not wearing conspicuous

signs are inactive at the time of the interview, this proportion increases to 30% for women who sometimes wear a conspicuous symbol and up to 64% for women who always do. Moreover, while 20% of women not wearing a symbol report having never worked in their life, almost half of women who always veil indicate having never entered the labor force. In terms of schooling outcomes, Muslim women who wear a conspicuous symbol are less likely to have any schooling degree. They have completed, on average, 2 to 7 fewer years of schooling than Muslim women who wear discreet symbols or none. Overall, the data suggests that wearing the veil seems to be strongly associated with a decline in economic integration, but this correlation may be due to many other factors over which veiled women differ from other Muslim women. We therefore provide a more thorough regression analysis of this pattern in our empirical approach.

A.3 Analysis of panel data

Exploiting the respondents' employment history available in the TeO data, we construct a retrospective panel dataset of economic activity to test the robustness of our results to the timing of the survey. We restrict the sample to adults, meaning that we remove observations for which an individual is aged less than 18 years old. This sample selection is made because it can be plausibly assumed that the veiling decision, on average, is made before adulthood.[24] We estimate random effects models using this data and report results in Table A.3. In column (1), we regress the activity rate on veiling status and year fixed effects. In columns (2) and (3), we include, in turn, time-varying observables and time-invariant controls. The time-invariant controls are all covariates and dummies included in the cross-sectional analysis that are not likely to have changed over time (at least after age 18). These include the mother's and father's religion (Muslim or other), whether the individual has an Arabic-sounding name, attendance of religious ceremonies (proxy for religiosity), self-reported feelings of French identity, the importance of religion in the respondent's education, birthplace dummies, and a set of survey fixed effects. In these regressions, we cluster standard errors at the individual level to account for serial correlation. However, we cannot include individual fixed effects because we do not have panel data on veiling. We thus implicitly assume that the veiling decision is permanent, which we argue

[24] In the case of the Islamic veil, ethnographic evidence shows that the decision is usually made between the age of reaching puberty and around 20 years old (Gaspard and Khosrokhavar 1995). According to Islamic prescriptions, girls are supposed to dress modestly (including covering their hair) when reaching puberty so as to reduce men's temptation. In reality, in France, many adolescents or young women choose to veil a few years after reaching puberty, that is, around adulthood. We also verify that our results are not sensitive to the 18 years old threshold. In a robustness check, we restrict the sample to individuals aged at least 25 years old and find similar results.

Table A.1: Summary statistics by veiling status, Muslim women

Veiling status:	No symbol	Sometimes discreet	Always discreet	Sometimes consp.	Always consp.	Diff (C-D)
Demographics						
Age in 2008	35.55	28.40	25.06	35.94	36.00	8.62***
First-gen. immigrant	0.61	0.24	0.51	0.68	0.78	
Second-gen. immigrant	0.39	0.66	0.49	0.32	0.22	-0.46***
Number of children	1.78	1.11	0.63	2.26	2.79	1.88***
Lives in a couple	0.59	0.49	0.48	0.68	0.74	0.34***
Not a French speaker	0.07	0.02	0.01	0.14	0.32	0.26***
Labour-force status in 2008						
Employed	0.54	0.43	0.36	0.44	0.22	-0.17***
Unemployed	0.18	0.23	0.27	0.12	0.09	-0.10***
Inactive	0.19	0.15	0.24	0.30	0.65	0.44***
Student	0.09	0.20	0.13	0.14	0.03	-0.15***
Has never worked	0.19	0.29	0.48	0.31	0.50	0.16***
Schooling attainment and work experience						
Completed high school	0.78	0.85	0.58	0.68	0.61	-0.22***
Higher education degree	0.22	0.24	0.10	0.20	0.19	-0.06**
Years of schooling	15.30	17.41	15.69	12.86	11.11	-6.09***
Years of work experience	7.06	3.93	3.44	5.75	2.66	-0.61*
Social life and integration						
Participates in household's food shopping	0.49	0.39	0.34	0.59	0.69	0.30***
Often meets her family	0.89	0.89	0.89	0.89	0.93	0.03
Often meets her friends	0.88	0.90	0.94	0.87	0.90	-0.03
Meets with neighbors	0.41	0.45	0.50	0.52	0.62	0.13***
Meets with work colleagues[1]	0.32	0.36	0.33	0.22	0.11	-0.11**
Visits some recreation sites	0.67	0.78	0.76	0.53	0.42	-0.32***
Refuses to visit some recreation sites	0.09	0.12	0.15	0.06	0.04	-0.08***
Belongs to an association	0.17	0.18	0.21	0.18	0.12	-0.07**
Brings the children to school most of the time[1]	0.78	0.88	0.78	0.83	0.82	-0.02
Opinions on discrimination and French institutions						
Victim of racism due to religion	0.36	0.50	0.56	0.51	0.66	0.09***
Victim of racism due to origins	0.79	0.84	0.84	0.83	0.75	-0.07**
Victim of discrimination in past 5 years	0.28	0.41	0.34	0.40	0.28	-0.07**
Believes that racism happens often in France	0.49	0.60	0.68	0.45	0.38	-0.25***
Does not trust the French justice system	0.23	0.28	0.32	0.20	0.20	-0.10***
Does not trust the French police	0.29	0.40	0.50	0.28	0.25	-0.19***
Does not trust the French school	0.07	0.10	0.15	0.07	0.06	-0.06***
ID controlled by the police at least once	0.18	0.28	0.31	0.28	0.12	-0.14***
Observations	2,017	166	151	148	516	

Note: The data source is the Trajectories and Origins (TeO) dataset of 2008. Veiling status is measured using the respondents' answers to the wearing of religious symbols. We distinguish four categories depending on (1) whether the symbol is "discreet" or "conspicuous", and (2) whether it is worn "sometimes" or "always". In the last column, we report differences in means between individuals wearing conspicuous and those wearing discreet symbols where we pooled individuals along the first dimension (salience) as well as significance levels of those differences. Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[1] Meeting with work colleagues is conditional on employment and bringing children to school is conditional on having children. Thus, these variables are measured over restricted samples.

Table A.2: Religious environment and religiosity by veiling status, Muslim women

Veiling status:	No symbol	Sometimes discreet	Always discreet	Sometimes consp.	Always consp.	Diff (C-D)
Religious environment						
Muslim partner	0.56	0.49	0.53	0.74	0.76	0.33***
Muslim father	0.94	0.95	0.68	0.96	0.98	0.05***
Muslim mother	0.94	0.95	0.75	0.99	0.97	0.06***
At least half of friends are Muslims	0.719	0.783	0.675	0.838	0.919	0.17***
At least half of work colleagues are immigrants[1]	0.43	0.37	0.42	0.46	0.55	0.14**
Had conflicts on religion with parents when 18 years old	0.15	0.17	0.19	0.07	0.11	-0.04*
Individual religiosity						
Importance of religion in one's life						
A little important	0.18	0.11	0.05	0.04	0.04	-0.06***
Quite important	0.31	0.30	0.29	0.33	0.15	-0.14***
Very important	0.47	0.58	0.64	0.63	0.81	0.20***
Attends religious ceremonies						
Familial ceremonies only	0.290	0.329	0.247	0.284	0.198	-0.07**
Religious feasts only	0.216	0.348	0.273	0.372	0.283	-0.01
Once or twice a month	0.036	0.061	0.047	0.088	0.099	0.05***
At least once a week	0.027	0.006	0.047	0.088	0.155	0.11***
Other indicators of religiosity						
Always respects the religious dietary restrictions	0.826	0.898	0.901	0.946	0.975	0.07***
Religious marriage	0.390	0.307	0.298	0.527	0.657	0.33***
Share of children with a religious first name[1]	0.030	0.013	0.096	0.172	0.186	0.06***
Uses her religion to self-identify	0.13	0.21	0.12	0.25	0.22	0.05*
Parental influence and communitarian religious presence						
Religious first name	0.09	0.08	0.04	0.18	0.13	0.05***
Local Front National vote share	0.098	0.100	0.099	0.102	0.106	0.005***
Importance of religion in education received						
A little important	0.173	0.115	0.139	0.068	0.074	-0.06***
Quite important	0.303	0.265	0.231	0.225	0.198	-0.05
Very important	0.468	0.566	0.543	0.674	0.708	0.14***
Percentage of Maghrebi immigrants in IRIS of residence						
(5.9%, 10.7%]	0.086	0.066	0.093	0.095	0.045	-0.02
(10.7%, 16.7%]	0.150	0.199	0.166	0.088	0.130	-0.06***
(16.7%, 27.3%]	0.289	0.295	0.265	0.304	0.275	0.00
More than 27.3%	0.418	0.398	0.417	0.473	0.510	0.09***
Presence of Muslim places of worship in commune (or arrond.)						
Places of worship (/1000 inh.)	0.053	0.047	0.050	0.055	0.069	0.01***
Capacity in a place of worship (/1000 inh.)	12.249	8.882	11.498	12.582	17.243	5.42***
Capacity for women in a place of worship (/1000 inh.)	2.061	1.600	2.197	2.041	3.095	0.94***
Observations	2,017	166	151	148	516	

Note: The data source is the Trajectories and Origins (TeO) dataset of 2008. Veiling status is measured using the respondents' answers to the wearing of religious symbols. We distinguish four categories depending on whether (1) the symbol is "discreet" or "conspicuous", and (2) it is worn "sometimes" or "always". In the last column, we report differences in means between individuals wearing conspicuous and those wearing discreet symbols where we pooled individuals along the first dimension (salience) as well as significance levels of those differences. Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[1] The composition of work colleagues is conditional on employment and names of the respondents' children is conditional on having children. Thus, these variables are measured over restricted samples.

is a reasonable assumption because "unveiling" is a relatively rare phenomenon in France.[25]

The results from these regressions overall confirm the findings obtained in the cross-sectional analysis. Indeed, the wearing of a conspicuous symbol is associated with a significant decline in economic participation. Once more, the estimated effect is much stronger when the individual always wears the symbol. The estimates are smaller in magnitude then those obtained in the cross-section, but are still statistically and economically significant. The results indicate that women who always veil are 20 percentage points less likely to be active than women not wearing any religious symbol in a given year. Other important determinants of the activity rate, as expected, are the number of young children, marital status, and the number of years of schooling. These results suggest that those obtained in section 3.3.3 are not merely due to the timing of the survey and portray a more general phenomenon about Muslim women in France.

[25]Two surveys conducted over (rather small) representative samples of the French Muslim population suggest that between 8 and 10 percent of women of Muslim faith declare having worn the veil in the past and are no longer doing so (IFOP 2019, Institut Montaigne 2016). Out of the total number of women not currently wearing the veil, this figure represents between 12.3% and 14.7%. Since here, we have both untreated individuals to which we assign treatment and treated individuals whom we assign to the untreated group, it is not clear in which direction this measurement error biases our estimates. In light of those issues, we treat this analysis simply as a robustness check of our main results obtained in the cross-section.

Table A.3: Effect of veiling on economic participation of adult Muslim women, retrospective panel data

Dep. variable: activity dummy	(1)	(2)	(3)	25 y.o. +
Veiling status				
Sometimes discrete	0.102***	0.002	0.006	-0.013
	(0.026)	(0.020)	(0.020)	(0.038)
Always discrete	0.077*	-0.031	-0.024	-0.050
	(0.030)	(0.021)	(0.021)	(0.039)
Sometimes conspicuous	-0.120***	-0.052*	-0.039	-0.046
	(0.035)	(0.026)	(0.026)	(0.036)
Always conspicuous	-0.365***	-0.216***	-0.176***	-0.203***
	(0.020)	(0.017)	(0.017)	(0.023)
Educational attainment				
Years of schooling in France		0.012***	0.010***	0.009***
		(0.001)	(0.001)	(0.001)
Years of schooling abroad		0.001	0.001	0.000
		(0.001)	(0.001)	(0.001)
Time-varying demographics				
Age		-0.010*	-0.008	0.020*
		(0.004)	(0.005)	(0.008)
Age squared		0.000	0.000	-0.000**
		(0.000)	(0.000)	(0.000)
Number of children		-0.007	-0.007	-0.022***
		(0.005)	(0.005)	(0.006)
Number of children below age 4		-0.089***	-0.089***	-0.066***
		(0.006)	(0.006)	(0.007)
Married		-0.147***	-0.139***	-0.068***
		(0.014)	(0.014)	(0.019)
Constant	0.629***	0.756***	0.928***	0.484*
	(0.019)	(0.074)	(0.108)	(0.234)
Time-invariant controls	N	N	Y	Y
Year fixed effects	Y	Y	Y	Y
Number of individuals	2,790	2,790	2,790	2,053
Total observations (N X Years)	37680	37680	37680	25354
R^2	0.124	0.394	0.405	0.345

This table shows the results of random-effects regression models of the economic activity dummy on the veiling status and other covariates in the retrospective panel dataset. Standard errors clustered at the individual level in parentheses. The estimation sample is restricted to adult Muslim women with no missing covariates and to time periods during which the individual was in France. In the last column, we estimate the specification in column (3) on the restricted sample of individuals aged at least 25 years old. Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A.4 Multi-logit regressions with controls

In Table A.4 we present results similar to those of Table 5, but including additional controls.

Table A.4: Determinants of joint employment and veiling decision, multinomial logit.

Activity choice (j)	Inactive ($j=0$)			Active ($j=1$)		
Veiling choice (v)	None (*baseline*)	Discreet (1)	Conspicuous (2)	None (3)	Discreet (4)	Conspicuous (5)
Indiv. religiosity (β^1_{jv})	0	0.42* (0.24)	2.13*** (0.26)	0.19 (0.18)	1.06*** (0.22)	2.19*** (0.35)
Vert. pressure (β^2_{jv})	0	-0.39 (1.44)	1.84** (0.83)	0.61 (0.75)	1.61* (0.96)	1.66* (0.97)
Horiz. pressure						
ShareMaghrebi$_i$ (β^3_{jv})	0	3.59* (2.12)	0.85 (1.13)	0.01 (0.89)	0.08 (1.04)	2.35 (1.53)
CapacityMosques$_i$ (β^4_{jv})	0	-0.12* (0.07)	0.10*** (0.03)	0.01 (0.03)	-0.05* (0.03)	0.04 (0.03)
Schooling (γ^1_{jv})	0	-0.03 (0.03)	-0.05** (0.02)	0.07*** (0.02)	0.03 (0.03)	-0.02 (0.02)
Work experience (γ^2_{jv})	0	-0.09* (0.05)	-0.04 (0.03)	0.17*** (0.02)	0.17*** (0.03)	0.11*** (0.03)
Observations	2802					
Sampling weights	✓					
Additional controls[1]	✓					
Pseudo R^2	0.216					

Note: This table reports estimates of the parameters of the econometric model (11). The baseline category is the choice of inactivity and not wearing any religious symbol. Individual religiosity and vertical religious pressures are measured as indices (with mean zero and variance 1) constructed from multiple proxies available in the TeO data (see Appendix A.1 for details). ShareMaghrebi$_i$ is the proportion of the local population that is of Maghrebi origin. CapacityMosques$_i$ is the estimated capacity in Muslim places of worship in the area of residence. Robust standard errors in parentheses. Level of statistical significance : * $p<0.1$, ** $p<0.05$, *** $p<0.01$.
[1] Additional controls include age, age squared, marital status (a dummy for having a partner), a dummy equal to one if the partner is working, immigration status and a set of dummy variables for quintiles of the local (neighborhood-level) unemployment rate of immigrants.

A.5 Plots for the tests of the four implications

In Figures A.1 to A.4 we present the results of the tests of Implications 1–4, respectively.

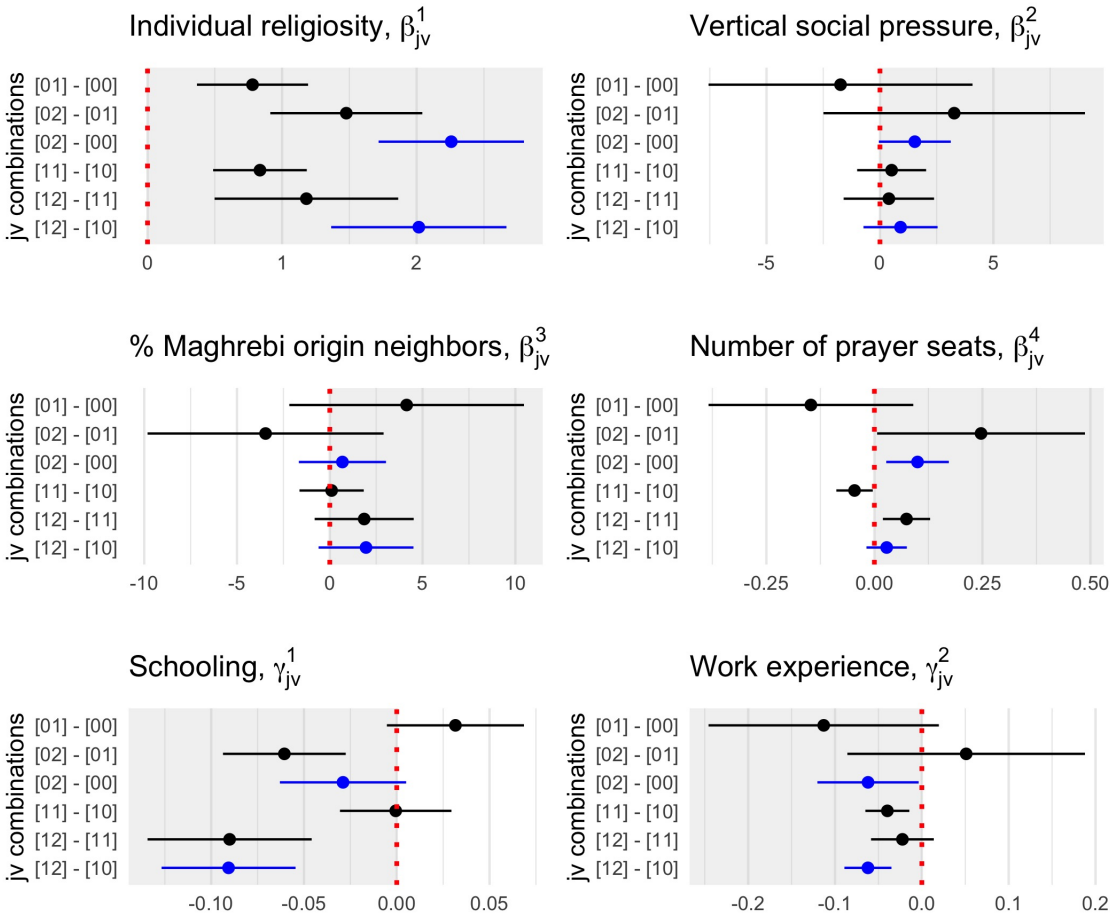

Figure A.1: Hypothesis tests for Implication 1. Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (e.g. the first line of the top-left graph plots the estimate for $\beta^1_{01} - \beta^1_{00}$). In blue: combinations which compare conspicuous symbol-wearing with no symbol-wearing. In black: combinations which include intermediate comparisons with discrete symbol-wearing. 95% confidence intervals are reported.

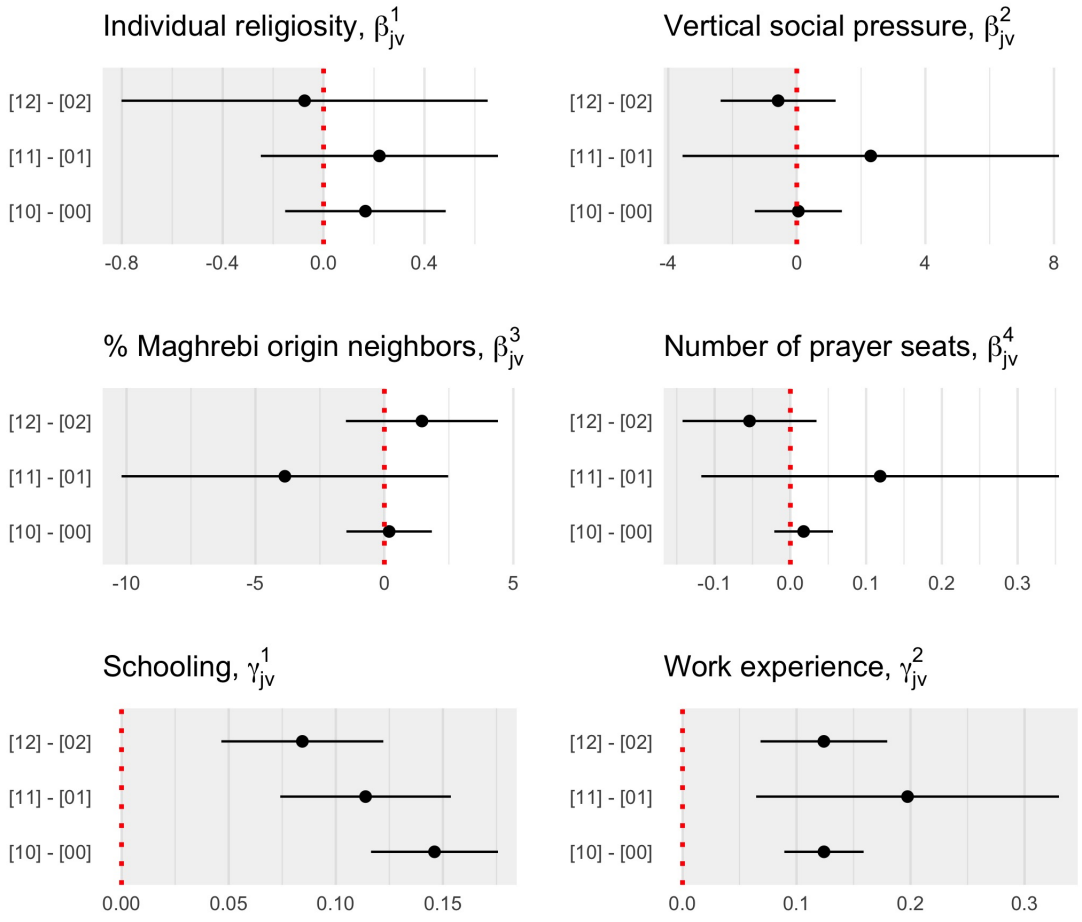

Figure A.2: Hypothesis tests for Implication 2. Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (e.g. the first line of the top-left graph plots the estimate for $\beta^1_{12} - \beta^1_{02}$). 95% confidence intervals are reported.

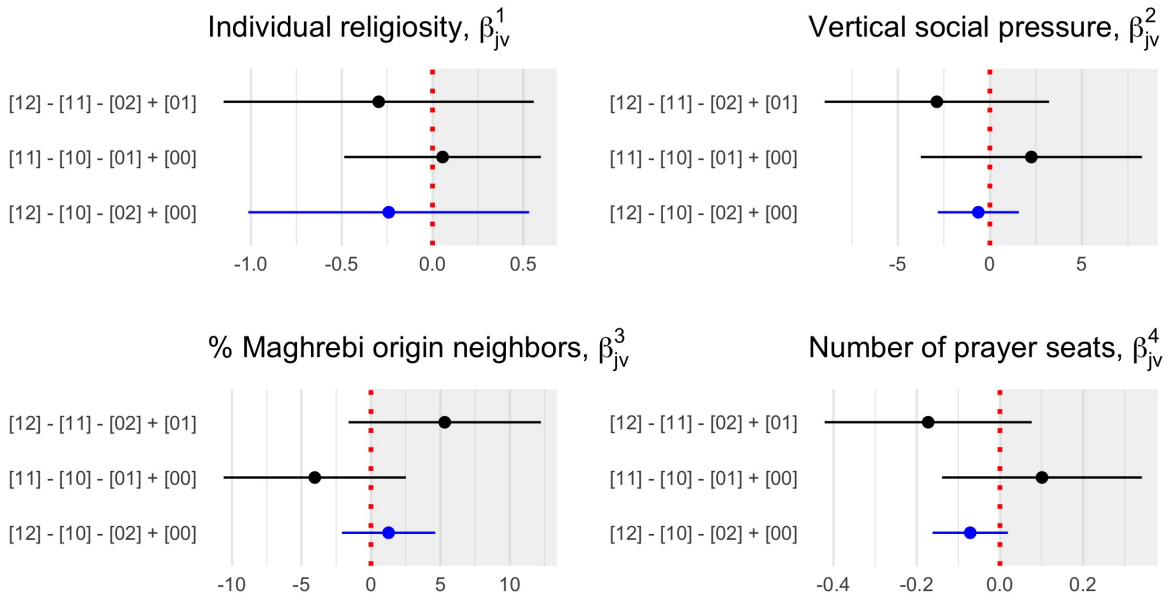

Figure A.3: Hypothesis tests for Implication 3: Religious motives channel. Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (e.g. the first line of the top-left graph plots the estimate for $\beta^1_{12} - \beta^1_{11} - \beta^1_{02} + \beta^1_{01}$). In blue: combinations which compare conspicuous symbol-wearing with no symbol-wearing. In black: combinations which include intermediate comparisons with discrete symbol-wearing. 95% confidence intervals are reported.

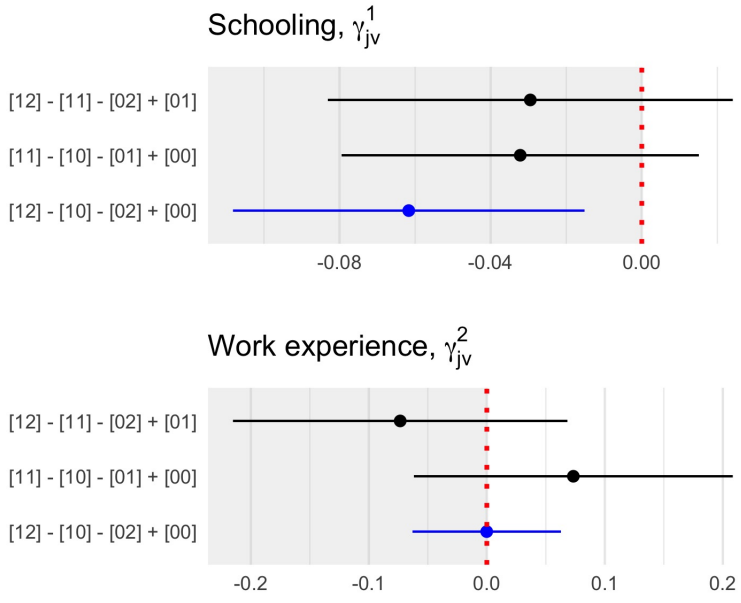

Figure A.4: Hypothesis tests for Implication 4: Economic discrimination channel. Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (e.g. the first line of the top-left graph plots the estimate for $\beta^1_{12} - \beta^1_{11} - \beta^1_{02} + \beta^1_{01}$). In blue: combinations which compare conspicuous symbol-wearing with no symbol-wearing. In black: combinations which include intermediate comparisons with discrete symbol-wearing. 95% confidence intervals are reported.

B Veiling and economic outcomes in Turkey

In this Appendix, we explore the relationship between veiling and economic outcomes in Turkey and compare it to what we obtained for France and to that found by Shofia (2020) for Indonesia. Turkey is an interesting context to study veiling patterns since "it has long been considered a unique case of successful modernization through secularization" (Platteau 2017, p.355). Between the proclamation of the Turkish Republic, in October 1923, and the rise of the pro-Islamic conservative Justice and Development Party (AKP) to power in the early 2000s, the country was ruled by secular governments. The founders of the Republic implemented a top-down nationalist modernization project to "Westernize" Turkey. A major aspect of the multiple reforms adopted over the following decades was their secular nature as the government wanted to build a national identity that would subordinate the religious one (Sakalli 2019). Inspired by French State secularization, reforms ranging from the abolishment of the Caliphate to the adoption of Western dress codes profoundly changed the Turks' religious life. The series of secular legislation included veil bans in the public sphere. The 1982 Turkish constitution regulates veiling for civil servants, requiring women to uncover their head while on duty. The ban on headscarves was then extended to all universities in Turkey in 1997. Those regulations stayed in effect until they were gradually repealed by AKP: in 2010 for university campuses; in 2013 for state institutions; in 2014 for high schools; in 2016 for policewomen; and in 2017 for female army officers (Corekcioglu 2021).

Given that, despite the secular modernization of Turkey, Islam is by far the most prominent religion in the country, we see Turkey as an intermediate case between France and Indonesia in our theoretical framework. Similar to France, women face legal disincentives to veil in public. However, like Indonesia, Turkey is a Muslim-majority country. Therefore, we would expect the correlation between veiling and economic outcomes in Turkey to mirror those differences. Specifically, we expect the correlation between veiling and economic participation to be *negative*, but lower in magnitude than what we see in France because most of the Turkish society is religious.

To study the patterns of veiling and economic participation, we use Turkish data compiled from multiple sources by Livny (2020).[26] Importantly, these data contain information on veiling practices in Turkey, which is available at the district level. We collapse the different types of veils (turban, hijab, and burka) so as to obtain a single measure of veiling rate in each district.

[26]The data are publicly available on Avital Livny's website (https://www.alivny.com/data).

For economic outcomes, so as to harmonize those variables with our measures of veiling that span the years 2010 to 2015, we take the average of the outcomes in the district (province for GDP per capita) over the same time period. In Figure B.1, we plot the relationship between the veiling rate and four measures of economic participation (female primary and secondary school completion, the female literacy rate, and GDP per capita) along with a quadratic fit.[27] For all of the outcomes we observe a negative association, suggesting that, in Turkey as in France, the veil might not act as an integration strategy. Interestingly, these negative relationships appear to be linear as most of the (small) curvature is driven by regions of the veiling-rate distribution with low mass (i.e. districts with low veiling rates).

We take these results as further suggestive evidence in line with the theory. The wearing of the veil was frowned upon by the secular elite before the bans were repealed, thus imposing a high cost to women when they veil and are economically active. Actually, as Platteau (2017) argues, the rise of an Islamist party to power reinforced the laicists' attachment to the secular values. Islamic identity signs, such as the veil, were sometimes also seen as manifesting a political identity in the public sphere in an increasingly polarized political context. Thus, even if Turkey is a Muslim-majority country, we find that the positive correlation documented by Shofia (2020) in Indonesia does not hold in this data. This suggests that her results regarding veiling behavior and economic participation are context-specific. Viewed through the lens of our theoretical framework, such a correlation can hold in Indonesia only because of two concomitant factors: (1) Indonesia is a Muslim-majority country, and (2) the veil is not subject to social or legal disapproval.

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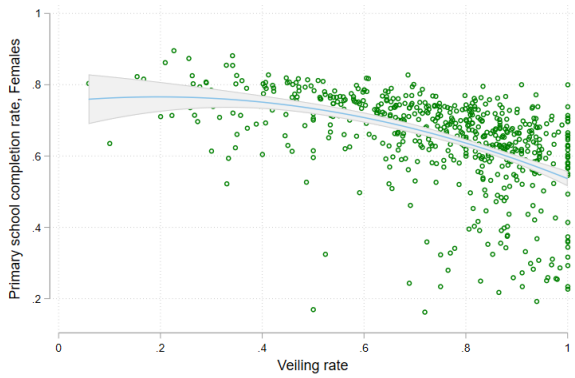
[27] For robustness, we also checked whether this relationship could be driven by religiosity of the district. We produced similar plots in which we control for religiosity and find very similar conclusions. Results are available upon request.

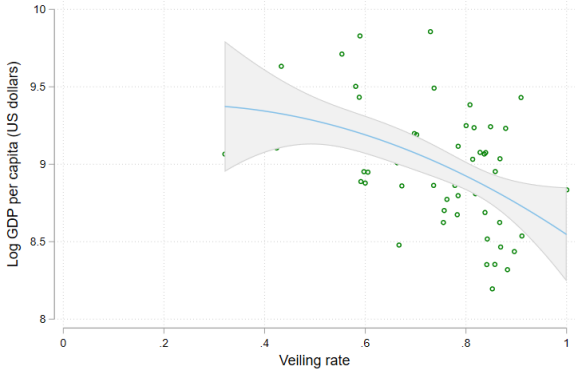
Figure B.1: Relationship between veiling and economic outcomes at district level, Turkey 2010–2015



(a) Primary school completion

(b) Secondary school completion

(c) Literacy



(d) GDP per capita

Note: The data source is Livny (2020). These figures plot the relationship between the veiling rate in a district in 2010–2015 and the average of an economic outcome in that district over the same period, along with a quadratic fit and 95% confidence bands. For GDP per capita, the dependent variable is measured at the province level.

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