UNIVERSITY OF WARWICK

Economics

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July 2026
No: 1618

ISSN 2059-4283 (online)
ISSN 0083-7350 (print)

Warwick Economics Research Papers

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July 1, 2026

Abstract

This paper provides the first empirical evidence on the economic costs of wearing the Islamic veil and on motives for veiling in a secular Western country. Using French observational data rather than small-scale interviews, we document a significant negative correlation between veiling and economic participation, even conditional on the respondent's religious environment. Using a structural interpretation of a theoretical model of veiling and labor-market participation, we then examine the various motivations behind the joint decision to veil and to be economically active. Our findings suggest that lower economic returns to integration, rather than religious preferences, account for most of the negative association. Additionally, our results emphasize the significance of personal religious motives in the decision to veil, rather than signaling piety to others.

JEL codes: J16, J71, Z12, J22, D63

Keywords: Veiling, Labor Market Participation, Religious Identity, Secularism

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Acknowledgments: We thank Philippe Bontems, Marie Connolly, Jean-Paul Carvalho, Sriya Iyer, Jean-William Laliberté, Marie-Louise Leroux, Nathan Nunn, Torsten Persson, François Poinas, François Salanié, Mohamed Saleh, Paul Seabright, Thierry Verdier, as well as workshop and conference participants for useful suggestions and comments. We further thank Margot Dazey for countless discussions and interactions as well as Rémy Pons, Céline Parzani, and the TSE-UMR for their help and financial support for confidential data access. Antoine Jacquet acknowledges funding from ERC grant CoG-866274.

1 Introduction

In many Western countries, the economic integration of Muslim women remains a challenge. In France, for instance, employment rates of women born in Algeria, Morocco, or Turkey are substantially lower than those of other foreign-born women (OECD 2008). It is often argued that Muslims' cultural norms are driving these patterns. At the same time, Muslim women face several economic obstacles such as secular regulations and labor-market discrimination (Valfort 2020, Jouili 2020). This is particularly true for women who wear the Islamic veil in France, where this practice is frowned upon and heavily regulated.

Many politicians advocate for stricter policies on veiling, in part because they see it as a barrier to integration and a symbol of the subordination of women. However, if veiling reflects personal conviction, or if the main barriers to economic integration come from the challenges that veiled women face on the labor market, then such policies may inhibit the socio-economic integration of Muslim women even more and reduce social welfare (Carvalho 2013, Shofia 2020). It is thus crucial to understand (i) whether barriers to Muslim women's economic integration stem from religious or economic constraints, and (ii) whether veiling mostly reflects individual or signaling motives.

To address these questions, we perform the first empirical analysis of the relationship between veiling and economic participation in a Muslim-minority country, using rich observational data with detailed information on religious practices. We document that, in France, veiling is associated with lower economic participation – within our sample of Muslim women, veiled women are 21.6 percentage points less likely to be active on the labor market or in education. This association is economically significant: in our preferred specification, it is equivalent to having an additional 1.2 children under 4 years old. It is also robust to several sensitivity checks, including a panel analysis exploiting respondents' retrospective accounts available in the survey.

We then investigate whether veiled women are less economically active because of religious or economic concerns. On the one hand, Carvalho's (2013) economic theory of veiling proposes that religious women may choose to veil at work due not only to personal faith, but also to preserve their reputation within their religious community. On the other hand, in a secular context such as France, veiling signals Muslim affiliation to employers, which can reduce women's employment prospects (Valfort 2020) and, in turn, make workforce participation less appealing. This tension raises the question of whether religious commitment or economic constraints weigh more heavily in veiled Muslim women's decision to engage in the labor market. Furthermore, among the religious reasons, it is also important to understand to what extent women's choice results from

individual preferences or social incentives.

To assess the relative strengths of these channels, we consider a discrete choice model of veiling and economic participation based on the theoretical framework of Carvalho (2013). The estimation leverages the richness of the survey data: using new proxies, we are able to further distinguish the role of personal and social religious motives.[1] We also derive and test theoretical predictions for the two main incentive channels, religious and economic.

Our structural analysis lends support for the economic channel in the joint decision, but not for the religious channel. This result suggests that the lower economic participation of veiled Muslim women (or, equivalently, the lower prevalence of veiling among working Muslim women) is more consistent with weaker economic opportunities associated with veiling than with religiosity discouraging work.

When examining the different religious motives in the decision to veil, we find that a much larger share of the variation in veiling patterns can be explained by individual religiosity rather than signaling incentives. A decomposition exercise indicates that private religious motives can account for one third of the explained variation in veiling behavior, more than twice the explanatory power of the individual's religious environment. Our results thus question the narrative that a "silent majority" of Muslim women are coerced into veiling by their families or communities (e.g. Maurin and Navarrete H. 2023).

We also find novel patterns concerning discreet symbols of religious affiliation (i.e. religious jewelry), which have received little attention in the literature due to lack of data. We find that the correlation between discreet-symbol wearing and participation is *positive*. Furthermore, those symbols appear to be worn by Muslim women who are younger, educated, and moderately religious. These patterns suggest that in the French context, discreet symbols might help preserve some religious benefits while imposing little labor-market cost, as this practice is not regulated.[2]

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.[3] In this literature, most of the evidence is based on interviews with Muslim women since veiling behavior is rarely recorded in surveys or other standard datasets. While

[1] For the social signaling motive, given that administrative data on religious diversity is not available in France, we develop new proxies. That is, we use the share of Maghrebi immigrants in the local population and manually digitize the local number and size of Muslim places of worship from another data source.

[2] However, we have little statistical power to test this hypothesis because few Muslim women wear only discreet symbols in our sample.

[3] 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.

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.[4] 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 signaling incentives to veil, a question which has so far eluded empirical researchers.[5]

Second, we bring new evidence on motives for adopting costly cultural practices both theoretically and empirically. In the vast literature 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). 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 choices. Recent examples include foot-binding in China (Fan and Wu 2023), female genital cutting in Africa (Bellemare et al. 2015, Novak 2020, Gulesci et al. 2023), and baby-naming choice in France (Algan et al. 2022).[6]

Relative to this literature, the French setting allows us to document that veiling is associated with reduced economic integration of Muslim women, as opposed to the evidence from Muslim-majority countries (Aksoy and Gambetta 2016, Shofia 2020), and to investigate the motives for veiling despite these weaker economic outcomes. We formally rationalize the lower participation of veiled women by adapting the theory of Carvalho (2013) to a Muslim-minority context, in

[4] In France, such interviews are typically conducted in the Parisian region, even though Muslims are increasingly present over the whole territory.

[5] 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.

[6] 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.

which the expression of Muslim identity clashes with economic integration instead of facilitating it. Furthermore, we uncover novel empirical patterns concerning the wearing of *discreet* symbols of religious affiliation, which have received little attention in the literature.

Third, our results have implications for state secularisation policies. Of particular interest in our context, three empirical studies reach different conclusions on the effects of the French headscarf ban in public schools.[7] On the one hand, Abdelgadir and Fouka (2020) find that the 2004 ban depressed schooling outcomes of French girls of North-African origin.[8] On the other hand, Maurin and Navarrete H. (2023) find 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. Montpetit (2026) shows that the positive impact in Maurin and Navarrete H. (2023) is due to misclassification bias and that the circular rather had a large negative effect on Muslim girls' education. 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 may sacrifice economic opportunities to veil, we offer a new perspective to this debate. Our empirical analysis is consistent with concerns that French secular regulations may inhibit the social and economic integration of Muslim women.

The rest of the article is structured as follows. Section 2 provides the institutional context. Section 3 describes the data sources and provides a detailed descriptive analysis of veiling patterns in France. Section 4 presents our conceptual framework, the corresponding discrete-choice model and its estimation, and our empirical results. Finally, Section 5 concludes.

2 Historical and sociological background

The wearing of the Islamic veil has been a burning issue in France for 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 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).[9] The debate then

[7] In the remainder of the paper, we use the terms "headscarf" and "veil" interchangeably.

[8] In a similar spirit, Benzer (2022) finds that the re-introduction of Islamic schools, which do not prohibit the headscarf, had positive impacts on girls' educational attainment in Turkey.

[9] To our knowledge, only France and Kazakhstan ban the veil for students. Recently, the provincial government of Québec (second-most populous Canadian province) adopted Bill 94 which bans the full-face veil for pupils.

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 as well as veil bans in sports.[10] [11]

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" 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 that 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? Secular policies against veiling in France 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 H. 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.

In a series of interviews with Muslim girls and women,[12] 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

[10] See https://www.conseil-etat.fr/actualites/interdiction-par-la-fff-du-port-pendant-les-matchs-de-tout-signe-ou-tenue-manifestant-ostensiblement-une-appartenance-politique-philosophique-r

[11] 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).

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

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 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 that 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.[13]

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.[14] Furthermore, Shofia (2020) provides evidence for this mechanism in a study of veiling among Indonesian schoolgirls.

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

[13] 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."

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

this obligation is considered a serious offense that can lead to sanctions or even dismissal.

Veiled women also encounter obstacles in the private sector. First, private-sector workers providing a public service are also subject to neutrality requirements. Second, since August 2016, private firms can introduce neutrality requirements in their internal rules of procedure. The law states that it is allowed "as long as these restrictions are justified by the exercise of other liberties and fundamental rights or by the necessity of the good functioning of the firm, and if they are proportionate to the pursued goal."[15] Famous cases of firms who introduced neutrality requirements include a private kindergarten and a recycling factory. Third, 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. Using a correspondence-test method, Valfort (2020) demonstrates that while signaling religiosity increases call-back rates for Christian applicants, it significantly reduces them for Muslim applicants in France.[16] Recent work using the same testing methodology shows that veiled applicants receive a similar penalty (Anne et al. 2024). Similar discriminatory hiring practices have been reported in other European countries.[17]

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).[18] 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).

Other motives. Of course, Muslim women report wearing the veil for various other reasons, including signaling piety to potential husbands, or even fashion (Patel 2012). Identity motives that are not necessarily religious are also worth mentioning. 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

[15] Law El Khoumri of August 8, 2016. See https://www.legifrance.gouv.fr/codes/id/LEGIARTI000033001625/2016-08-10

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

[17] 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.

[18] Hu and Wang (2021) and Nuryakin et al. (2022) provide empirical evidence suggesting that Ramadan fasting does not in fact reduce productivity or students' test scores, respectively.

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).[19]

3 Data and descriptive analysis

In this section we present our main data sources and describe them along several dimensions of interest. We then estimate the correlation between veiling behavior and economic participation. We study the mechanisms behind this association structurally in Section 4.

3.1 Data

Our primary data source is the cross-section from the *Trajectoires et Origines* survey (henceforth TeO; INED and INSEE 2008). Conducted in 2008 by the French National Institutes for Demographic Studies and for Statistics and Economic Studies (INED and INSEE), the TeO survey targeted adults between 18 and 60 years old residing in metropolitan France. Purposefully oversampling immigrants and minorities, it includes 3,032 women who identify as Muslim, of which 3,003 have non-missing data on veiling behavior. To our knowledge, this is the largest sample of this kind in France.[20] When including Muslim men and other religious groups, the entire survey contains more than 21,000 observations.

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 particular value for this study is the religion section, which is unique in a French survey of this scale since the collection of individual information on religion is closely monitored in France. This section includes variables such as religious affiliation, measures of religiosity, religious symbols worn, and intergenerational religious transmission.

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. We also leverage these retrospective accounts to calculate the respondents' number of years of work experience.

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

[20] Two surveys conducted by private firms, namely Institut Montaigne (2016) and Institut Français d'Opinion Publique [IFOP] (2019), have much smaller sample sizes (slightly above 1,000 individuals of Muslim origin, both genders included) and do not have a similarly deep content as that of TeO.

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's full address and estimated capacity by gender at that time.

3.2 Measurement

Alongside standard metrics of economic activity, our empirical analysis relies on measures of religious practice and of the individual's religious environment, described below.

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*.[21] 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*.[22]

Individual religiosity. The TeO survey includes several questions that relate to individual religiosity. Our preferred measure is the frequency of attendance of religious ceremonies, a standard measure of religiosity focusing 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, respect of religious dietary restrictions, and religious marriage. In order to aggregate the

[21] A respondent who wears both discreet and conspicuous symbols is categorized as wearing conspicuous symbols.

[22] A limitation of this data is that appreciations like "sometimes" or "always" remain subjective. For instance, 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).

answers to these questions into a single measure of individual religiosity, we use a measurement system, as in Heckman et al. (2013) or Bolt et al. (2021), to construct a latent index of individual religiosity. The advantage of this method is that we are able to leverage the variation in several survey questions while keeping the convenience of a single, continuous measure of religiosity. In Appendix A.1.1 we provide details on the procedure and on the survey questions.

Religious environment. As discussed in Section 2, religious signaling plays 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), our measures of the influence of other Muslims aim to disentangle vertical transmission (from parents to children) from horizontal transmission (between peers).

To capture vertical religious transmission 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.[23] These measures are then combined into a single index.

To gauge the importance of the religious signal to the local community, our preferred measure is the share of Maghrebi immigrants in the neighborhood.[24] We also use a second measure, the local worship capacity per thousand inhabitants. This variable is constructed from our novel data on Muslim worship facilities in France. Since these measures are already continuous, we do not aggregate them. Appendix A.1.1 provides further details on these measures.

3.3 Descriptive evidence

Using the TeO data, we describe novel summary statistics on Muslim women in France. We document, in turn, their geographical distribution across France, descriptive statistics by veiling status, and the magnitude of the correlation between veiling and economic participation.

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

[23] 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).

[24] The precise geographical unit is the IRIS level. Having a parent (especially a father) born in Maghreb is a strong predictor of Muslim affiliation in France (Abdelgadir and Fouka 2020).

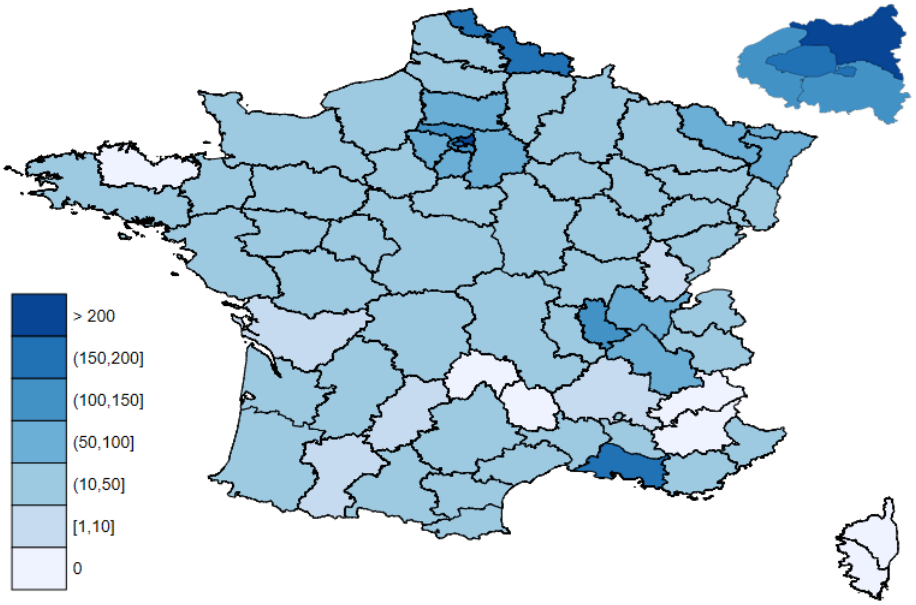

Figure 1: Geographical distribution of Muslim women in the TeO survey

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.

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 reveal that veiled Muslim women have significantly worse economic outcomes than those who wear no symbol or discreet symbols. On average, they are much less educated, less likely to be employed, and have fewer years of work experience. 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 veiling.

Panel B examines our primary measures of religiosity and of the respondents' religious environment. We observe a positive link between veiling and both individual religiosity and that of the environment. On average, veiled Muslim women are much more likely to report that religion is important in their life, to have received an education that stressed the importance of religion, and to live in neighborhoods with higher proportions of Maghrebi immigrants. Our

Table 1: Selected summary statistics by veiling status, Muslim women

			By veiling behavior					
	All Muslims		No symbol		Discreet		Conspicuous	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Panel A: demographics and economic outcomes								
Demographics								
Age in 2008	34.59	11.98	35.55	11.76	26.44	9.07	35.99	12.40
Second-gen. immigrant	0.38	0.48	0.39	0.49	0.56	0.50	0.24	0.42
Number of children	1.87	2.04	1.78	1.94	0.83	1.43	2.68	2.28
Has a partner	0.61	0.49	0.59	0.49	0.48	0.50	0.73	0.45
Not a French speaker	0.10	0.29	0.06	0.23	0.02	0.15	0.25	0.44
Labour-force status in 2008								
Employed	0.46	0.50	0.54	0.50	0.39	0.49	0.27	0.44
Unemployed	0.17	0.38	0.18	0.38	0.25	0.43	0.10	0.30
Inactive	0.28	0.45	0.19	0.39	0.20	0.40	0.59	0.49
Student	0.09	0.29	0.09	0.29	0.16	0.37	0.05	0.22
Has never worked	0.28	0.45	0.19	0.39	0.40	0.49	0.47	0.50
Schooling attainment and work experience								
Completed high school	0.57	0.44	0.61	0.49	0.52	0.50	0.45	0.50
Higher education degree	0.21	0.41	0.22	0.42	0.15	0.36	0.19	0.39
Years of schooling	11.16	6.46	11.43	5.42	12.40	4.17	9.44	6.13
Years of work experience	5.85	7.85	7.06	8.36	3.64	6.20	3.26	5.91
Panel B: religious characteristics								
Importance of religion in one's life								
A little important	0.14	0.34	0.18	0.38	0.09	0.27	0.03	0.19
Quite important	0.28	0.45	0.31	0.46	0.33	0.46	0.19	0.39
Very important	0.55	0.50	0.47	0.50	0.57	0.49	0.77	0.42
Importance of religion in education received								
A little important	0.14	0.34	0.17	0.37	0.13	0.30	0.07	0.26
Quite important	0.29	0.45	0.30	0.47	0.25	0.44	0.20	0.40
Very important	0.51	0.50	0.47	0.50	0.56	0.50	0.70	0.46
Percentage of Maghrebi immigrants in neighborhood								
$[1.9, 19.3)$	0.13	0.36	0.16	0.36	0.12	0.30	0.09	0.26
$[19.3, 40)$	0.41	0.30	0.40	0.49	0.47	0.49	0.39	0.50
$(40, 100]$	0.46	0.26	0.44	0.50	0.41	0.50	0.51	0.50
Observations	3,003		2,021		318		664	

Note: This table reports means of variables of interest by veiling status as defined by the type of symbol. Categories "not important at all" are omitted for religious characteristics to ease interpretation.

other measures of religiosity and of the respondent's religious environment confirm these patterns (Appendix Table A.6).

Discreet symbols. In the TeO survey, we observe the wearing of discreet symbols of religious affiliation. These have received little attention in the literature due to the paucity of data. The French survey reveals that they are worn by Muslim women who are younger, educated, economically active, and moderately religious. In his study of the new veiling movement in Muslim-majority countries, Carvalho (2013) writes that "the movement appears to have originated among *urban, educated, working, middle-class* women" (p. 338). The descriptive patterns in TeO thus suggest that discreet symbols, in the French context, play a similar role to that of the veil in Muslim-majority countries. These symbols are not subject to the multiple prohibitions in public spaces described in Section 2. Therefore, they may serve as a tool to reduce the religious costs of integration without imposing an economic cost on Muslim women. In Appendix B, we discuss how our theoretical framework from Section 4.1 can rationalize these patterns. Furthermore, Appendix Table A.7 shows social integration statistics that are also in line with a potential learning of the French social norms by women wearing discreet symbols compared to those wearing the veil. For example, 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.

3.3.3 Regression analysis

Our summary statistics suggest a *negative* relationship between economic participation and veiling, but a *positive* one between economic participation and wearing a discreet symbol. We now investigate this further in a regression analysis. We perform two exercises, which complement each other: a cross-sectional analysis allowing for a rich set of controls and a panel analysis using respondents' retrospective accounts. For brevity, we present these results in the Online Appendix and summarize the key findings below.

Cross-sectional analysis. In Appendix Table A.1, we regress the activity status (0 if inactive, 1 if active) on veiling behavior and different sets of controls in sequence.

Those regressions strongly support the descriptive patterns. The unconditional associations suggest that women who always veil in public are half as likely to be economically active, whereas women who always wear a discreet religious symbol in public have a higher participation rate. Our preferred specification includes controls for: education (years of schooling, completion of a high-school degree); work experience (with a squared term and a dummy for having never

worked); fertility (number of children, number of preschool-age children); dummies indicating if the respondent has a partner, has a partner who is working, is a second-generation immigrant, has an Arabic-sounding name, has a parent born in France, or feels French; survey conditions (whether the partner was present, whether parents were present, survey month dummies, dummies for the interviewer's age group, and interviewer's gender); individual religiosity (levels of importance of religion in own life and of religious practice as well as a dummy indicating whether the woman uses religion to self-identify); religious influence from the community (dummies for whether each parent is Muslim, has a religious first name, has a Muslim partner, most of her friends are Muslims, shares of Muslims in the neighborhood, and for levels of importance of religion in her education as well as the number of seats in places of worship in the local area of residence); whether the respondent has right-wing political opinions.[25]

In this specification, the point estimates indicate that Muslim women who always wear a conspicuous symbol are 21.6 p.p. less likely to be active compared to those who never wear any symbol. By contrast, Muslim women who always wear a *discreet* symbol are approximately 7 p.p. *more* likely to be active. Even in this most parsimonious specification, the point estimates for veiling are large in magnitude: it is equivalent to having an additional 1.2 preschool-age children.

Robustness checks Overall, the descriptive results suggest a strong negative association between veiling and economic participation. We further verify the validity of this statement through a series of robustness checks.

First, we verify the sensitivity of our results to alternative definitions of our main variables and to using placebo groups in Appendix Table A.3. We find that our results are unchanged when focusing on labor-market participation (excluding students), when excluding immigrants, or when excluding religious symbols categorized as "other". Next, we show that wearing a religious symbol has no significant association with economic participation for Muslim men, nor for women and men with different religious affiliations.[26] These results confirm the unique place of the Islamic veil among other religious symbols, as evidenced by the debates mentioned in Section 2.

Second, we check that our results are not sensitive to the modeling choice. In Appendix

[25] Our main regression analysis with the confidential version of the TeO survey does not control for language proficiency. The sharp difference in French-speaking ability between veiled and non-veiled women shown in Table 1 could be an important confounder. In Appendix Table A.2, we show that further controlling for language proficiency does not substantially affect our estimates, suggesting that French-speaking ability is unlikely to account for the main association.

[26] Religious symbols of Muslim men and other religious groups are categorized in the same manner: headcoverings and clothing are classified as conspicuous while jewelry and "others" are classified as discreet.

Table A.9, we show that the results are similar when using a logit or probit specification instead of the linear regression model.

Panel analysis. Third, we check 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 construct a retrospective panel dataset of economic participation (see Appendix A.1.2 for details). This empirical strategy allows us to control for time-varying observables and time fixed effects, to substantially increase the number of observations, and to estimate random-effect models. The results overall confirm the findings obtained in the cross-sectional analysis, with the wearing of a conspicuous symbol being associated with a significantly reduced economic participation of similar magnitude.

Selection on unobservables. Fourth, despite using an unusually large set of controls in our regressions, unobserved factors could still drive the correlation between veiling and economic participation. For example, on the marriage market, religious men might prefer veiled and inactive women, and we would thus overstate the extent to which veiling decisions impact economic participation. To assess the extent of selection on unobservables, we use the method proposed by Oster (2019) to compute bias-adjusted lower bounds of our main coefficient of interest.[27] Results of multiple tests using this approach are reported in Appendix Table A.10. We find that the lower bounds on the coefficient on always wearing a conspicuous symbol remain negative throughout. The magnitude does shrink as we increase the extent of selection on unobservables, but the estimated correlation remains sizeable in the vast majority of our tests.

Even if these tests suggest that our documented correlations are unlikely to be driven by selection on unobservables, we remain careful in our interpretations. In particular, we do not have measures of ability (beyond schooling and work experience) nor of the partner's religiosity. Thus, we cannot completely rule out that veiled women are inactive because they select into different occupations or seek to please their husbands. Nevertheless, our results are unlikely to be driven by unobserved labor-force attachment because we control for work experience and whether the woman declares having worked in the past. Moreover, the ethnographic literature

[27] Let β be the true impact of always wearing a conspicuous symbol on the activity rate. Oster (2019) shows that a consistent estimator for β is $\beta^* = \hat{\beta}_F - \delta(\hat{\beta}_R - \hat{\beta}_F) \times (R^2_{max} - \hat{R}^2_F)/(\hat{R}^2_F - \hat{R}^2_R)$. $\hat{\beta}_F$ and $\hat{R}^2_F$ are respectively our coefficient and the R-squared in a regression including our full set of controls (here, column 6 of Table A.1); $\hat{\beta}_R$ and $\hat{R}^2_R$ are respectively the coefficient and the R-squared obtained from a regression with a restricted set of controls; R^2_{max} is the R-squared from a regression that includes all observable and unobservable controls; δ is the extent of selection on unobservables relatively to the explanatory power of observables ($\delta = 1$ means equal selection). We test for different values of R^2_{max} and two values of δ (including the one implying an R^2 of 1) using each of our 5 regressions with fewer controls from Table A.1 in Appendix Table A.10.

reviewed in Section 2 does not support the marriage-market channel. The literature rather emphasizes the economic costs of veiling in public, such as labor-market discrimination.

Veiling and integration in Turkey. Last, the negative correlation between veiling and integration can be observed in another interesting context, namely Turkey. In Appendix A.2, we use data from Livny (2020) on Turkish districts to examine the relationship between economic participation and veiling. While it is a Muslim-majority country, Turkey also regulated veiling for civil servants, requiring women to uncover their head while on duty, until 2017. We find that women in Turkish districts with higher veiling rates are less integrated economically. This association holds for four measures of economic participation (female primary and secondary school completion, the female literacy rate, and GDP per capita). We take this evidence as an additional illustration that labor-market conditions such as veil bans—and not only the religious environment—do matter for the relationship between veiling and economic participation. This intuition serves as a basis for our conceptual framework, which we now develop.

4 Structural analysis

In the previous section, we have shown that veiling displays a strong negative association with economic participation among Muslim women in France. Our discussion of the literature on veiling in Section 2 suggests that such an association can originate from two sources of incentives, namely (i) religious, since veiled women are more pious and therefore less likely to engage with an environment they perceive as dangerous, and (ii) economic, since veiled women face obstacles to participate in the labor market or in education.

In this section we analyze these motives empirically under the lens of the theoretical framework proposed by Carvalho (2013), which models Muslim women's joint decision of economic participation and veiling. We adapt his model to consider economic incentives to veiling and we estimate a discrete-choice model based on this framework.

4.1 Theoretical framework

Women in religious communities sometimes face social pressure to limit their economic integration in order to conform to traditional gender roles. Moreover, some women may themselves feel reluctant to integrate into a work environment they perceive as religiously unsafe. For Muslim women, veiling thus serves a dual purpose: first, as a self-commitment to religiously appropriate conduct, and second, as a signal of this commitment to the community. As such, veiling can help mitigate the social cost of women's employment, making it a useful tool for

their economic integration.

The model of Carvalho (2013) is designed to capture this dual purpose of veiling. Formally, the incentive to veil for a woman i stems from a combination of her individual religiosity, r_i, and of the religiosity of her environment, R_i. If she engages in religiously-prohibited behavior, she suffers a penalty equal to $-(r_i + R_i)$. This penalty is both self- and socially-imposed, reflecting personal regret on the one hand, and social stigma on the other hand. By nature, it is steeper when woman i herself, or her community, has higher religiosity.[28]

Woman i must then choose between working ($j = 1$) or not ($j = 0$).[29] Each activity j is characterized by an exogenous risk of engaging in religiously-prohibited behavior, p_j. This risk is assumed to be higher for women who work, i.e. $p_1 > p_0$, reflecting the traditional religious attitudes towards gender roles mentioned above. However, women are able to attenuate this risk by veiling.[30] Specifically, when choosing a degree of veiling $v \in [0, 1]$, woman i lowers the probability that she will engage in religiously-prohibited behavior from p_j down to $p_j(1 - v)$.

Next, woman i also obtains a material benefit m_{ij} from each activity j. Unlike in the original Carvalho model, we assume that this material benefit also depends on the woman's chosen level of veiling. This choice simply allows us to capture the tension between the religious and economic incentives to veil discussed above. Specifically, we assume that woman i can command a baseline wage w_i when she works. Veiling, however, reduces her effective wage to $w_i(1-v)$, reflecting the barriers faced by veiled women on the labor market.[31] The opportunity cost of veiling is thus greater for women with higher earning potential.

Finally, veiling entails a cost $c(v)$, where the function $c(\cdot)$ is convex, satisfying $c'(0) = 0$ and $\lim_{v \to 1} c'(v) = \infty$. This cost can be interpreted for instance as physical discomfort. Overall, the expected utility that woman i derives from activity j is thus given by

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

The problem of woman i is then to choose the combination (j, v) of activity and veiling level that maximizes her utility.

This model is flexible enough to accommodate a variety of observed patterns. Regarding veiling, the tension resides in its positive religious returns versus its negative economic returns. More religious women veil more within a given activity, and higher-earning potential women

[28] Note that both r_i and R_i are allowed to be negative, meaning individual or social approval for religiously-prohibited behavior.

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

[30] See footnote 13 for interview excerpts which support this assumption.

[31] This functional form broadly captures the fact that, in the French context, it is more difficult for women who wear the veil to secure and keep a job or to advance in their career; cf. the discussion in Section 2.

veil less in the workplace. But self-selection in the workforce makes it a priori ambiguous whether working or non-working women will veil more overall. For instance, in a very religious environment (high R_i for all women) it is possible for working women to veil more than non-working ones on average, as low-religiosity women choose to work and veil while high-religiosity women choose not to work (Shofia 2020). By contrast, in a low religiosity environment, moderately religious women may choose to unveil at work in order to safeguard their economic gains, while more religious women choose to veil and not to work. This second scenario fits the Muslim-minority context in France as described in Section 2.

4.2 Econometric model

Our empirical approach relies on using equation (1) as the basis for a discrete-choice model, using measures of the individual characteristics r_i, R_i, and w_i. We use the data and constructed measures described in Section 3.2. For individual religiosity, we use our index measure aggregated from survey questions, $\mathsf{Religiosity}_i$. For the signaling motive, we use our index measure of vertical religious influence, $\mathsf{VertiReligiousInf}_i$, and two proxy measures of the religiosity of the woman's environment, $\mathsf{ShareMaghrebi}_i$ (the share of Maghrebi immigrants in the individual's neighborhood) and $\mathsf{MosqueCapacity}_i$ (the local capacity for Muslim worship). For the earnings potential, we use measures of human capital, namely years of schooling, $\mathsf{Education}_i$, and years of work experience, $\mathsf{Experience}_i$.

We use a multinomial logit model to explain the joint decision of activity and veiling, (j, v), with two activity statuses $j \in \{0 = \text{Inactive}, 1 = \text{Active}\}$ and three levels of veiling $v \in \{0 = \text{None}, 1 = \text{Discreet}, 2 = \text{Conspicuous}\}$.[32] Adapting equation (1) into an econometric discrete-choice model that uses the proxies described above, the utility for woman i from jointly choosing activity j and veiling level v is given by

$$\begin{aligned} u_{ijv} = \alpha_{jv} &+ \beta^1_{jv} \times \mathsf{Religiosity}_i + \beta^2_{jv} \times \mathsf{VertiReligiousInf}_i \\ &+ \beta^3_{jv} \times \mathsf{ShareMaghrebi}_i + \beta^4_{jv} \times \mathsf{MosqueCapacity}_i \\ &+ \gamma^1_{jv} \times \mathsf{Education}_i + \gamma^2_{jv} \times \mathsf{Experience}_i + X_i' \theta_{jv} + \varepsilon_{ijv}. \end{aligned} \quad (2)$$

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 the baseline $(j, v) = (0, 0)$ (i.e. being inactive and not veiling). 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

[32] Although veiling was modeled as a continuous choice variable in section 4.1, our data contain only a discrete measure.

Table 2: Model-based predictions for the estimated parameters of equation (2)

Explanatory variable	Parameter	Model component	Prediction in v	Prediction in j
Religiosity variables				
$\mathsf{Religiosity}_i$	β^1_{jv}			
$\mathsf{VertiReligiousInf}_i$	β^2_{jv}	$-p_j(1-v)$	$\beta_{j0} < \beta_{j1} < \beta_{j2}$	$\beta_{0v} > \beta_{1v}$
$\mathsf{ShareMaghrebi}_i$	β^3_{jv}			
$\mathsf{MosqueCapacity}_i$	β^4_{jv}			
Economic variables				
$\mathsf{Education}_i$	γ^1_{jv}	$\mathbf{1}_{\{j=1\}}(1-v)$	$\gamma_{j0} > \gamma_{j1} > \gamma_{j2}$	$\gamma_{0v} < \gamma_{1v}$
$\mathsf{Experience}_i$	γ^2_{jv}			

Notes: $j \in \{0 = \text{Inactive}, 1 = \text{Active}\}$, $v \in \{0 = \text{None}, 1 = \text{Discreet}, 2 = \text{Conspicuous}\}$.

probability for woman i to choose alternative (j, v) is

$$\frac{\exp u_{ijv}}{\sum_{(j',v')} \exp u_{ij'v'}}. \tag{3}$$

4.3 Model predictions

The religious and economic channels in the model have clear implications regarding how the estimated parameters should vary with j and v. Table 2 outlines the correspondence between the parameters of our estimating equation (2) and the theoretical components of the model, thus predicting how the estimated coefficients should vary across activity status j and veiling level v. From these predictions we derive the testable implications below. For ease of interpretation, we drop the superscripts and make statements about the generic parameters β_{jv} and γ_{jv} instead.

Prediction 1. For an activity j fixed,

(a) religiosity decreases utility less for women who veil more: $\beta_{j0} < \beta_{j1} < \beta_{j2}$,

(b) economic variables increase utility less for women who veil more: $\gamma_{j0} > \gamma_{j1} > \gamma_{j2}$.

Prediction 2. For a veiling level v fixed,

(a) religiosity decreases utility more for women who participate economically: $\beta_{0v} > \beta_{1v}$,

(b) economic variables increase utility more for women who participate: $\gamma_{0v} < \gamma_{1v}$.

To interpret these predictions, consider for instance the parameter β^1_{jv}, which indicates how own religiosity impacts the probability of choosing the alternative (j, v). This impact should be 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, hence β^1_{jv} should be increasing in v (Prediction 1a). Also, the impact should be greater for working women because

the work environment is riskier. Hence β^1_{jv} should be decreasing in j (Prediction 2a).

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. The impact of education should thus be lower for women who veil more: they have lower expected wage because of the lower economic returns when veiling (Prediction 1b). Returns to education imply that γ^1_{jv} should be greater for working women (Prediction 2b).

Predictions 1 and 2 above focus on the veiling and economic participation choices independently. However, our main interest is to understand how these choices interact, and in particular whether religious and economic motives are relevant mechanisms in this interaction. These mechanisms will be captured by studying the signs of double differences in the parameters β_{jv} and γ_{jv}.

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

Prediction 3: Religious motives channel. The religious returns to veiling are larger for women who participate economically: for $v < v'$ fixed, $\beta_{1v'} - \beta_{1v} > \beta_{0v'} - \beta_{0v}$.

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

Prediction 4: Economic returns channel. The economic returns to being economically active are smaller for women who veil: for $v < v'$ fixed, $\gamma_{1v'} - \gamma_{0v'} < \gamma_{1v} - \gamma_{0v}$.

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

4.4 Results

Table 3 presents the results for the estimation of equation (2). All parameter estimates are relative to the baseline of an inactive woman who does not wear religious symbols. This estimation is performed without controls; in Appendix A.1.5, 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 3). First, individual religiosity is a strong and significant predictor of changes in veiling behavior, but the same observation does not hold for the individual's religious environment. 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 19 percentage points (resp. 8 p.p.). On the contrary, it increases the probability of wearing a conspicuous symbol and being active (resp. inactive) by 12 percentage points (resp. 13 p.p.). Signaling motives (both vertical and horizontal) are 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 religious transmission is associated with a 19 p.p. increase in the probability of wearing a conspicuous symbol and being inactive, while an extra Muslim worship seat per 100 inhabitants is associated with a 9 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) the individual's religious environment.

Second, both schooling and work experience substantially increase the probability of being active and decrease the probability of veiling. For instance, an additional year of schooling is associated with a 1.8 p.p. increase (resp. 0.7 p.p.) in the probability of being active and wearing no symbol (resp. wearing a discreet symbol). Interestingly, however, these human capital factors

Table 3: 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	**0.84** (0.23)	**2.36** (0.34)	0.17 (0.18)	**1.09** (0.26)	**2.05** (0.39)
Vert. transmission (β^2_{jv})	0	-3.13 (4.34)	1.16 (0.92)	0.00 (0.76)	0.48 (1.05)	0.27 (1.08)
Signalling						
ShareMaghrebi$_i$ (β^3_{jv})	0	3.79 (3.18)	0.60 (1.33)	0.86 (0.97)	1.40 (1.22)	2.44 (1.58)
CapacityMosques$_i$ (β^4_{jv})	0	-0.21 (0.15)	**0.11** (0.04)	0.02 (0.03)	-0.02 (0.03)	0.04 (0.03)
Schooling (γ^1_{jv})	0	0.07 (0.05)	0.04 (0.04)	**0.24** (0.03)	**0.23** (0.04)	0.13* (0.05)
Work experience (γ^2_{jv})	0	-0.17$^+$ (0.08)	-0.05 (0.04)	**0.14** (0.02)	**0.11** (0.03)	**0.08** (0.03)
Panel B: Average marginal effects						
Indiv. religiosity (β^1_{jv})	**-0.08** (0.02)	0.02 (0.02)	**0.13** (0.02)	**-0.19** (0.03)	0.01 (0.02)	**0.12** (0.02)
Vert. transmission (β^2_{jv})	0.10 (0.26)	-0.84 (1.16)	0.19 (0.17)	0.34 (0.52)	0.06 (0.15)	0.16 (0.13)
Signalling						
ShareMaghrebi$_i$ (β^3_{jv})	-0.08 (0.08)	0.09 (0.10)	-0.00 (0.08)	-0.08 (0.14)	-0.02 (0.08)	0.09 (0.08)
CapacityMosques$_i$ ($\beta^4_{jv} \times 10$)	0.00 (0.02)	-0.09 (0.07)	**0.09** (0.03)	0.02 (0.04)	-0.03 (0.02)	0.01 (0.02)
Schooling ($\gamma^1_{jv} \times 10$)	**-0.14** (0.02)	-0.01 (0.01)	**-0.10** (0.01)	**0.18** (0.02)	**0.07** (0.01)	-0.00 (0.01)
Work experience ($\gamma^2_{jv} \times 10$)	**-0.06** (0.02)	-0.05 (0.03)	**-0.09** (0.02)	**0.20** (0.00)	-0.02 (0.01)	0.01 (0.01)
Observations	2,598					
Pseudo R^2	0.163					

Note: This table reports estimates of the parameters of the econometric model (2). 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.1.1 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 ($p < 0.01$), * $p < 0.05$, $^+$ $p < 0.1$.

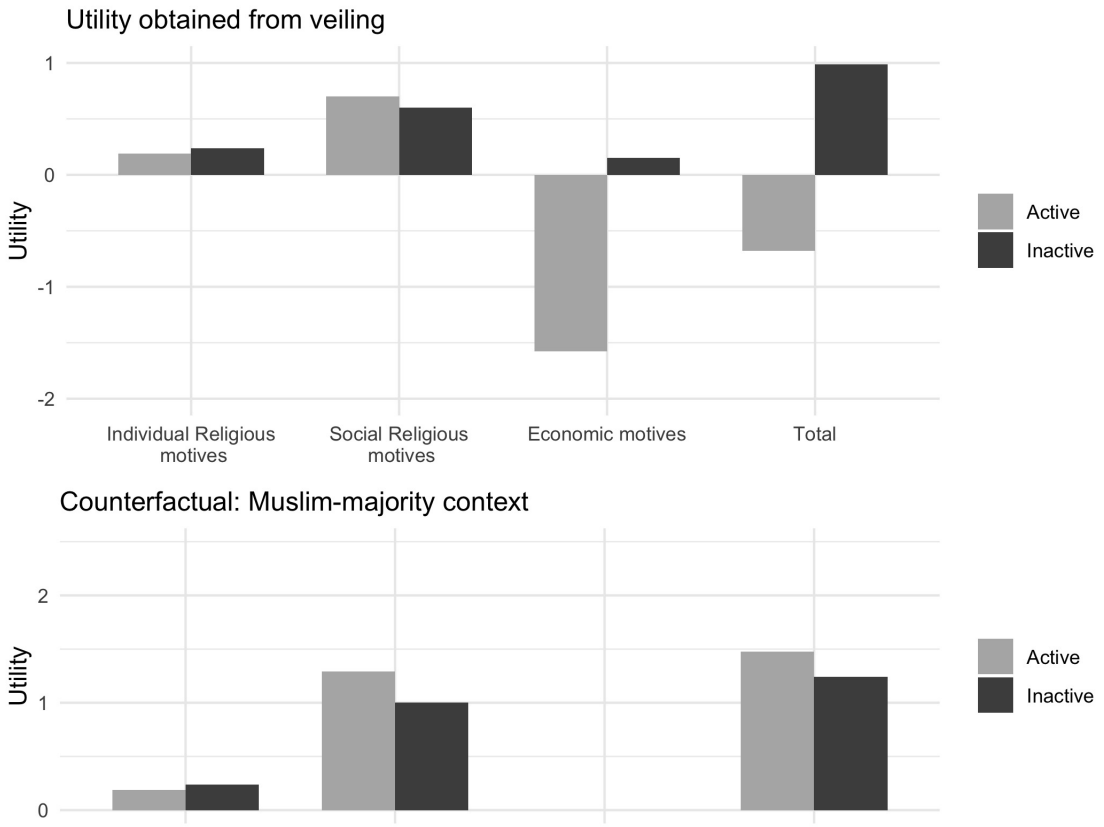

Figure 2: Utility obtained from veiling for an average woman

The first panel shows the difference in utility between choosing $v = 0$ and $v = 2$, according to the estimates of Table 3, and based on an 'average' woman in our sample (cf. footnote 33). The lower panel is obtained through a counterfactual exercise that shuts down the economic discrimination channel and modifies some environmental characteristics of this average woman to reflect a Muslim-majority environment (cf. footnote 34).

are not associated with an increase in the probability of being active while wearing a conspicuous symbol. This result suggests that veiling at work offsets the benefits of human capital on economic activity, an expected consequence of the economic returns 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.[33] 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. By contrast, 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.[34] In this case, we

[33]We set the following values for this 'average' Muslim woman: Individual Religiosity: 0.1, Vertical Religious Influence: 0.1, Local share of Maghrebi immigrants: 0.4, Muslim worship seats per thousand inhabitants: 2.21, Schooling: 11.16 years, Work experience: 5.85 years. One can compare those values with the summary statistics of Tables 1 and A.6 to verify that this roughly corresponds to an average Muslim woman in our sample.

[34]To compute this counterfactual, we shut down the economic discrimination channel, and set the share of local Maghrebi immigrants to 0.75 (instead of 0.4) and the number of worship seats to 4 (instead of 2.21). Note that we obtain a similar figure if we double the value of the vertical religious influence.

see that active and inactive women have somewhat equivalent incentives to veil, which sharply 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.

4.4.1 Testing the model's predictions

In the rest of this section, we verify these results formally by testing Predictions 1–4 statistically. Detailed results for these tests are available in Appendix A.1.4.

Predictions 1 and 2 concern the direct impacts of religiosity and human capital on women's utility, holding economic participation and veiling fixed, respectively. These are captured by the direction of variation for the coefficients β_{jv} and γ_{jv}, respectively with the activity j and the veiling level v.

For Prediction 1, we conduct hypothesis tests of the form $\beta_{jv'} - \beta_{jv} > 0$ and $\gamma_{jv'} - \gamma_{jv} < 0$ for the different possible combinations of j, v and v' such that $v' > v$. Results are reported in Appendix Figure A.1. For religious variables, these tests unsurprisingly strongly support a positive association between individual religiosity and veiling. For religious influence from the community, we find more support for vertical (from parents) than horizontal influence. For our work experience and schooling, if we ignore the "discreet symbols" veiling category for which we have few observations, we find that human capital is associated with lower utility of veiling as predicted by the theory. Overall, the tests of Prediction 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.

For Prediction 2, we conduct hypothesis tests of the form $\beta_{j'v} - \beta_{jv} > 0$ and $\gamma_{j'v} - \gamma_{jv} < 0$ for each veiling category v and for $j' = \{active\}$, $j = \{inactive\}$. Results are presented in Appendix Figure A.2. First, we do not find any evidence that our religious variables are associated with an increased or decreased propensity to be economically active. On the contrary, our economic variables are strongly associated with economic activity. Holding the veiling level fixed, both work experience and schooling, as expected, increase the likelihood that a Muslim woman is active.

Note that the "religious motives" channel is already undermined by the tests of Prediction 2. This channel predicts that, given a degree of veiling, women who are more religious or who live in communities that are more religious should be less economically active. However, this is not what we find here: our results suggest that the religiosity variables are not directly associated

with economic participation, but mainly associated with it through veiling. We discuss this further with the test of Prediction 3 below.

Mechanisms. We now move on to the tests of Predictions 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.

Our third prediction 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 3. In this case, neither statistical significance nor point estimates suggest that Prediction 3 holds. As such, we do not find evidence for this mechanism.

This result is in line with those of the tests for Prediction 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 being associated with economic participation mainly through veiling, thus supporting the idea that the negative correlation between veiling and economic participation is more consistent with veiling having a cost on the labor market (and at school) than with religious preferences directly discouraging participation.

Finally, our fourth prediction can be interpreted as a formal test for the economic returns 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 4.

Regarding our first economic variable, years of schooling, we do not find support for the statement of Prediction 4: there is no pattern of point estimates mostly belonging to the predicted region and we cannot reject a null difference. However, we find some support in the tests associated with our second economic variable, work experience, 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 (for which we have little power) suggests statistically significant differences at the 90% level. The absence of a clear pattern for schooling is perhaps because, on average, the differences in schooling levels by veiling status are not as stark as those for work experience (see Table 1).

This second result supports the economic returns channel: women with more work experience are less likely to integrate economically if they veil, even if we hold religiosity variables constant. In other words, the returns to experience are lower for veiled women. We have seen in our tests of Prediction 2 that this seems to be unrelated to an underlying preference towards economic participation linked with individual religiosity or religious influence. Therefore, this result is

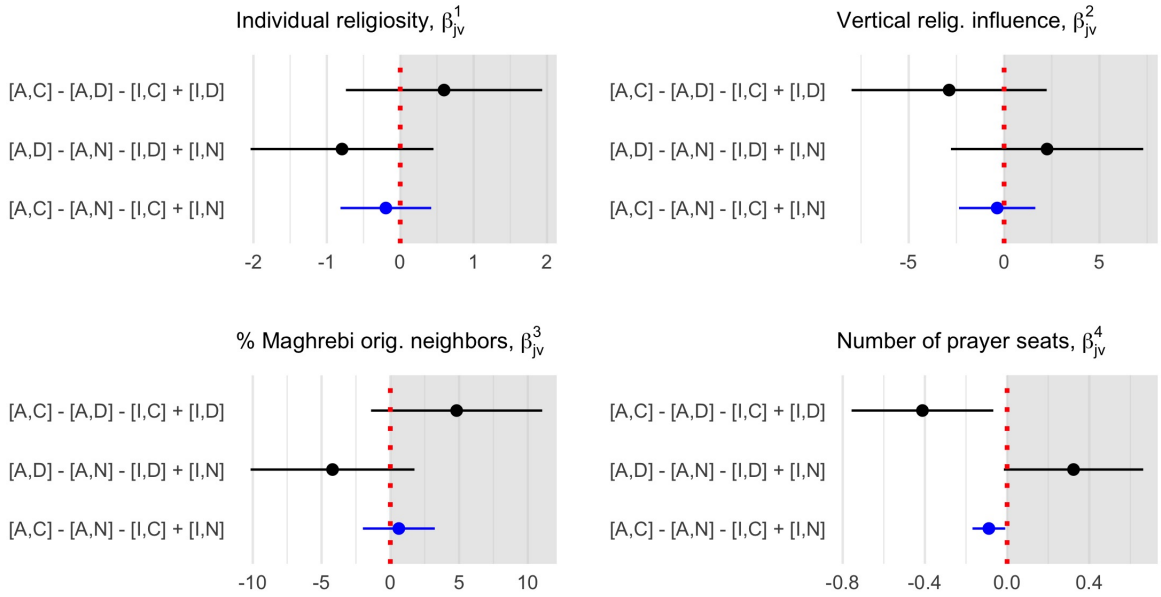

Figure 3: Hypothesis tests for Prediction 3: Religious motives channel

Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (left j: I = Inactive, A = Active; right v: N = No sign, D = Discreet, C = Conspicuous). In blue: combinations that compare conspicuous symbol-wearing with no symbol-wearing. In black: combinations that include intermediate comparisons with discrete symbol-wearing. 90% confidence intervals are reported.

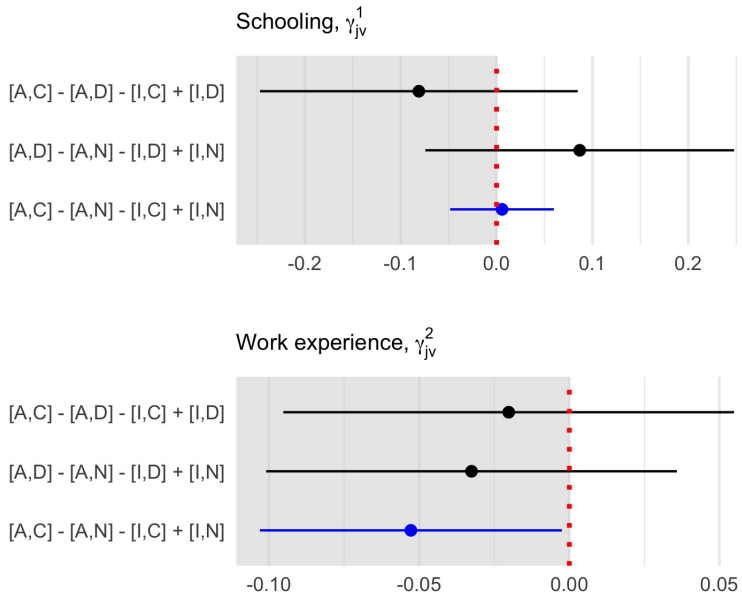

Figure 4: Hypothesis tests for Prediction 4: Economic discrimination channel

Shaded areas correspond to the region where estimates are predicted to fall. Vertical axis labels correspond to the combination of (j, v) alternatives (left j: I = Inactive, A = Active; right v: N = No sign, D = Discreet, C = Conspicuous). In blue: combinations that compare conspicuous symbol-wearing with no symbol-wearing. In black: combinations that include intermediate comparisons with discrete symbol-wearing. 90% confidence intervals are reported.

consistent with an economic cost to veiling, in the sense that veiled women face weaker economic opportunities than those who do not veil.

4.4.2 Individual versus signaling religious motives

Our tests of Prediction 1 suggest that individual religiosity plays a larger role in the veiling choice than signaling motives. To further explore this pattern, in Appendix A.1.3, we regress measures of veiling on our religious variables and various other predictors, including a rich set of demographics, self-reported feelings of French identity, schooling, work experience, and conditions under which the survey took place. Using the R-squared decomposition approach of Huettner and Sunder (2012), we find that own religiosity is responsible for roughly one third of the explanatory power of our models. This figure is more than twice the share explained by the individual's religious environment. These findings are thus in line with veiling being an individual choice rather than a behavior mostly adopted under communitarian pressures.

We note that religious beliefs are measured at the time of the survey. We do not have information about how these beliefs were formed in the first place. Of course, individual beliefs are formed in a certain religious environment and shaped by communitarian influences. Our result that individual religiosity has a larger explanatory power should thus be interpreted as explaining choices once beliefs are formed. Our ability to control for the religiosity of the environment at the time of the survey should also mitigate this issue for interpretation.

To sum up, our results suggest that the interaction between the decision to veil and that of economic participation is more closely associated with economic concerns than with religious disincentives to participate.

First, both religious motives and economic ones play important roles in the decision to veil. Second, while economic motives are strongly associated with economic participation, the same is not true for religious motives, suggesting that veiling status itself (and not underlying religious preferences) is linked to lower economic participation. Third, non-veiled women seem to benefit from higher economic returns on their education compared to veiled women – holding individual religiosity and the religious environment 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 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, individual

religious motives turn out to be a more important determinant than communitarian influences in the decision to veil.

4.5 Discussion

Limitations. Our analysis has two important limitations. First, our approach is descriptive and our results should not be interpreted as causal. However, our key result that an economic penalty in the labor market appears to be key in explaining participation gaps between veiled and unveiled women is consistent with studies examining the impacts of veil bans in France and elsewhere. Montpetit (2026) shows that the Bayrou circular implemented in 1994 induced a large decline in schooling of Muslim women who reached the mandatory-schooling age after its enactment with long-term consequences on employment. Abdelgadir and Fouka (2020) obtained a similar result by focusing on women of African origin reaching adulthood after the 2004 ban. Moreover, recent experimental evidence suggests a reduction in call-back rates of up to 80% for access to an apprenticeship for veiled candidates in France (Anne et al. 2024).

Second, despite the richness of the data on many dimensions, some factors remain unobserved in our analysis. In particular, the TeO survey contains no measure of the respondents' partner's religiosity, despite its potential association with women's veiling behavior; it also does not measure how veiling behavior varies across specific settings such as the workplace. While partner's religiosity could be an important omitted variable, we do have an unusually large set of covariates we can control for in our regression analysis. Another limitation of the data is that, while it is possible to construct a panel of respondents' employment history using retrospective accounts, we do not have panel data on veiling, which limits our ability to use policy shocks as instrumental variables. Finally, we do not have information on the formation of religious beliefs. Controlling for religiosity of the environment at the time of the survey should nevertheless mitigate concerns that individual beliefs are solely the product of communitarian influences.

Policy implications. Our findings suggest that restrictions on religious symbols are unlikely to improve the economic participation of veiled Muslim women in France. In our framework and estimates, religiosity is primarily associated with economic participation through veiling: more religious women are more likely to veil, but conditional on veiling we find little evidence that religiosity affects economic participation. Instead, the joint patterns are most consistent with veiling being associated with lower returns to economic participation.

This has two immediate policy implications. Tightening restrictions on veiling in schools or workplaces risks lowering welfare and worsening integration for women who veil out of personal conviction, by reducing access to education and employment and by reinforcing segregation

incentives. Moreover, policies that instead reduce the economic penalty attached to veiling are more directly targeted at the constraint highlighted by the data. For example, stronger enforcement of anti-discrimination law, clearer limits on the use of "neutrality clauses" in private firms, and practical guidance for employers to manage religious expression could improve economic outcomes of veiled women. More generally, if veiling primarily reflects private religious motives rather than coercion, then policies premised on "liberating" women by restricting veiling are poorly aligned with women's motivations and may produce unintended consequences. Our results rather support shifting the policy focus away from bans and towards removing institutional barriers to education and employment for Muslim women, including those who wear conspicuous symbols.

5 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 Western 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 may be the most emblematic – limit the expression of religious faith in public.

In this paper, we tackle this question using rare observational data on Muslim women in France. The richness of the data notably allows us to distinguish between private and social incentives to veil. We document that in France, wearing conspicuous religious symbols is associated with much lower economic integration for Muslim women. The magnitude of this relationship is large, comparable to having a child under 4 years old, for instance. Using a structural model of veiling and economic participation, we find that the joint decision to veil and be economically active is more consistent with economic (dis)incentives than with religious disincentives to participate. Our results thus suggest that the veiling mechanism proposed by Carvalho (2013) and documented in the context of Indonesia by Shofia (2020) may be second-order in a non-Muslim-majority country such as France. When choosing whether to work and to wear the veil, Muslim women seem to be more sensitive to incentives related to the economic opportunities associated with veiling. Instead, we find that the wearing of discreet symbols is more in line with the religious incentives highlighted in these studies.

Furthermore, among the main incentives for veiling highlighted in the economic literature, the wearing of conspicuous symbols appears to be more closely associated with private religious motivations. Because they underline the role of private religious motives instead of signaling ones, our results question the narrative 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 H. 2023). Even in this case, Carvalho (2013) shows that banning the veil in public spaces 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, our results suggest 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 could 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.

Our empirical approach in this paper is descriptive and should not be interpreted as causal. Still, our findings suggest two key takeaways: (i) the lower integration of veiled women is more consistent with economic penalties associated with veiling than with underlying preferences linked with their religiosity; and (ii) individual religious motives outweigh the social signaling ones in their decision to veil. Given the importance of better integrating Muslim populations in developed countries, future work could provide more causal assessments of these two takeaways. The specific obstacles that veiled women face in the labor market – whether legal restrictions, hiring discrimination (Valfort 2020, Anne et al. 2024), workplace challenges, or others – require careful examination to assess their respective impact on economic participation. Additionally, larger datasets could help better disentangle individual versus social motives for veiling, for instance by leveraging external shocks to the local religious composition, such as migration waves. We finally note that data limitations inherent to studies like ours 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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A Data and additional results

A.1 Measurement

A.1.1 Individual religiosity and signaling motives

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 TeO, 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. 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 transmission. We measure vertical religious transmission 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 the authors using respondent's first name	indicator

Religious environment. We measure the individual's religious environment 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 TeO, 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 TeO, 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 influence*, 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 Religiosity_i and $\text{VertiReligiousInf}_i$:

$$Z_{i,j} = \mu^z_{1,j} + \lambda^z_j \, \text{Religiosity}_i + \varepsilon^z_{i,j} \tag{4}$$

$$W_{i,j} = \mu^w_j + \lambda^w_j \, \text{VertiReligiousInf}_i + \varepsilon^w_{i,j} \tag{5}$$

where ε are measurement errors assumed to be i.i.d. Each measure in Z and W is a categorical (or indicator) variable, so we assume that the data generating process is an ordered logit. 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.1.2 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.[35] We use this panel dataset for the results in Table A.4.

A.1.3 Determinants of veiling

In Table A.5, we report results of logistic regressions of veiling status on religious variables and a (large) set of other predictors. Panel A reports selected regression coefficients of interest and Panel B show the share of the regression R^2 that is explained by a given group of independent variables using the goodness-of-it decomposition of Huettner and Sunder (2012). Other control variables not displayed in the Table are:

- the frequency of attendance of religious ceremonies (4 indicators);
- indicators for whether the woman's father, mother, and partner is Muslim;
- the share of Maghrebi immigrants in the neighborhood of residence (7 indicators);
- birthplace indicators (10 categories);
- indicators for whether the woman has a high-school and a higher-education degree;
- years of schooling;
- a quadratic in years of work experience;
- an indicator for whether the woman has ever worked;
- survey month (6 indicators)
- age range of the interviewer (3 indicators)
- gender of the interviewer
- an indicator for whether the partner is present during the interview;
- an indicator for whether a parent is present during the interview;
- an indicator for having an Arabic-sounding name;
- number of children and number of children aged 4 or less
- indicators for whether the woman has a partner and whether the partner works
- indicators for whether the mother and father are born in France;
- indicators of self-reported feelings of French identity (4 indicators);

[35] 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.

- indicators of social integration: whether the woman participates in food shopping, often meets friends, often meet her colleagues (if she works), and meets neighbors

A.1.4 Appendix Figures

In Figures A.1 and A.2 we present the results of the tests of Implications 1 and 2, respectively.

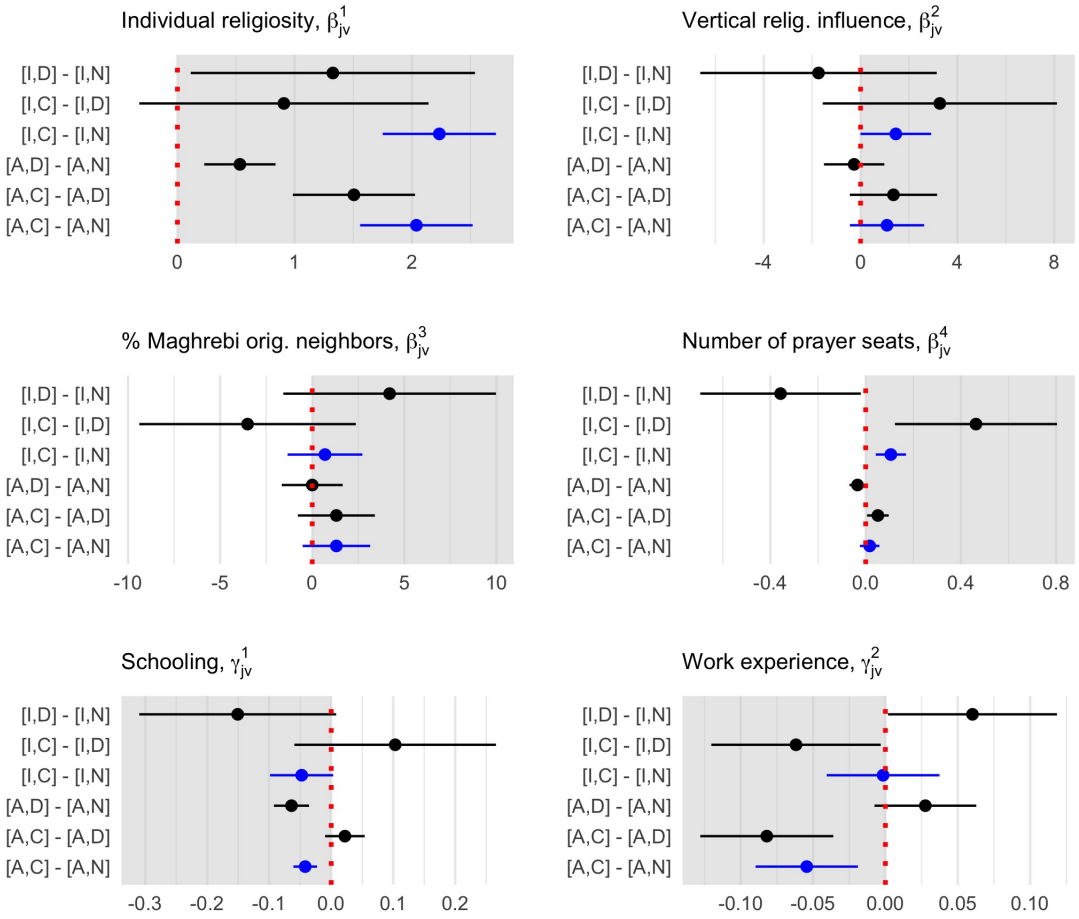


Figure A.1: Hypothesis tests for Implication 1

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. 90% confidence intervals are reported.

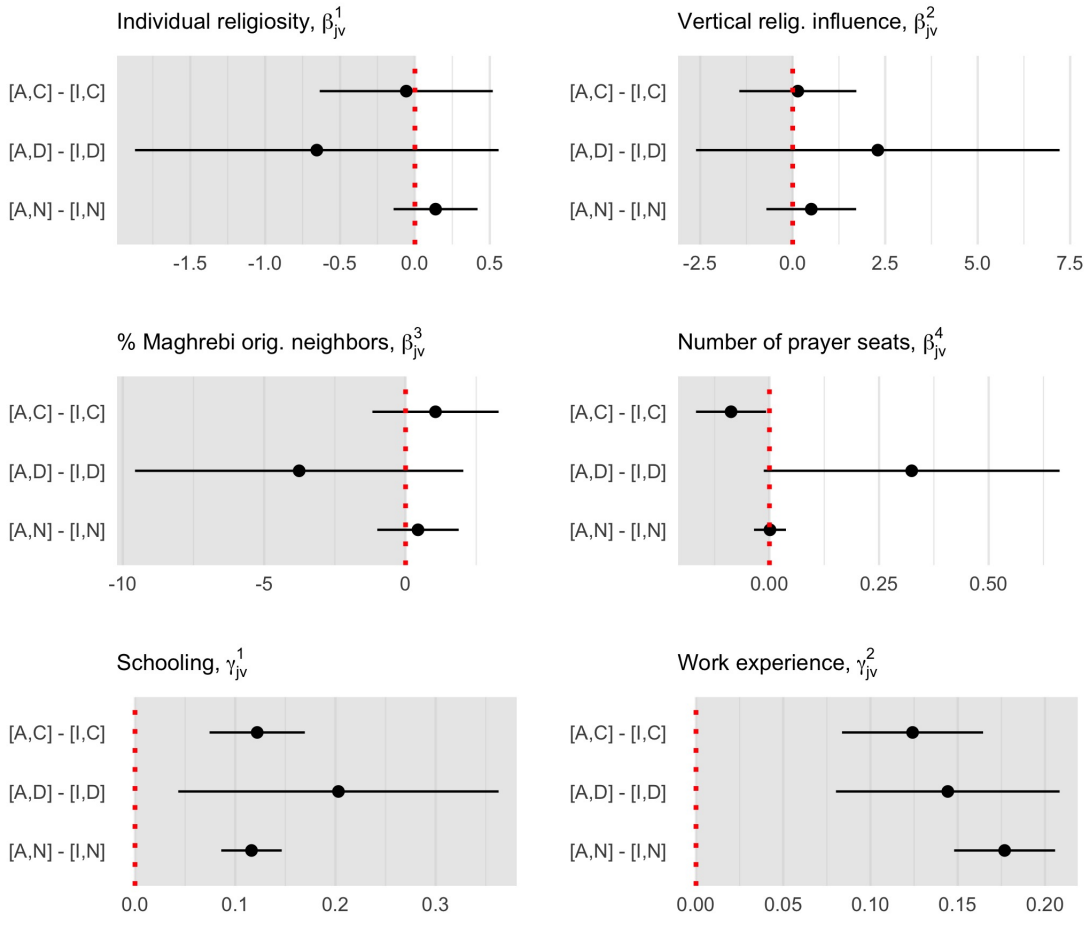


Figure A.2: Hypothesis tests for Implication 2

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 $\beta^1_{12} - \beta^1_{02}$). 90% confidence intervals are reported.

A.1.5 Appendix Tables

Table A.1: 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	0.034	-0.053	-0.055	-0.056*	-0.023	-0.034
	(0.040)	(0.036)	(0.035)	(0.034)	(0.035)	(0.032)
Always discreet symbol	0.118***	0.022	0.029	0.037	0.059**	0.069**
	(0.028)	(0.028)	(0.028)	(0.029)	(0.030)	(0.032)
Sometimes conspicuous symbol	-0.103*	-0.083*	-0.076	-0.064	-0.030	-0.033
	(0.054)	(0.046)	(0.047)	(0.044)	(0.038)	(0.036)
Always conspicuous symbol	-0.443***	-0.353***	-0.326***	-0.301***	-0.254***	-0.216***
	(0.048)	(0.032)	(0.033)	(0.030)	(0.031)	(0.029)
Demographics						
Number of children				-0.046***		-0.023**
				(0.010)		(0.009)
Number of children below age 4				-0.156***		-0.153***
				(0.021)		(0.019)
Has a partner				-0.062**		-0.061*
				(0.031)		(0.033)
Educational attainment and work experience						
Years of schooling					0.008***	0.007***
					(0.003)	(0.003)
Completed high school					-0.014	-0.019
					(0.027)	(0.025)
Higher education degree					0.074***	0.053**
					(0.024)	(0.023)
Years of work experience					0.029***	0.028***
					(0.004)	(0.004)
Work experience squared					-0.001***	-0.000***
					(0.000)	(0.000)
Has never worked					-0.214***	-0.204***
					(0.026)	(0.025)
Constant	0.812***	0.503***	0.292	0.371***	0.242*	0.025
	(0.016)	(0.136)	(0.250)	(0.134)	(0.137)	(0.171)
Religious controls			✓			✓
Other demographic controls				✓		✓
Birthyear dummies		✓	✓	✓	✓	✓
Age of arrival in France dummies		✓	✓	✓	✓	✓
Birthplace dummies		✓	✓	✓	✓	✓
Region of residence dummies		✓	✓	✓	✓	✓
Survey conditions		✓	✓	✓	✓	✓
Political opinions						✓
Observations	2,443	2,443	2,443	2,443	2,443	2,443
R^2	0.149	0.358	0.376	0.428	0.471	0.531

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 other demographic controls are dummies indicating whether the individual is a first-generation immigrant, has an Arabic-sounding first name, has a partner working, has a parent born in France, as well as levels of feelings of French identity. Also included in columns 2-6 is a set of dummies capturing the conditions in which the survey took place (whether the partner was present, whether parents were present, survey month dummies, dummies for the interviewer's age group, and interviewer's gender). The religious controls include measures of individual religiosity (levels of importance of religion in own life and of religious practice as well as a dummy indicating whether the woman uses religion to self-identify) and of religious influences from the community (dummies for whether each parent is Muslim, has a religious first name, has a Muslim partner, most of her friends are Muslims, shares of Muslims in the neighborhood, and for levels of importance of religion in her education as well as the number of seats in places of worship in the local area of residence.) The last regression includes a dummy for whether the individual has right-wing political opinions. 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 A.2: Veiling and economic participation, Muslim women.

	Woman is active (= 1 if active, = 0 if inactive)					
	(1)	(2)	(3)	(4)	(5)	(6)
Sometimes discreet	0.028	-0.049	-0.048	-0.048	-0.023	-0.028
	(0.039)	(0.036)	(0.035)	(0.033)	(0.034)	(0.032)
Always discreet	0.107***	0.018	0.023	0.035	0.055*	0.063**
	(0.028)	(0.027)	(0.027)	(0.027)	(0.028)	(0.031)
Sometimes conspicuous	-0.132**	-0.098**	-0.085*	-0.080*	-0.048	-0.048
	(0.055)	(0.047)	(0.048)	(0.046)	(0.039)	(0.039)
Always conspicuous	-0.452***	-0.347***	-0.327***	-0.290***	-0.254***	-0.219***
	(0.046)	(0.032)	(0.033)	(0.030)	(0.031)	(0.029)
Not a French speaker		-0.191***	-0.188***	-0.178***	-0.069*	-0.068*
		(0.049)	(0.049)	(0.047)	(0.041)	(0.039)
Number of children				-0.047***		-0.022**
				(0.010)		(0.009)
Number of children below age 4				-0.157***		-0.156***
				(0.020)		(0.018)
Has a partner				-0.057*		-0.065**
				(0.031)		(0.032)
Years of work experience					0.030***	0.028***
					(0.004)	(0.003)
Has never worked					-0.210***	-0.204***
					(0.026)	(0.024)
Higher education degree					0.075***	0.049**
					(0.023)	(0.022)
Years of schooling					0.008***	0.007**
					(0.003)	(0.003)
Constant	0.817***	0.660***	0.408	0.534***	0.251*	0.042
	(0.015)	(0.155)	(0.273)	(0.157)	(0.140)	(0.182)
Observations	2,588	2,588	2,588	2,588	2,588	2,588
R^2	0.150	0.356	0.372	0.428	0.472	0.531

Note: The other demographic controls are dummies indicating whether the individual is a first-generation immigrant, has an Arabic-sounding first name, has a partner working, has a parent born in France, as well as levels of feelings of French identity. Also included in each regression is a set of dummies capturing the conditions in which the survey took place (whether the partner was present, whether parents were present, survey month dummies, dummies for the interviewer's age group, and interviewer's gender). The religious controls include measures of individual religiosity (levels of importance of religion in own life and of religious practice as well as a dummy indicating whether the woman uses religion to self-identify) The last regression also includes a dummy for whether the individual has right-wing political opinions while the last two regressions also include a quadratic term in work experience and a dummy for completion of a high-school degree. 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 A.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	-0.025	0.040	-0.035	0.045*	0.037	-0.007
	(0.040)	(0.032)	(0.033)	(0.022)	(0.028)	(0.024)
Always discreet	0.106**	0.054	0.076*	0.038*	0.003	-0.022
	(0.039)	(0.035)	(0.033)	(0.019)	(0.031)	(0.026)
Sometimes conspicuous	-0.048	0.087*	-0.036	-0.040	-0.146	-0.102
	(0.042)	(0.039)	(0.036)	(0.030)	(0.152)	(0.125)
Always conspicuous	-0.207***	-0.265***	-0.215***	0.009	0.355	0.279
	(0.031)	(0.052)	(0.029)	(0.076)	(0.302)	(0.251)
Controls	✓	✓	✓	✓	✓	✓
Observations	2,161	1,200	2,437	2,229	1,339	4,466
R^2	0.542	0.399	0.535	0.280	0.628	0.501

Controls included in the regressions are the full set of variables included in Table A.1, 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: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: 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 discreet	0.102***	0.002	0.006	-0.013
	(0.026)	(0.020)	(0.020)	(0.038)
Always discreet	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)	37,680	37,680	37,680	25,354
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: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Determinants of veiling status, Muslim women

Veiling status:	Conspicuous symbol (1)	Always conspicuous (2)	Any symbol (3)	Discreet symbol (4)
Panel A: selected point estimates				
Uses religion to self-identify	0.082***	0.063***	0.090***	0.008
	(0.023)	(0.021)	(0.025)	(0.018)
At least half of friends are Muslims	0.030**	0.025**	0.043**	0.014
	(0.015)	(0.012)	(0.020)	(0.016)
Importance of religion in one's life				
A little important	0.055**	0.030	0.082**	0.026
	(0.026)	(0.023)	(0.035)	(0.028)
Quite important	0.097***	0.049*	0.183***	0.086***
	(0.029)	(0.025)	(0.038)	(0.031)
Very important	0.172***	0.134***	0.227***	0.055*
	(0.030)	(0.027)	(0.039)	(0.030)
Importance of religion in education received				
A little important	-0.010	0.015	-0.050	-0.040
	(0.032)	(0.027)	(0.044)	(0.034)
Quite important	-0.015	0.016	-0.084*	-0.069**
	(0.034)	(0.029)	(0.045)	(0.035)
Very important	-0.012	0.003	-0.044	-0.032
	(0.035)	(0.030)	(0.045)	(0.034)
Panel B: share of R^2 explained (%)				
Individual religiosity	34.72	31.76	36.82	9.57
Religious environment	14.57	13.51	12.02	13.73
Feelings of French identity	4.95	5.28	7.43	3.60
Place of birth	13.50	15.72	12.20	27.07
Schooling	7.01	7.41	3.37	17.05
Work experience	11.25	11.35	15.91	3.89
Other	14.00	14.97	12.24	25.10
Observations	2,578	2,578	2,578	2,578
R^2	0.233	0.227	0.181	0.081

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. Panel A reports selected regression coefficients for a given veiling status. Panel B reports the share of the R^2 explained by each group of independent variables using the goodness-of-fit decomposition of Huettner and Sunder (2012). See the text in Section A.1.3 for the complete list of other regressors.

Table A.6: Religious environment and religiosity by veiling status, Muslim women

Veiling status:	All Muslims	No symbol	Discreet	Conspicuous
Religious environment				
Muslim partner	0.60	0.56	0.51	0.76
Muslim father	0.93	0.94	0.79	0.97
Muslim mother	0.93	0.94	0.83	0.97
At least half of friends are Muslims	0.76	0.71	0.79	0.90
At least half of work colleagues are immigrants[1]	0.41	0.40	0.44	0.47
Had conflicts on religion with parents when 18 years old	0.14	0.15	0.18	0.11
Religious first name	0.10	0.09	0.05	0.14
Individual religiosity				
Importance of religion in one's life				
A little important	0.14	0.18	0.09	0.03
Quite important	0.28	0.31	0.33	0.19
Very important	0.55	0.47	0.57	0.77
Attends religious ceremonies				
Familial ceremonies only	0.27	0.29	0.30	0.21
Religious feasts only	0.22	0.20	0.26	0.28
Once or twice a month	0.04	0.03	0.03	0.09
At least once a week	0.06	0.02	0.02	0.17
Other indicators of religiosity				
Always respects the religious dietary restrictions	0.88	0.84	0.93	0.98
Religious marriage	0.41	0.38	0.26	0.60
Share of children with a religious first name[1]	0.05	0.04	0.01	0.08
Uses her religion to self-identify	0.15	0.13	0.16	0.23
Religious environment				
Importance of religion in education received				
A little important	0.14	0.17	0.13	0.07
Quite important	0.29	0.30	0.25	0.20
Very important	0.51	0.47	0.56	0.70
Percentage of Maghrebi immigrants in IRIS of residence				
$[1.9, 19.3)$	0.13	0.16	0.12	0.09
$[19.3, 40)$	0.41	0.40	0.47	0.39
$(40, 100]$	0.46	0.44	0.41	0.51
Presence of Muslim places of worship in commune (or arrond.)				
Places of worship (/1000 inh.)	0.05	0.05	0.04	0.06
Capacity in a place of worship (/1000 inh.)	13.06	10.82	8.11	23.42
Capacity for women in a place of worship (/1000 inh.)	2.21	8.97	6.67	19.50
Observations	3,003	2,021	318	664

Note: The data source is the Trajectories and Origins (TeO) dataset of 2008.
[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.

Table A.7: Social integration and experiences of discrimination by veiling status, Muslim women

Veiling status:	All Muslims	No symbol	Discreet	Conspicuous
Social life and integration				
Participates in household's food shopping	0.51	0.49	0.43	0.64
Often meets her family	0.88	0.87	0.90	0.91
Often meets her friends	0.87	0.87	0.93	0.83
Meets with neighbors	0.41	0.36	0.44	0.54
Meets with work colleagues[1]	0.27	0.31	0.30	0.13
Visits some recreation sites	0.62	0.66	0.81	0.41
Refuses to visit some recreation sites	0.12	0.11	0.24	0.04
Belongs to an association	0.14	0.14	0.16	0.11
Brings the children to school most of the time[1]	0.77	0.76	0.81	0.79
Opinions on discrimination and French institutions				
Victim of racism due to religion	0.46	0.38	0.59	0.63
Victim of racism due to origins	0.79	0.81	0.70	0.77
Victim of discrimination in past 5 years	0.28	0.29	0.29	0.27
Believes that racism happens often in France	0.50	0.51	0.71	0.36
Does not trust the French justice system	0.25	0.24	0.39	0.23
Does not trust the French police	0.31	0.27	0.56	0.29
Does not trust the French school	0.08	0.07	0.11	0.10
ID controlled by the police at least once	0.16	0.16	0.26	0.12
Observations	3,003	2,021	318	664

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.

[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.8: 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	0.42$^+$ (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)
Panel B: Average marginal effects						
Indiv. religiosity (β^1_{jv})	**-0.07** (0.01)	-0.01 (0.00)	**0.11** (0.02)	**-0.17** (0.02)	0.01 (0.01)	**0.12** (0.02)
Vert. transmission (β^2_{jv})	-0.08 (0.06)	-0.11 (0.09)	0.07 (0.05)	-0.00 (0.11)	0.02 (0.06)	0.09 (0.07)
Signalling						
ShareMaghrebi$_i$ (β^3_{jv})	-0.06 (0.08)	0.04 (0.05)	0.04 (0.07)	-0.09 (0.13)	-0.03 (0.07)	0.11 (0.08)
CapacityMosques$_i$ ($\beta^4_{jv} \times 10$)	-0.01 (0.02)	-0.06* (0.02)	**0.09** (0.02)	0.01 (0.03)	-0.04* (0.02)	0.01 (0.02)
Schooling ($\gamma^1_{jv} \times 10$)	**-0.06** (0.02)	-0.02* (0.01)	**-0.05** (0.02)	**0.16** (0.039)	-0.02 (0.02)	-0.02 (0.02)
Work experience ($\gamma^2_{jv} \times 10$)	**-0.10** (0.02)	**-0.04** (0.01)	**-0.09** (0.02)	**0.17** (0.03)	**0.05** (0.02)	0.02$^+$ (0.01)
Observations	2,598					
Additional controls[1]	✓					
Pseudo R^2	0.224					

Note: This table reports estimates of the parameters of the econometric model (2). 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.1.1 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 ($p < 0.01$, * $p < 0.05$, $^+$ $p < 0.1$).

[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.

Table A.9: Veiling and economic participation, alternative specifications

	Woman is active (= 1 if active, = 0 if inactive)		
	OLS (1)	Logit (2)	Probit (3)
Veiling behavior			
Sometimes discreet symbol	-0.038	-0.040	-0.041
	(0.032)	(0.039)	(0.036)
Always discreet symbol	0.069*	0.091**	0.083*
	(0.032)	(0.035)	(0.034)
Sometimes conspicuous symbol	-0.031	-0.022	-0.020
	(0.036)	(0.027)	(0.027)
Always conspicuous symbol	-0.218***	-0.178***	-0.179***
	(0.030)	(0.030)	(0.027)
Controls	✓	✓	✓
Observations	2,432	2,432	2,432
R^2	0.526	0.544	0.538

Note: Controls included in the regressions are the full set of variables included in Table A.1, column (6). Column (1) reports the baseline OLS results while columns (2) and (3) reports marginal effects estimated using logit and probit models, respectively. Robust standard errors in parentheses. Level of statistical significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A.10: Check for omitted variable bias in the association between always veiling and the activity rate

		(1)	(2)	(3)	(4)	(5)
		Coefficient Lower Bound (Oster 2019)				
		$\delta = 0.44$		$\delta = 0.88$		
Controls in Restricted (R) set	Controls in Full (F) set	$R^2_{max} = min(1.3R^2_f, 1)$	$R^2_{max} = min(1.5R^2_f, 1)$	$R^2_{max} = min(1.3R^2_f, 1)$	$R^2_{max} = min(1.5R^2_f, 1)$	$R^2_{max} = 1$
Veiling status	Table A.1, col (6)	-0.174	-0.146	-0.132	-0.077	0.030
Veiling Status; Dummies	Table A.1, col (6)	-0.160	-0.123	-0.105	-0.030	0.112
Veiling Status; Dummies; Religious controls	Table A.1, col (6)	-0.166	-0.133	-0.116	-0.050	0.078
Veiling Status; Dummies; Demographics	Table A.1, col (6)	-0.158	-0.119	-0.100	-0.022	0.126
Veiling Status; Dummies; Education; Work exp.	Table A.1, col (6)	-0.171	-0.142	-0.127	-0.067	0.046

Notes: This Table reports bias-adjusted lower bounds of the coefficient on *Always conspicuous symbol* in our regression for the activity rate based on Oster (2019). Columns (1) to (4) report these lower bounds given by $\beta^* = \hat{\beta}_F - \delta(\hat{\beta}_R - \hat{\beta}_F) \times (R^2_{max} - \hat{R}^2_F)/(\hat{R}^2_F - \hat{R}^2_R)$. $\hat{\beta}_F$ and $\hat{R}^2_F$ are respectively our coefficient and the R-squared in a regression including our full set of controls (here, column 6 of Table A.1); $\hat{\beta}_R$ and $\hat{R}^2_R$ are respectively the coefficient and the R-squared obtained from a regression with a restricted set of controls; R^2_{max} is the R-squared from a regression that includes all observable and unobservable controls; δ is the extent of selection on unobservables relatively to the explanatory power of observables. Because $R^2_F = 0.531$, $\delta = 0.88$ corresponds to the case in which all the unexplained part of the activity rate is due to selection on unobservables (R^2 of 1). $\delta = 0.44$ is the case in which half of the unexplained variation in the activity rate is due to selection on unobservables. Column (5) shows the lower bound for $R^2_{max} = 1$ for illustrative purposes. In the real world, where there is significant measurement error, R^2_{max} should be lower than one (Gonzalez and Miguel 2015). The expression "Dummies" refers to full sets of birthyear, age of arrival in France, birthplace, and region of residence fixed effects.

A.2 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).[36] 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.

[36]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 A.3, 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.[37] 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).

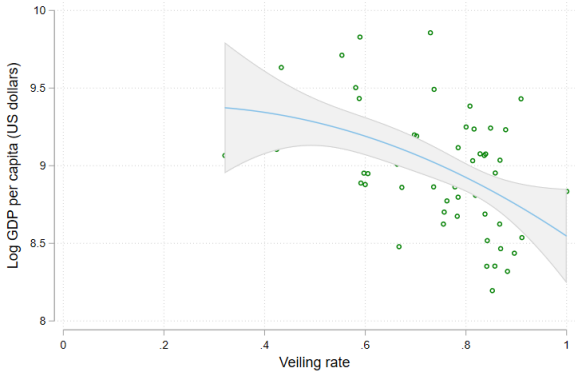
We take these results as further suggestive evidence in line with the theory. The wearing of the veil was frowned upon by the secular elite before the bans were repealed, thus imposing a high cost to women when they veil and are economically active. Actually, as Platteau (2017) argues, the rise of an Islamist party to power reinforced the laicists' attachment to the secular values. Islamic symbols, 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.

[37] 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.

(a) Primary school completion

(b) Secondary school completion

(c) Literacy



(d) GDP per capita

Figure A.3: Relationship between veiling and economic outcomes at district level, Turkey 2010–2015

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 90% confidence bands. For GDP per capita, the dependent variable is measured at the province level.

B Discreet symbols and economic penalties to veiling

It is worth noting that in the French context, the disproportionate economic discrimination against women wearing conspicuous religions symbols, in the form of policies banning the veil in certain professions, might lead to specific integration strategies involving discreet religious symbols. Indeed, as we discussed in Section 3.3, discreet symbols are mostly adopted by young, moderately religious, educated Muslim women. In this appendix we discuss how our model from Section 4.1 can rationalize this pattern.

To do so, we consider a simplified version of the model presented in Section 4.1. We assume that $p_0 = 0$ (no socio-religious penalty if choosing not to work) and $m_0 = 0$ (no material benefit if choosing not to work). Furthermore, here we depart slightly from the modelling of the economic motives in Section 4.1 by assuming that the effective wage is concave in v: $(1 - \pi(v))w$, where $\pi(v)$ is a convex function of v. By assuming concavity instead of linearity in v, we essentially wish to model the fact that discrimination against conspicuous religious symbols is disproportionately large in the labor market, compared to that against discreet symbols. This assumption reflects the observed attitudes against veiling (see our description of the context of veiling in France), as well as French policies which explicitly ban the wearing of conspicuous religious symbols for several professions (notably for civil servants) but allows the wearing of discreet symbols.

Finally, we assume away the "physical" cost of veiling from the main model: $c(v) = 0$. This is purely for simplicity, since the convexity of the function π makes the cost $c(v)$ redundant to obtain the main intuition of this model extension.

With these assumptions, the agent chooses to work over not working as long as

$$-p_1(r + R)(1 - v_1^*) - (1 - \pi(v_1^*))w > 0,$$

which simply means that the utility obtained when she adopts her optimal level of veiling at work v_1^* must surpass the utility of not working (here 0). Isolating the terms which depend on v_1^* on one side, and the constants on the other, we obtain

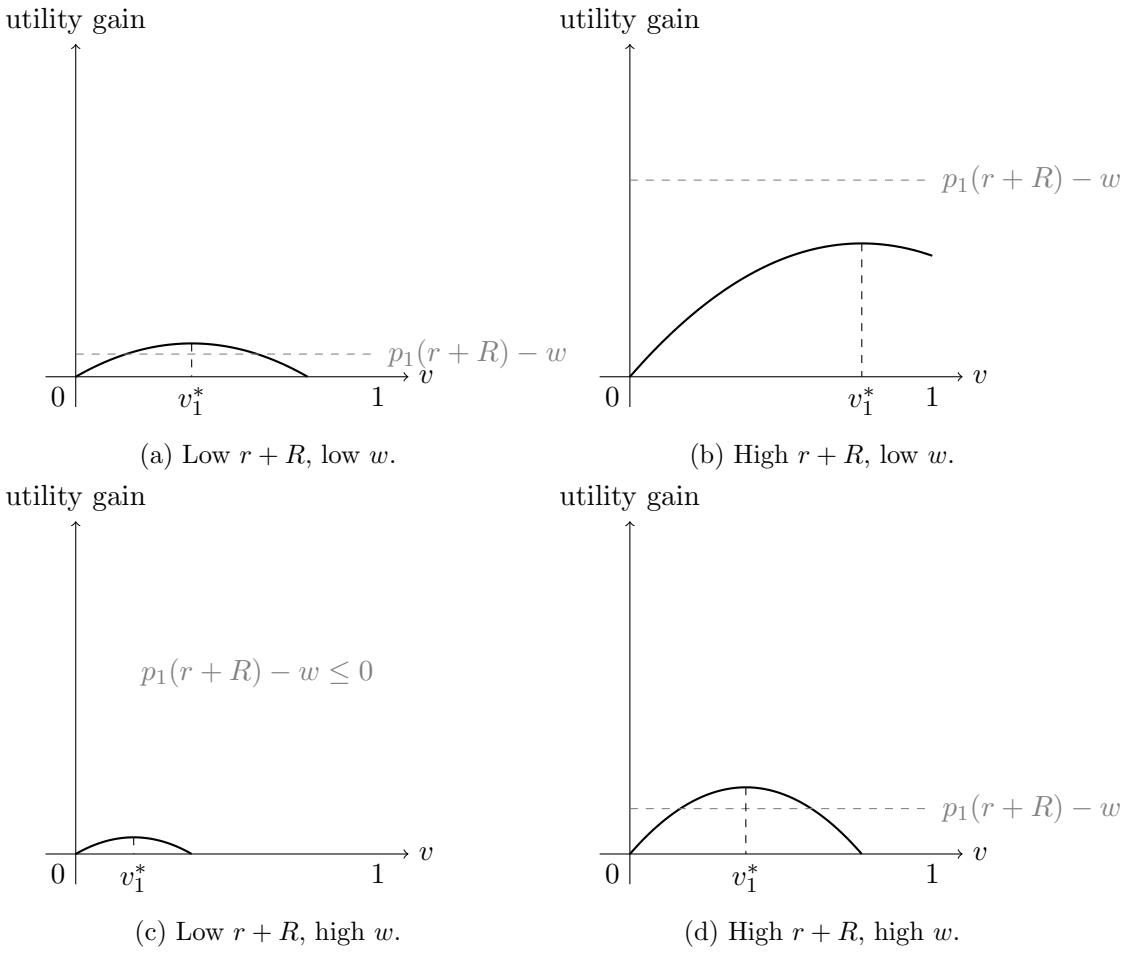
$$p_1(r + R)v_1^* - w\,\pi(v_1^*) > p_1(r + R) - w. \tag{6}$$

Recall that v_1^* is an endogenous choice which depends on $r + R$ and w, so it is not immediately obvious how the left-hand term varies with $r + R$ and w, and therefore when this condition is

satisfied.

In Figure B.1 we plot this left-hand term, along with the right-hand constant, for different values of $r + R$ and w, and by assuming a quadratic $\pi(v)$. We consider four profiles which combine low and high values for the religiosity $r + R$ and the wage w: (a) low religiosity, low wage, (b) high religiosity, low wage, (c) low religiosity, high wage, (d) high religiosity, high wage. In this graph, we observe that the two profiles (a) and (d) both choose to work, and adopt a similarly low veiling strategy. Profile (d) in particular fits the description of the young, educated, economically active, and moderately religious women who wear discreet symbols in our data. On the other hand, profile (b) chooses not to work (but would adopt a high level of veiling if she did), and profile (c) chooses to work and a negligible level of veiling.

To conclude, the adoption of discreet religious symbols by moderately religious but educated Muslim women could be explained by the fact that economic discrimination disproportionately targets conspicuous symbols. Hence, wearing discreet symbols might operate as a tool for economic integration in the face of strong economic costs of veiling.



(a) Low $r+R$, low w.

(b) High $r+R$, low w.

(c) Low $r+R$, high w.

(d) High $r+R$, high w.

Figure B.1: Utility gains from veiling for different religiosity and wage profiles.

The utility gain for veiling is given by: $p_1(r+R)v - w\,\pi(v)$. The woman chooses to work if the utility gain from veiling at v_1^* (here, the top of the parabola) is greater than $p_1(r+R)-w$. For the convex function π, we consider a quadratic form $\pi(v) = av^2$. Values used to generate the graphs: $p = .5$, low $r+R = 1.15$, high $r+R = 2.3$, low $w = .5$, high $w = 1$, $a = 1.5$.

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