Veiling and Economic Integration of Muslim Women in France*

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Abstract

Veiling among Muslim women is a cultural practice which has been at the center of public debates in Western countries for a few decades, but is still poorly understood. Using unique confidential survey data over the largest sample of Muslim women in France, we unpack the various motives behind veiling behavior. Grounded in economic theory of veiling, our analysis shows that veiling is very costly in terms of economic integration. We find that women reporting to always wear a conspicuous religious symbol are significantly less likely to be economically active. Our results suggest that women are willing to adopt such a costly identity trait mostly for private motives rather than because of pressure from the community. As such, our results question the rhetoric often used to justify policies restricting the wearing of religious symbols in France. Additional results suggest that wearing discreet religious symbols might act as a strategy to mitigate the economic penalty of the veil while allowing women to preserve religious benefits.

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1 Introduction

Veiling among Muslim women is a cultural practice which has been at the center of public debates in Western countries for a few decades. Often perceived as a signal of both cultural distance from the majority and of the subordination of women, the wearing of the Islamic veil is a source of disputes in many contexts. In France, a country in which State secularism "constitutes a pillar, even the identity and foundation of the community life" (Andriantsimbazovina et al. 2020, p. 7), the wearing of conspicuous religious symbols, in particular of the veil, is a burning issue. At the heart of the "one-sided debate"[1] lies the idea that Muslim women wear the veil against their own will and must be freed from such oppression. To be sure, the adoption of this cultural trait entails numerous costs such as reduced employment prospects, discrimination, and physical discomfort. Therefore, as many politicians advocate for a strengthening of secular policies,[2] it is crucial to understand what are the incentives behind veiling behavior and, in particular, whether these are private religious benefits or the result of communitarian pressure. Indeed, these two sources of incentives could lead to opposite policy recommendations: in the former case, further limiting the wearing of the veil may inhibit socio-economic integration of Muslim women and thus reduce social welfare (Carvalho 2013, Shofia 2020); in the latter, banning the veil may help them emancipate (Maurin and Navarrete-Hernandez 2021).

Despite the considerable media, political, and academic attention, the reasons why women veil in such a secular country are still poorly understood. While there is a large literature in the social sciences dedicated to this question, most of the empirical evidence on veiling behavior is based on interviews conducted over small samples of women (or adolescents). Moreover, in France, such interviews are typically conducted in the Parisian region (e.g. Gaspard and Khosrokhavar 1995, Abdelgadir and Fouka 2020), but Muslims are increasingly present in the whole territory. In addition to the representativeness issues, this methodology has the inherent drawback that, especially for such sensitive topics, interviewees are subject to social desirability bias. This bias may be large in this context since respondents know that the topic of the interview is veiling behavior. It is thus not clear how individuals' responses reflect true individual preferences for veiling or influences by their community.

In this paper, we make one of the first attempts at unpacking the various motives for veiling using rich observational data. Using unique survey data over more than 3,000 Muslim women matched with other data sources, we measure pressure from the community at the local level using fine-grained information on the respondents' place of residence. In addition to our constructed measure of communitarian pressure, we exploit the richness of the survey, which contains detailed information on respondents' life including parental religious transmission as well as indicators of religiosity and of the individual's religious environment. In our regression analysis, we can control for all those forces, thereby substantially reducing social desirability bias, a key limitation of interview data, without the need for a revealed-preference approach.[3]

[1] This expression is used by French journalist Alain Gresh (2020), but the idea that Muslim women do not get a voice in the debates on the veil is shared by many other authors (eg. Nordmann 2004, Scott 2009).

[2] See, for example, the recent debates (in French) at the French Senate during its sessions on the law on separatisms (Sénat 2021).

[3] Shofia (2020) uses a revealed-preference methodology to measure veiling behavior of Muslim women in Indonesia using photographs of pupils in school register books. Though innovative, this approach cannot be applied in France because veiling at school is prohibited since 2004. Moreover, even in the absence of secular

Our conceptual framework extends Carvalho's (2013) economic model of veiling. We consider two extensions to the original model based on ethnographic evidence in the social sciences and on some average tendencies in the data. They allow us to better account for the secular constraints at school and in the workplace in France as well as for discreet symbols of religious affiliation in the analysis. The wearing of discreet religious symbols (such as jewelry) has received little attention in the literature. We argue that in secular countries, discreet signs may play an important role: while mitigating the costs of religious-symbol wearing on economic opportunities, they still allow women to signal their piety to their close ties. Theoretically, this logic calls for a varying salience of discreet symbols depending on the audience, be it the secular majority or the women's religious community. We find that our empirical results are consistent with this extended model.

Our empirical analysis comprises two main steps. First, we analyse the relationship between veiling and economic participation of Muslim women in France. We show that wearing conspicuous religious symbols is very costly in terms of economic integration. Using a very rich set of controls, we notably find that always wearing a conspicuous religious sign in public is associated to a decline of more than 27 percentage points in economic participation (defined as being active on the labor market or studying) in the cross-section. This correlation is large and economically significant. In our preferred specification, it is equivalent to the effect of having about 1.5 additional children aged less than 4 years old on economic activity. We find that this negative relationship is robust to a series of specification checks. In particular, exploiting the information on respondents' employment history, we construct a retrospective panel dataset of economic participation. We show that the estimated negative correlation is robust to the inclusion of year fixed effects and random effects and is similar in magnitude to that obtained in the cross-section.

Second, to understand why Muslim women are willing to take such a costly decision, we estimate a simple static discrete-choice model of veiling. We derive the empirical model directly off an extension of Carvalho's (2013) seminal economic theory of veiling. Based on detailed ethnographic evidence, we argue that this framework can be applied to veiling in France (and potentially other secular States) through two parsimonious extensions. In the model, veiling acts as a *commitment device* to follow religious norms of behavior and as a *signal* about this commitment to the community. We think of the former as the religious intrinsic benefit for the individual and the latter as the benefit stemming from external pressures. We measure the intrinsic benefit using multiple indicators of religiosity (of both subjective feelings and actual religious practices) available in the survey data. A key contribution of this paper is to develop proxies for various sources of external religious pressures. For parental transmission, we use the (self-reported) importance of religion in the education received by the respondent and religious name-giving. For communitarian pressure, given that data on religious diversity is not available in France, we use proxies of Muslim presence at the local level such as the share of Maghrebi immigrants in the local population as well as the number and size of Muslim places of worship (mosques and prayer rooms). While communitarian pressures have an effect

regulation (such as in other developed countries), such a method would be difficult to apply because non-veiled Muslims form a religious minority and are thus difficult to identify simply out of a photograph and non-religious personal information.

on veiling behavior, we find that a much larger share of the variation in veiling patterns can be explained by individual religiosity and other private motives. As such, our results question the rhetoric often used to justify policies restricting the wearing of religious symbols in France. Consistent with our analytical results, we conjecture that secular regulations which limit the expression of religious faith in public are likely to impede integration of Muslim women into Western societies.

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.[4] In this literature, most of the evidence is based on interviews with Muslim women since veiling behavior is rarely observed in surveys or other standard datasets. While interviews have the potential to dig deeper into specific questions of interest and uncover a large number of potential channels, they often suffer from small sampling and representativeness issues. In a recent contribution, Shofia (2020) measures the veiling rate at the district level to circumvent this problem and provides robust empirical evidence that better economic opportunities for women induce Indonesian women to veil. In contrast, in this paper, we study the case of a secular country in which Muslims form a minority and 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 in Belgium, 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 usually difficult to measure in the decision to wear the Islamic veil over a large sample. In particular, we can distinguish between private and communitarian incentives to veil, which has so far eluded empirical researchers. Another close study is that of Abdelhadi (2019) who finds that the wearing of the veil is associated with lower employment in the United States, but does not investigate the motives for veiling. Her result is consistent with our findings for France for which we document large differences in economic participation between veiled and non-veiled women. Our approach is grounded in economic theory of veiling (Carvalho 2013) which we extend and directly take to the data to explain veiling patterns in France. We thus not only provide descriptive tests of the theory's predictions, but also estimate (linear combinations of) the core parameters of the model.

Second, we bring new evidence on motives for adopting costly cultural practices both theoretically and empirically. In the vast literature in economics of religion and identity, it is now acknowledged that individuals may choose their identity via rational decision-making even if it requires costly investments or sacrifices (Iannaccone 1992, Akerlof and Kranton 2000, Atkin et al. 2021, Jia and Persson 2021). However, though potentially rational, adopting (or transmitting) certain cultural practices can be an impediment to social integration of certain groups or cause problems in other aspects of the individual's life such as health or employment opportunities. A recent literature has thus investigated what are the incentives that justify such choice. Recent examples include foot-binding in China (Fan and Wu 2022), female genital cutting in Africa (Bellemare et al. 2015, Novak 2020, Gulesci et al. 2021), and Arabic-sounding

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

baby-naming choice in France (Algan et al. 2022).[5] We contribute to this literature in three ways. First, we document that in France, veiling is an impediment to economic integration of Muslim women rather than an integration strategy as suggested by evidence in Muslim-majority countries (Aksoy and Gambetta 2016, Shofia 2020). Second, we provide detailed descriptive evidence of why Muslim women wear such a costly signal of religious identity in France. Third, we uncover novel empirical patterns concerning the wearing of *discreet* signs of religious affiliation, which have received little attention in the literature. In particular, they appear to be worn by Muslim women who are educated and moderately religious. These patterns are in line with our extension of Carvalho's (2013) model in which the wearing of discreet symbols do not impact women's opportunities, but still bear religious benefits.

Third, our results have implications for State secularisation policies. Of particular interest in our context, two recent empirical studies reach opposite conclusions on the effects of the French headscarf ban in public schools. On the one hand, Abdelgadir and Fouka (2020) find that the 2004 ban depressed schooling outcomes of French girls of North-African origin. On the other hand, Maurin and Navarrete-Hernandez (2021) obtain that the 1994 ministerial circular asking school principals to prohibit the wearing of the veil in schools had a positive impact on their educational attainment. Even if they are comparing different cohorts of adolescents and different treatments, these contradictory pieces of evidence are puzzling. By focusing on why Muslim women are willing to sacrifice economic opportunities to veil, we can offer a possible answer to this debate. If incentives to veil are mainly *private*, more stringent secular regulations should reduce incentives to integrate for religious women who wish to veil. On the contrary, if *communitarian* incentives prevail, such veil bans may help women emancipate and liberate them from a costly religious norm that reduces their economic opportunities. Our results lend support to the former interpretation. The main observed drivers of veiling behavior in France appear to be the woman's religiosity as well as non-religious identity such as her origins. Religious pressures from women's close community are also correlated with veiling behavior, but turn out to explain only a small share of variation in veiling behavior in our regressions. Proponents of French secular regulations often base their arguments on the idea that Muslim women simply do not want to veil and are forced to do so by other Muslims. Our analysis thus casts serious doubts on this assumption and suggests that the French secular regulations most likely inhibit social and economic integration of Muslim women in France rather than facilitating their emancipation.

The rest of the article is structured as follows. Section 2 describes the institutional context and presents evidence on the incentives to veil in France uncovered in the social sciences. Section 3 outlines the theoretical framework guiding the empirical analysis. Section 4 describes the data sources used in the paper and presents some summary statistics. In section 5, we explore the relationship between veiling and economic participation. Section 6 presents the analysis of the determinants of veiling behavior and a discussion of our findings. Finally, Section 7 concludes.

[5] 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 of name Americanization of migrants. See also Bisin et al. (2011; 2016) and Drydakis (2013) on economic returns of assimilation for migrants.

2 Veiling in France

The wearing of the Islamic veil has been a burning issue in France since at least three decades. In October 1989, three girls were expelled from their middle school in Creil, a poor and ethnically mixed city north of Paris, because they refused to remove their headscarves. This "*affaire des foulards*" (headscarf affair) was a major media event in the entire country. It generated large debates and culminated in a ruling in favor of the expelled girls from the highest French administrative court (Scott 2009). However, the wearing of the veil in schools, the institution inculcating republican values, continued to be seen as a problem by the French authorities. In 1994, the Ministry of Education issued a circular asking school principals to prohibit the wearing of conspicuous religious symbols by students. Ten years later, this controversial position was enshrined in law. Proponents of the 2004 legislation 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).

After the question of veiling in schools was settled,[6] the wearing of conspicuous religious symbols in public spaces started to draw considerable attention. Full-face veils (*burqa*) were banned in 2010 and several French cities later prohibited the *burkini* on their swimming areas, especially on beaches. Finally, those debates are still very much alive nowadays. The question of the wearing of the veil 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).

A quite striking feature of this "*exception française*" is that Muslim girls and women, who are the most affected by these policies, have been largely ignored in those debates and rulings. Even today, there is evidence of censorship against intellectuals and researchers who criticize the secular policies (Khosrokhavar 2020). In fact, the "one-sided debates" have unfortunately shown how little policymakers know about the realities and constraints their Muslim population faces (Scott 2009, Nordmann 2004). Yet a considerable amount of work in sociology and anthropology has been dedicated to understanding why women veil and how it is to live in France as a Muslim.

In a series of one hundred interviews with Muslim girls conducted in the Paris and Dreux suburbs, Gaspard and Khosrokhavar (1995) identified three types of veiled females in France. The first group, that they call the "veiled immigrants" is composed of women of a certain age (generally mothers) who arrived in France veiled and simply kept the practice. These women usually do not often go out in public and stay within their neighborhood. The authors argue that, since this veil is associated to immigration, it is not shocking for the French society. The veils that trigger more animosity are those worn by adolescents or young girls born in France. The authors divided those into two categories, namely the veils worn by "force" and those that are claimed by the adolescent. Girls for whom the veil is imposed by the family or the community are those that proponents of the secular policies claim are liberated by the ban in schools. Under this normative view, it is argued that there exists a "silent majority" of Muslim girls in this situation, thus justifying the harm imposed on other female Muslims who truly want to veil (Maurin and Navarrete-Hernandez 2021). However, interviews and surveys conducted in

[6] In fact, discussions about whether mothers who accompany their children to school or taking their children to extracurricular activities should be allowed to veil kept on going. See, for example, the recent debates (in French) at the French Senate on the latter question during its sessions on the law on separatisms (Sénat 2021).

France suggest the opposite: the vast majority of respondents claim that they wear the veil by individual choice (IFOP 2019, Institut Montaigne 2016, Gaspard and Khosrokhavar 1995). The third group identified by Gaspard and Khosrokhavar (1995) is the one of post-adolescents who choose to wear the veil so as to reconcile their religious duties and the desire to integrate into the French society. These daughters of immigrants want to wear the veil and they defend their right to do so. This phenomenon is usually more difficult to understand for the French secular society, in part because it really is a French phenomenon and it cannot be seen as "foreign" (Scott 2009). Moreover, even within the Muslim community, there is suggestive evidence that the motives behind veiling are misinterpreted. Indeed, Muslim women who do not veil are much more likely to believe that those who veil are doing so out of coercion or imitation (IFOP 2019).

2.1 Veiling and economic participation in France

Veiled women in France face many obstacles to economically integrate into French society (Adida et al. 2010; 2016, Jouili 2020). As already described at the beginning of this section, a series of policies adopted in the 2000s limit the expression of religious faith in public spaces. In addition to this set of legislations that focus on schools and the public sphere, Muslim women face a number of additional constraints in the workplace.

First, and certainly the most stringent one, is the duty of neutrality imposed on civil servants. In France, a civil servant is not allowed to express her philosophical, political, or religious beliefs while on duty (Bill 83-634). Workers of the public sector that do not interact with citizens are also subject to this law. The wearing of conspicuous religious symbols at work has for long been identified as a form of such religious expression and is thus prohibited by law for civil servants. Over the past twenty years, this duty of neutrality was further extended to private-sector workers who provide a public service.[7] Sanctions can go up to lay-off, which, in the French public sector, is only possible when a civil servant commits a grave misconduct. Refusing to unveil is interpreted as such because *laïcité*, the French peculiar version of State secularism, is deemed a fundamental value of the Republic.

Second, veiled women also face several constraints to employment in the private sector (Ajbli 2011). While the duty of neutrality does not apply to the private sector in most cases,[8] there is empirical evidence of hiring discrimination against Muslims, in particular for those with higher levels of religiosity. Using a correspondence-test methodology, Valfort (2020) finds that, while signalling one's religiosity significantly increases call-back rates from French employers for Christians, it substantially decreases it for Muslim applicants.[9] 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.

In interviews, employers declare that these discriminations occur because religious expression, such as veiling, can be a source of conflict at work (Adida et al. 2016). Human

[7] The most polemical example is the lay-off of the Baby-Loup private kindergarten's deputy director for wearing the Islamic veil at work in 2008. See, for example, Rubio (2015).

[8] Although illegal, some (rare) private firms openly adopted bans of conspicuous religious symbols. The first private firm (not providing a public service) to do so was Paprec, a firm specializing in the recycling of residual materials, in 2014 (Maillard 2017).

[9] Valfort (2020) uses extra-curricular activities (volunteering for a Christian or a Muslim Scout association) as a signal of religiosity. She argues and confirms that French employers value such extra-curricular activities when they judge the quality of a CV.

resources directors report fearing that, if potential employees express their religious beliefs in the workplace, it will cause problems. Moreover, accommodating religious practices of employees is often seen as a challenge for employers (Cintas et al. 2012). This is especially true for Muslims since some of their religious practices, such as daily prayers and fasting, might reduce productivity (Bouzar and Bouzar 2009, Maillard 2017).[10] In annual surveys representative of the population of French managers, the *Observatoire du Fait Religieux en entreprise* studies the presence of religious behaviors in the workplace. These surveys show that, since 2014, the share of observed religious behaviors in the workplace that have required a managerial intervention rose from about a quarter to more than half. Out of those cases that required an intervention, 19.5% generated conflicts in 2021, up from 6% in 2014. What is more, Islam is by far the religion that is the most cited by employers for observed behaviors (73% in 2021). Managers also report that, when they notice a discriminatory situation in hiring, Muslims represent 70% of the cases. Finally, 10% of managers report being overburdened by religious behaviors in their firm (Institut Montaigne 2014–2021). These pieces of evidence suggest that expressing religious beliefs, including through the wearing of the Islamic veil, is frowned upon in many private firms. Combined with the constraints in the public sector and schools, veiling appears as potentially very costly in terms of education and employment prospects. Therefore, it is crucial to understand why women choose to adopt such a costly cultural practice, and we now turn to this issue.

2.2 Why do Muslim women veil?

In France, the wearing of religious symbols such as the veil is a heterogeneous practice among Muslim women and it is adopted for various reasons. The literature in other social sciences (in particular in sociology) offers an excellent overview of the main motivations to wear the headscarf. We use this evidence to support our extensions of the existing theory of veiling (Carvalho 2013) and to guide the empirical analysis.

As highlighted in the economic literature, veiling can act as a *commitment device* and as a *signal* about this commitment to the community (Carvalho 2013, Shofia 2020). In Carvalho's (2013) own words, this "costly commitment [...] reduces temptation to engage in religiously-prohibited behavior" (p. 345). By limiting the opportunities to deviate from the prescribed norms and by acting as a physical reminder of one's faith, the veil can reduce the religious cost of integration. Some Muslim adolescents "wear the veil so as to exempt themselves from the constraints that traditionally weigh on women. Thanks to it, they can go out" (Gaspard and Khosrokhavar 1995, p. 37). The commitment motive of adoption is further confirmed by survey evidence and interviews conducted with French women.[11] For example, in a nationally-representative survey of more than 1,000 Muslims in France, 76% of veiled women invoke "religious duty" and 35% "issues of safety" as reasons to veil (Institut Montaigne 2016). The veil, in this model, acts as a form of protection against religious risk, which is in line with these numbers. Consider, as additional illustration, the following excerpts from interviews conducted

[10] There is recent empirical evidence that these religious practices actually do not reduce productivity. See Hu and Wang (2021).

[11] The commitment motive is also supported by anecdotal evidence in other Western countries. See, for example, Atasoy (2006) for Canada and Read and Bartkowski (2000) and Droogsma (2007) for the United States.

in Canada with young Muslim women by Atasoy (2006):

> "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."

Such statements seem to confirm Carvalho's (2013) interpretation.

While some other reasons to veil such as fashion do not affect Carvalho's (2013) predictions in a substantial way, we argue that it is necessary to incorporate at least one other motivation to veil to understand veiling in France. It relates to the multiple constraints Muslim women face when they are economically active and wear the veil as described in the previous section. In Muslim-majority countries, where women face no such constraints, the costs of veiling are essentially limited to the judgement from the secular and private costs like discomfort (Carvalho 2013). However, it is clearly not the case in a secular country like France. The wearing of the veil entails numerous costs. Indeed, the veil is often seen as a sign of Islamist fundamentalism and of the subordination of women by the secular society (Scott 2009). The policies restricting the wearing of religious symbols in the public sphere and discriminations in private firms make it especially difficult for veiled women to participate in the economy. Among veiled women, the perception of the practice (and discrimination) by the French society is usually at the heart of their preoccupations (Gaspard and Khosrokhavar 1995). According to French sociologist Farhad Khosrokhavar (2004), "the essential problem to which young Muslim girls are confronted is the difficulty to harmonize their families' demands with those of the society [...] two dimensions difficult to reconcile" (p. 90). Therefore, while one's close social network might approve of the veil, it is clear that public opinion and restrictions on veiling should incentivize Muslim women not to veil in public.[12]

Finally, there are two other potential reasons we will pay attention to in the empirical analysis. The first concerns identity motives that are not necessarily religious. For some Muslim women, the veil is also a mean to reaffirm their distinction with the rest of society. As Scott (2009) notes, the veil is seen by public opinion as "a sign of inherent non-Frenchness" (p. 15). For adolescents who want to distinguish themselves from their peers, the veil is thus a visible sign of difference from the "rooted French" (Khosrokhavar 2004, van der Hasselt 2019). For Muslim women, veiling may be a mean to feel closer to the North-African community and to their origins (Silhouette-Dercourt et al. 2019). In the same line of thought, wearing the veil may be a way to rebel against a society that claims to defend liberty of choice, but discriminates against Muslims. There is empirical evidence that this form of "identity backlash" takes place in France (Abdelgadir and Fouka 2020).[13]

[12] Interestingly, in their interviews with Muslim women, Gaspard and Khosrokhavar (1995) also find that, in some cases, Muslim girls report that they chose to veil *against* their parents' will.

[13] See Fouka (2020) and Sakalli (2019) for evidence of such cultural backlash in other contexts. Fouka (2020) notably finds that Germans in States that banned German in schools after World War I were less likely to

The second relates to perspectives on the marriage market. Even if there is no strong suggestive evidence that marriage concerns play an important role in the veiling choice of French Muslim women, it is possible that the veil acts as a signal on that market. For example, religious husbands may value their wife's piety and the veil may act as a signal of this religiosity (Patel 2012). We thus take this additional possibility into account in our empirical analysis by investigating whether veiling behavior is influenced by marital status.

2.3 Discreet religious symbols

The numerous discussions on *laïcité* and religious symbols in France focus on the *visibility* of religion in the public sphere. Almost absent in the public debate, discreet symbols of religious affiliation are tolerated by law. The literature in the social sciences has also paid little attention to the wearing of discreet symbols of religious affiliation. However, in a secular country like France, it is argued that expression of religious faith can be considered appropriate if it is "discreet, tamed, or biddable" (Martínez-Ariño and Griera 2020, p. 228). We can thus expect that the general public does not disapprove of discreet religious symbols. It could also be that they do not know they are religious signs or that women can hide them when confronted to their secular peers. Following this logic, we hypothesize that discreet symbols allow women to alleviate the social costs of veiling while still allowing them to signal their piety to their close community. We incorporate this hypothesis in our conceptual framework in the next section and verify whether the data supports it in our empirical analysis.

3 Conceptual framework

To develop the conceptual framework guiding the empirical analysis, we proceed in two steps. First, as our theoretical starting point we consider Carvalho's (2013) model of veiling and discuss under which conditions this model can explain the ethnographic evidence on veiling and economic participation in France described in section 2.1. Second, we introduce the additional main mechanisms described in the previous section and study their implications. We notably introduce the idea that veiling entails additional costs when integrating by making the benefit of integration depend on the veiling status in a parsimonious way. This accounts for legal restrictions and on-the-job discriminations against the veil in France. Additionally, in an extension of the model, we incorporate the notion of *salience* of different religious symbols to different audiences to study the role of discreet symbols, a key contribution of our approach.

3.1 Carvalho's theory of veiling

In the model of Carvalho (2013), veiling is best described as a technology which can alleviate the intrinsic and social costs of integration for religious women. When integrating, the reasoning goes, women are exposed to opportunities of engaging in religiously-prohibited behaviors. For

volunteer for World War II and more likely to marry within their ethnic group and to give German names to their children. Sakalli (2019) finds evidence that a State-mandated secularization-of-education reform in Turkey resulted in a religiosity backlash in provinces with higher pre-secularization levels of religiosity. Moreover, parents of those provinces were less likely to send their children to secular schools relative to families from lower-religiosity environments.

religious women, engaging in such behaviors might later cause regret, or blame from their community. Veiling provides a practical protection against these temptations; as such, it is both a commitment to oneself and a signal to others.

Carvalho's model provides an analytical framework to study the joint decision to veil and integrate. Consider a population of women, indexed by i. A woman is either *religious*, $i = r$, or *secular*, $i = s$. The proportion of religious types in the population is q. Each woman faces an exogenous risk p of engaging in religiously-prohibited behavior. Such a deviation from the religious norm first entails an *intrinsic* payoff λ_i. By assumption $\lambda_r < 0 \leq \lambda_s$, so that religious women regret engaging in religiously-prohibited behavior, but secular women don't (and may even enjoy it). Second, deviating from the religious norm also entails a *social* payoff, $q\lambda_r + (1-q)\lambda_s$.

Veiling decision. To reduce the risk of deviating, a woman may choose a degree of veiling $v \in [0, 1]$. This degree of veiling can be interpreted as more or less restrictive forms of religious clothing. By choosing v, a woman lowers her risk of deviating to $p(1-v)$. On the other hand, veiling is costly, reflecting for instance the physical discomfort or discriminations that veiled women may face. Woman i's utility function is thus given by

$$U_i(v) = \underbrace{p(1-v)\lambda_i}_{\text{intrinsic payoff}} + \underbrace{qp(1-v)\lambda_r + (1-q)p(1-v)\lambda_s}_{\text{social payoff}} - c(v) \tag{1}$$

where $c(v)$ is the cost of veiling. Assuming that this cost is strictly convex, the optimal degree of veiling exists and is higher for religious women than for secular women. This is simply because religious women have an intrinsic incentive to veil, while secular women have an intrinsic incentive *not* to veil.

Integration decision. In a second step, assume that women can choose whether to integrate, $\ell = 1$, or to segregate, $\ell = 0$. In Carvalho's (2013) model, this choice has two effects. First, each choice ℓ entails a different exogenous risk p_ℓ: integration is associated with a greater risk than segregation, i.e. $p_1 > p_0$. Thus women of both types veil no less when integrating than when segregating. Second, integration is rewarded with a material benefit $B > 0$, while segregation is not. Calling V_i^ℓ the indirect utility of veiling under choice ℓ, woman i will then decide to integrate if and only if $V_i^1 + B > V_i^0$. Here, Carvalho (2013) shows that secular women integrate more than religious women. More precisely, for any value of B, secular women integrate whenever religious women do, but the opposite is false. This is because religious women face a higher intrinsic cost to integration.

3.2 Veiling and integration

While Carvalho (2013) does not explore it in detail, this last result (secular women integrate more than religious ones) has implications for the population-wide correlation between veiling and integration. Indeed, if secular women integrate whenever religious women do, a correlation between veiling and integration can only appear in the model when secular women integrate, and religious women segregate. But it is possible to show that secular women veil only when

two conditions are met: (1) the religious disapproval $|\lambda_r|$ is large, and (2) the religious share q in the population is large enough as well. It is not, however, enough to justify that a positive correlation between veiling and integration will exist, since under these conditions segregated religious women will veil as well. In fact, in the model above, the only reason why integrated, secular women should veil more than segregated, religious women, is because integrated women are exposed to a much higher risk of religiously-prohibited behavior than segregated women. We summarize this result in Proposition 1.

Proposition 1. When integration is characterized by a higher risk of religiously-prohibited behavior, veiling is positively correlated with integration if and only if $|\lambda_r| > \lambda_s$, p_1 is large enough compared to p_0, and q is close enough to 1.

Proof. See Appendix A. □

This result implies that for many contexts, the population-wide correlation between veiling and integration should be *negative*. Indeed, a positive correlation requires a Muslim majority who strongly disapproves of religiously-prohibited behavior, as well as an environment in which integrated women are perceived as much more exposed than segregated ones. In particular, we believe that these conditions do not apply to veiling in France as described in section 2, and possibly not to other Christian-heritage societies.[14]

This simple analysis provides some nuance to Carvalho's (2013) interpretation that "veiling is a strategy for integration, enabling women to take up outside economic opportunities while preserving their reputation within the community" (p. 337).[15] In a low-religiosity environment, the veil can in fact lose its role as an enabler of integration. When society disapproves of religious norms, religious women find it hard to integrate because their religious values clash with those of the majority. They refrain from integrating not only because it exposes them to an increased risk of deviating from religious norms of behavior, but also because they must face the social stigma associated with veiling in a secular society. In this context, the veil is a double-edged sword: while it does alleviate the *intrinsic* religious cost to integration, it also increases its *social* cost. When this social cost is too high, veiling becomes counterproductive for integration.

Veiling and on-the-job discriminations. The difference in exposure to risk between integrated and segregated women is a credible channel to explain the heterogeneity in veiling behavior. Yet, we argue that at least another incentive might drive the negative correlation between veiling and integration. Namely, we believe that the discriminations against veiling

[14] We also note that, in the original model, the positive correlation is driven by secular women who integrate and veil. In the data, we cannot quantify the prevalence of veiling among the secular because secular individuals reporting having no religion were not asked about religiosity and religious symbols in the TeO survey. The only survey we are aware of that reports such information is the one conducted by Institut Montaigne (2016), but their sample size is very small (155 such respondents) and their results do not suggest a higher degree of veiling among the non-Muslims.

[15] If veiling is a strategy for integration, one could naively infer that women who integrate veil more overall. In fact, this inference is true in the setting of Carvalho (2013), but it relies on the assumption that $p_0 = 0$ (which automatically situates his setting in the case $p_1 \gg p_0$). In this special case, women who segregate never veil, and therefore the correlation between veiling and integration can only be positive. As soon as $p_0 \neq 0$ however, this correlation need not be positive anymore. We should also note that, in reality, non-integrating women *do* veil.

at school and on the labor market, as argued in section 2.1 for France, provide a powerful disincentive to veil in public for women. Because of hiring discriminations or legal restrictions to veil on-the-job, the choice to veil may also negatively impact women's job opportunities.

It is thus useful to analyse the veiling decisions under this alternative mechanism. For the model to account for it, we simply consider that the material benefit to integration can be negatively affected by the veiling decision. (Here we do not consider that there is a difference in exposure to risk for simplicity, so that $p_1 = p_0 = p$.) As in the case of the religious payoff, we assume that the material benefit depends on the religious make-up of the population. Religious individuals do not discriminate against women who veil, providing them with the constant material benefit $b > 0$. Secular individuals, however, do discriminate against them, providing the benefit $b \times (1 - \alpha v)$ to a woman with veiling level v. Here, $\alpha > 0$ is a measure of discriminations against the veil in a professional context. Hence the material benefit to integration depends on v according to

$$B(v) = q\, b + (1 - q)\, b\, (1 - \alpha v). \tag{2}$$

Note that as α tends to 0, we are back to the previous case in which the material benefit does not depend on the veiling decision.

To summarize, the utility of the joint veiling–integration decision is thus given by

$$U_i^{\ell}(v) = p(1 - v)\lambda_i + qp(1 - v)\lambda_r + (1 - q)p(1 - v)\lambda_s + \ell\, B(v) - c(v) \tag{3}$$

subject to (2). The fact that the benefit to integration B depends negatively on v implies that for any given type, a woman who integrates will veil less than if she segregates. Furthermore, the result that secular women integrate more than religious women still holds. Bringing these two insights together, we obtain the following result for the correlation between veiling and integration.

Proposition 2. When veiling decreases the material benefit to integration, veiling is always negatively correlated with integration.

Proof. See Appendix A [not typed yet]. □

In Figure 1 we represent the optimal veiling patterns for different values of the model parameters.

3.3 Two types of religious symbols

In the data, we observe two categories of religious symbols, that is, *discreet* and *conspicuous* symbols. We could first think of discreet symbols simply as a low level of v, however, we note that Carvalho's (2013) discussion was concerned with *visible* signs of religious affiliation that are a clear signal of piety. In the French context, it may be difficult to argue that discreet symbols fall into this domain. Given the paucity of ethnographic evidence on the wearing of discreet signs of religious affiliation, we investigate the average tendencies in the data to analyse discreet symbols through the lens of the model.

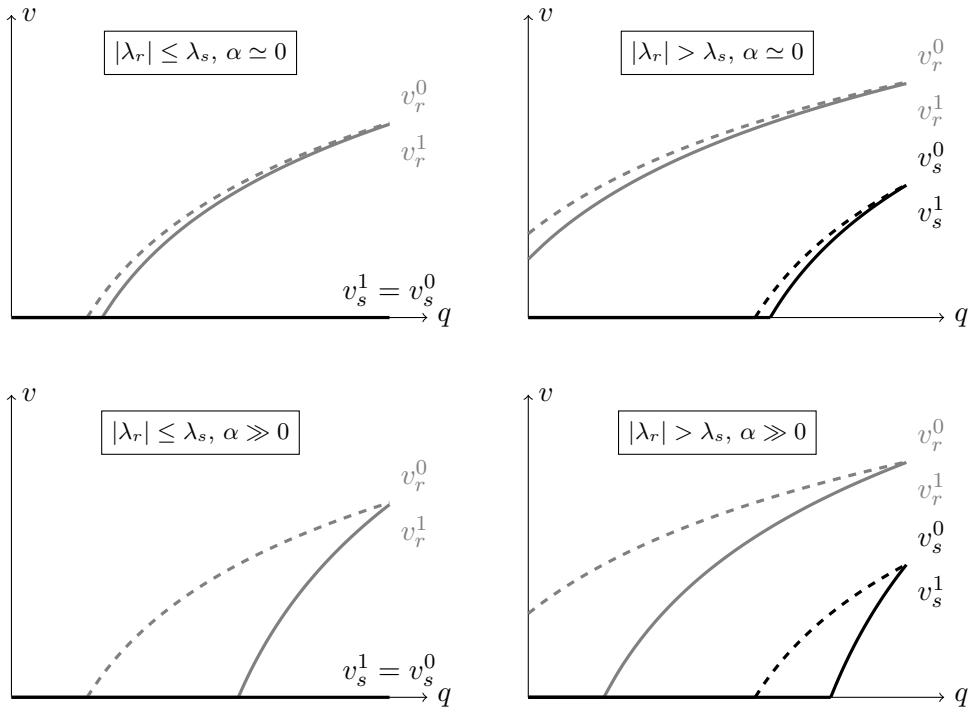

Figure 1: Optimal veiling levels v_i^ℓ for $i \in \{r, s\}$ and $\ell \in \{0, 1\}$ for four configurations of the model's parameters. Left column: "low-veiling regime" ($|\lambda_r| \leq \lambda_s$). Right column: "high-veiling regime" ($|\lambda_r| > \lambda_s$). Top row: weak secular discriminations on labor market ($\alpha \simeq 0$). Bottom row: strong discriminations ($\alpha \gg 0$).

The patterns observed in the data (see Tables 2 and 3) suggest that discreet symbols might play a different role than that of the Islamic veil. Indeed, women wearing discreet symbols on average differ from those wearing a conspicuous symbol in many respects:

- Economic outcomes: women wearing discreet symbols are *more* educated and more likely to be economically active,
- Immigration status and age: women who veil (conspicuous symbol) are mostly first-generation immigrants while women wearing discreet symbols are mostly second-generation immigrants and are younger,
- Environment: women wearing discreet symbols live in environments that are, on average, less religious,
- Attitudes: women wearing discreet symbols are more likely to report discrimination and especially to believe that racism is widespread in France.

Those differences might be due to the different salience of those symbols. While conspicuous symbols are clear and visible signs of religious affiliation, discreet symbols can be hidden under one's clothes when desired. Therefore, if society disapproves of religious symbols, women can, for example, hide discreet symbols when faced with the secular majority and make them more apparent once in their community. Another equivalent interpretation is that secular individuals simply do not judge (or do not understand the meaning of) discreet religious symbols. This is likely the case in France since most of the debates on the wearing of religious symbols as well as the existing regulation concern conspicuous signs. Discreet symbols of religious affiliation

are not prohibited by law and are virtually never mentioned in public discussions (see also the discussion in section 2.3).

Signalling to two audiences with varying salience. In light of the discussion above, we could interpret discreet symbols as a technology that sets v at a low (but strictly positive) level in the close community, but $v = 0$ when faced with secular individuals. In other words, discreet and conspicuous symbols send different signals to the two audiences. As a consequence, we would expect moderately religious women (or who live in less religious environments) with good employment opportunities to choose such symbols as a tool to integrate such as in Carvalho's (2013) original analysis. On the contrary, since conspicuous religious symbols are visible signs of religious affiliation that are difficult to hide, they should decrease women's employment prospects. In our extended model in equation (3), this suggests two additional features: (1) the payoff stemming from the secular part of society is unaffected by discreet symbols and (2) the material benefit for individuals wearing discreet symbols is similar to that of women not wearing any symbol.

Formally, consider that a woman can now choose two degrees of religious symbol-wearing: v_1 is associated with conspicuous symbols (such as veiling), while v_2 is associated with discreet symbols (such as jewelry). Her utility is

$$\begin{aligned} U_i(v_1, v_2) = p(1 - v_1 - v_2)\lambda_i + qp(1 - v_1 - v_2)\lambda_r + (1 - q)p(1 - v_1)\lambda_s \\ + \ell\left[q\, b + (1 - q)\, b\,(1 - \alpha v_1)\right] - c(v_1, v_2). \end{aligned} \tag{4}$$

where $v_1 + v_2 \in [0, 1]$ is the proportion of woman i's body covered with religious symbols. In this formulation, both v_1 and v_2 matter for the woman and for the religious part of society, but the secular part of society does not take v_2 into account.[16] Moreover, the material benefit is reduced for women wearing conspicuous religious symbols, but not for those wearing discreet signs. The cost $c(v_1, v_2)$ is still increasing and convex, and such that $c(v_1, v_2) = +\infty$ if $v_1 + v_2 = 1$, and

$$\frac{\partial c}{\partial v_2}(v_1, 0) = 0, \qquad (\forall v_1) \tag{5}$$

i.e. there is no initial marginal cost to discreet symbols.

Compared to the case in which only conspicuous symbols are available ($v_2 = 0$, i.e. as above), all women should thus substitute part of their conspicuous symbol-wearing (veiling) for discreet symbol-wearing. The extent of this substitution will notably depend on the social cost to veiling from the secular part of society, $(1 - q)p(1 - v_1)\lambda_s$. Since $\lambda_s \geq 0$, the higher p, the higher this social cost of veiling, and the more a woman will want to substitute veiling for discreet symbols instead. In particular, we expect that the women who integrate (and who therefore face higher p in the model, or who have more interactions with the secular society) should substitute more towards discreet symbol-wearing. The substitution between veiling and discreet religious symbols is also consistent with the four findings from the descriptive analysis discussed at the beginning of this section.

[16] It is possible that, if a woman wears many discreet symbols (i.e. chooses a high level of v_2), then they become visible and thus could qualify as conspicuous. However, in the data, less than 1% of Muslim women report wearing more than two religious symbols. This theoretical possibility is therefore not relevant in practice.

3.4 Taking the theory to the data

In the following sections, we evaluate empirically the relative strength of the various channels described in our conceptual framework. We treat the choices of veiling and of economic integration separately, thus assuming that the veiling choice is a permanent decision made before the economic participation choices and that individuals are myopic (i.e. that they do not perfectly foresight the impact on their employment prospects when deciding whether to veil or not). We think those assumptions are reasonable since we want to explain the incentives to veil *more* and future economic considerations should incentivize women to veil *less* (see section 2.1). For economic integration choices, we study the relationship between veiling behavior and the activity rate with a thorough regression analysis. Moreover, to further validate the theory, in Appendix C we explore the same correlation in Turkey, another interesting context that lies in between France and Muslim-majority countries like Indonesia in the model. We find that the veiling rate is negatively correlated with several measures of economic integration in Turkish districts, which is consistent with our framework since Turkey imposed similar secular regulations to the ones in France (see the Appendix for details).

To study the motives for veiling, we directly take the extended model described in the previous section to the data while allowing for additional heterogeneity. To do so, we hereby translate the theoretical model into a simple static discrete-choice model of veiling behavior. We allow religiosity λ_i to be continuous over the positive real numbers to explain some of the observed heterogeneity in veiling behavior among the religious individuals. We further allow the social payoff to be individual-specific to account for the fact that individuals face different environments (i.e. we allow for q to vary across individuals: q_i). To capture future economic considerations in a parsimonious way, we let the veiling choice depend on educational attainment, which we use as a proxy for the potential benefit of integration b_i. We also assume that individuals obtain an additional linear benefit (or cost) that depends on individual characteristics. In particular, to account for non-religious identity motives and marriage-market concerns, the vector of individual characteristics includes region of origin, self-reported feelings of French identity, and marital status. An additive unobserved taste shock ε_{iv} is also introduced for similar reasons. This simple generalization of the original model notably allows us to take into account other motives for wearing religious symbols which are not directly captured in Carvalho's model. For example, many Muslim girls interviewed in France during the debates over the headscarf controversies claimed that the veil is an integral part of their identity beyond the religious one (Scott 2009).

We use a multinomial logit framework to estimate a discrete-choice model where the utility u_{iv} for woman i of choosing the veiling level v is given by

$$u_{iv} = U_{iv} + b_{iv} + \varepsilon_{iv}, \tag{6}$$

where $U_{iv} + b_{iv}$ and ε_{iv} are the observed and unobserved components of utility respectively. In $U_{iv} + b_{iv}$, the component U_{iv} has to do with religious utility (individual and social), while b_{iv} has to do with material utility. Our preferred specification for the religious utility U_{iv} and for

the individual benefit b_{iv} is

$$U_{iv} = \beta_v^0 + \beta_v^1 \times \text{IndivReligiosity}_i + \beta_v^2 \times \text{LocalReligiosity}_i + \mathbf{X}_i' \boldsymbol{\theta}_v, \tag{7}$$

$$b_{iv} = \gamma_v \times \text{Education}_i. \tag{8}$$

In expression (7), $\text{IndivReligiosity}_i$ is our measure of individual religiosity; $\text{LocalReligiosity}_i$ is our measure of the average religiosity in woman i's local community; and Education_i captures the potential return to integration. The vector of individual characteristics $\mathbf{X}_i$ includes additional variables of interest, such as non-religious identity and marital status, as well as controls. The parameters to estimate are the β_v^k for $k = 0, 1, 2$, $\boldsymbol{\theta}_v$, and γ_v.

In multi-logit models, only differences in utilities can be identified, so that linear parameters are identified only up to scale. We therefore normalize the parameters associated with not veiling ($v = 0$) to 0: $\beta_0^k = \theta_0^k = \gamma_0 = 0$, so that $U_{i0} + b_{i0} = 0$. Thus, under the standard assumption that the unobservables ε_{iv} are i.i.d. Gumbel, the probability of wearing a religious symbol of type $v \in \{0, 1, 2\}$ is given by the usual logistic formula:

$$\text{Prob}(v_i = v) = \frac{\exp U_{iv}}{1 + \exp U_{i1} + \exp U_{i2}}. \tag{9}$$

Correspondence with the theoretical model. The specification (7) is to be compared to the theoretical model analyzed thus far, which we will use as a lens of interpretation for our results. We recall here the utility function in that section,

$$\begin{aligned} U_i(v_1, v_2) = {} & p(1 - v_1 - v_2)\lambda_i + qp(1 - v_1 - v_2)\lambda_r + (1 - q)p(1 - v_1)\lambda_s \\ & + \ell \left[q\, b + (1 - q)\, b\, (1 - \alpha v_1) \right] - c(v_1, v_2). \end{aligned} \tag{10}$$

(see section 3 for an interpretation of the parameters). Given that we treat veiling and integration decisions seperately, we replace the integration decision ℓ by the education level, our proxy for the potential benefit to integration.

We now aim to draw parallels between the parameters of this theoretical model and those of the empirical specification (7). For instance, the theoretical religiosity λ_i has an empirical counterpart in $\text{IndivReligiosity}_i$, and therefore we can interpret the parameter β_v^1 as a measure of $p(1 - v)$. Following this logic, we establish a list of theoretical–empirical correspondences in Table 1 along with the expected signs of the coefficients in the empirical analysis. We are mostly interested in four variables, namely individual and local religiosity, education, and the constant term. We expect our measures of intrinsic and social religious benefits to positively affect veiling behavior, and more so for conspicuous symbols since they should reduce religious risk more than discreet ones. For education, our proxy for the potential material benefit of integration, we expect negative coefficients for conspicuous symbols given the employment costs of wearing the veil. For discreet symbols, we expect a non-negative effect of education since those costs do not apply to discreet signs of religious affiliation. Lastly, we expect the constant term, reflecting the cost of veiling $-c(v)$, to be negative for conspicuous symbols because they entail other costs such as discomfort and discrimination. Consistent with our assumption of no initial marginal cost of discreet signs (equation 5), we expect a null constant for discreet

symbols. Such symbols cover a negligible share of the woman's body and should not trigger discrimination from the secular. With these insights, we now turn to the empirical estimation of this model after a description of the data at hand.

Table 1: Correspondence between theoretical and empirical variables and parameters

Variables		Parameters		Expected sign	
Theory	Empirics	Theory	Empirics	Discreet	Conspicuous
λ_i	$\text{IndivReligiosity}_i$	$p(1-v)$	β_v^1	(+)	(++)
$q_i\lambda_r + (1-q_i)\lambda_s$	$\text{LocalReligiosity}_i$	$\omega^C p(1-v)$	β_v^2	(+)	(++)
$\ell_i b$	Education_i	$q-(1-\alpha q)v_1$	γ_v	non-neg.	(−)
$-c(v)$	Constant term	.	β_v^0	0	(−)

4 Data and summary statistics

The main data source used in this paper is the confidential version of the *Trajectoires et Origines* survey ("Trajectories and Origins," henceforth TeO; INED and INSEE 2008) conducted by INED and INSEE in France. The TeO survey was conducted in 2008–2009 with the objective of characterizing the minority populations in France. To this end, the survey over-samples immigrants and minorities by design. It targets the adult population living in metropolitan France aged 18 to 60. Therefore, it allows us to observe more than 3,000 Muslim women, which is by far the largest available sample we are aware of.[17] Another particularity of this dataset is that it contains information on a very wide range of aspects of respondents' lives. Topics covered in the survey include living conditions (employment path, revenues, education, housing, health), social life (migratory path, languages spoken, family, children), and public life (political opinions, experiences of discrimination, social relationships). Importantly, there is a section specifically dedicated to religion. Such information is extremely rare in France as religion is a sensitive topic and the collection of individual information on such topics is tightly regulated. In that section, variables observed include religious affiliation, various indicators of religiosity, religious symbols worn (number of symbols, type, and frequency at which they are worn), and parental religious transmission. Not only the respondent's religious affiliation is observed, but also her parents' and her spouse's. In the confidential version of the survey, we further observe the commune (and even the *arrondissement* for Paris, Lyon, and Marseille) of residence (or country if outside of France) over their entire life as well as their first name and their children's.

Sample selection. Of the 3,033 women who identify as Muslim in the survey, we remove a few observations for two main reasons. First, even if the response rates for most religion-related variables are surprisingly high in this survey, we drop 29 observations for whom veiling behavior is missing. Second, after constructing the retrospective panel dataset using respondents'

[17] The second wave of the TeO survey should be available by the end of 2022. When available, we will use it to increase our sample size and to investigate whether there are relevant differences between the two samples.

employment history, we noticed some inconsistencies in the schooling trajectories for a handful of respondents. We dropped observations for which there was a large discrepancy between the reported educational attainment (degree obtained) and the number of years of education as constructed in the panel. We lost six observations after this process. In the final dataset, we thus observe 2,998 women, still by far the largest sample of Muslim women living in France.

4.1 Measurement of the different channels

The information on religious symbols worn being crucial for the empirical analysis, we provide more details about how it is collected. First, in the survey, respondents are asked the following question: "In your daily life, do you wear in public a piece of clothing or jewelry that might evoke your religion?"[18] The possible answers are "always", "sometimes", or "never".[19] Second, if the respondent reports wearing some religious symbol at least sometimes, she is then asked about the type of symbol she wears. The individual can answer anything and the reported symbol is noted in words by the enumerator. Up to three symbols are reported per individual. In the final dataset, symbols are bundled by INSEE into four categories, namely jewelry, clothing, headcoverings, and others. We interpret and define clothing and headcoverings as *conspicuous* symbols since they visibly signal one's religion. They are the symbols that are prohibited by law in several situations. Not surprisingly, most conspicuous symbols reported (92.77%) in the female Muslim population are headcoverings. We assume jewelry and "other" symbols can be easily hidden under one's clothes and thus treat them as *discreet* symbols. An important point to note here is that we do not observe the actual frequency at which these symbols are worn in women's daily life. Therefore, we do not think of a woman reporting wearing symbols "always" as being actually covered all the time. For example, these women may be always covered in public spaces, but removing their veil at work. This phenomenon is known to exist in France and we can confirm it in the data since some veiled women report working in the public sector in which it is prohibited to wear conspicuous religious signs while on duty.

To measure individual religiosity, we combine information on subjective measures of religiosity as well as religious practices. Our subjective measures are the importance of religion in the respondent's life and whether she uses her religion to self-identify. Religious practices observed are the frequency of attendance of religious ceremonies and whether the individual always respects the religious dietary restrictions.

For vertical religious pressure, that is, parental religious influences that may impact veiling behavior we use two variables. The first is the importance of religion in the respondent's education as reported by the latter. To obtain a second measure of parental religious transmission, we exploit the information on respondents' first names to construct a dichotomous variable of religious names. Name-giving is recognized as an important mean of cultural transmission (Fryer and Levitt 2004, Abramitzky et al. 2020, Algan et al. 2022). We classify a name as religious if it is the name of one of the Islamic prophet's wives or of his favorite daughter (Fatima).[20]

[18] If the respondent hesitates or does not understand the question, the enumerator lists some examples of religious symbols by adding: "like a cross, a kippa, a veil, or another pendant."

[19] We treat this variable, as well as all other variables, as unobserved if the respondent answered "I don't know" or refused to answer.

[20] The prophets' wives, in chronological order, are named Khadija, Sawda, Aicha ("the beloved one"), Hafsa,

To measure communitarian pressure (oblique and horizontal transmission) at the local level, we use two proxies of Muslim presence at the local level.[21] Our first proxy is the local number of mosque or prayer room seats per thousand inhabitants. We construct this measure using a novel source of data, the *Annuaire des mosquées de France* (La Boussole 2004), which we manually digitized. This inventory of mosques and praying rooms was compiled in 2003–2004 by a Muslim association. For each facility, it notably provides its full address, its type (mosque, praying room, or *foyer*), and its estimated capacity by gender. We use the latter in conjunction with the information on individual respondents' residence (commune, or *arrondissement* for Paris, Marseille, and Lyon, available in the confidential issuance of TeO) to compute the local capacity per thousand inhabitants for all TeO respondents.

Our second proxy of local Muslim presence, which is readily available in the TeO data, is the share of Maghrebi immigrants in the local population. Having a parent (especially a father) born in Maghreb is a well-known strong predictor of Muslim affiliation in France (Abdelgadir and Fouka 2020, Maurin and Navarrete-Hernandez 2021). For this variable, we can even observe it at a much more granular level than the first measure, that is, at the neighborhood (IRIS) level.[22]

Lastly, recall that, in the model, we assume the pressure to unveil by the secular to be a common social parameter. In reality, we could think that discriminations against the veil vary locally. Thus, for robustness checks, we construct a proxy for the pressure to unveil by the secular population at the local level. Specifically, we use the vote share for the Front National (FN) party in the 2007 Presidential election. We use electoral data from the CARTELEC database (Colange et al. 2013), which records electoral outcomes for this election at a fine-grained geographical level (polling station level).[23] We match these data at the commune (or arrondissement for Paris, Lyon, and Marseille) level with the TeO database. Founded in 1972, the Front National is a far-right political party that has placed anti-immigration and chauvinist ideas at the center of its political platform since its inception. The party gained in popularity over the last decades and has become a major contestant in the French political arena, notably making it to the second round of the Presidential election in 2002, 2017, and 2022. Of particular interest to our analysis, the party has adopted an anti-Muslim discourse,

Zainab (two wives named Zainab), Hind, Juwairiya, Safiya, Ramla, and Maimuna (Morsy 1989). We also consider other spellings of these names as religious. For male first names, we follow Sakalli (2019) and consider a name as religious if it is a variation of the prophet's name (in French, it is Mohamed) as well as first names beginning with prefix "Abd-"("the servant of..." in Arabic).

[21] In the TeO dataset, we do not have a direct measure of the husband's religiosity. Therefore, we construct a proxy for the religiosity of the couple using name-giving behavior. Indeed, we not only observe the respondent's first name, but also those of her children. Similarly as for the respondent's first name, we exploit the information on children's first names to construct a measure of religious name-giving. We use the share of one's children whose first names are religious as our main measure of religiosity of the couple. See footnote 20 for details on religious first names. However, we do not include this variable in our main regressions since we would need to restrict the sample to women having children and lose too many observations. We thus limit ourselves to provide summary statistics for this variable.

[22] The *Îlot Regroupé pour l'Information Statistique* (IRIS) is a geographical unit used by the French Statistical Institute which corresponds to an area inhabited by around 2,000 to 5,000 inhabitants. The IRIS are also defined using some demographic criteria such as the housing stock or local employment. Therefore, this geographical level captures an area similar to a neighborhood. The information at the IRIS level is computed by the producers using data from the population Census and is then collapsed into quantiles or deciles.

[23] Additional information on the CARTELEC project and databases is available at http://cartelec.univ-rouen.fr/

in many instances associating the Islamic veil and the believed oppression of Muslim women to radical Islam and a threat to the Republic. Moreover, contrary to popular belief, support for the Front has been shown to be far from socially homogeneous and is not geographically concentrated in specific areas (Crépon 2015, Agrikoliansky 2016). We thus argue that the local FN vote share is likely to reflect the importance of anti-veil attitudes at the local level.

Equipped with these measures of the different forces that might shape veiling behavior, we explore their relative strengths in section 6. However, before moving to the regression analyses, we first provide detailed summary statistics on Muslim women in France in the next section.

4.2 Summary statistics

To get a sense of how Muslim women who wear a religious symbol differ from other Muslim women, we first present some summary statistics by veiling status in Table 2. We distinguish between four categories for the wearing of religious symbols, which depend on (1) whether the symbol is "discreet" or "conspicuous", and (2) whether it is worn "sometimes" or "always". Since there is very little variation in the number of symbols worn (most women report only wearing one), we do not use that information and focus on the extensive margin. Along with the outside option of not wearing any symbol, we thus compare five veiling levels. In terms of the theoretical model, we interpret the veiling levels (v_1 and v_2) as being increasing in the following order: no symbol ($v_1 + v_2 = 0$), sometimes worn, and always worn. Overall, Muslim women wearing conspicuous religious symbols differ from other Muslim women in many respects. For example, they are on average older, have more children, and are more likely to live in a couple. Moreover, while most Muslim women wearing a discreet symbol are second-generation immigrants, the vast majority of women who wear a conspicuous symbol are first-generation immigrants. In line with a potential learning of the French social norms by women wearing discreet signs compared to those wearing the veil, the former are more likely to report being discriminated against for non-religious reasons, not to trust the French institutions, and to believe that racism is widespread in France.

In Table 3, we report summary statistics of all religion-related variables by veiling status. As expected, as we move toward "higher" veiling status, individuals report higher degrees of religiosity and live in more religious environments. For example, 79% women who always wear conspicuous symbols report that religion is very important in their life, while less than half of women not wearing a religious symbol do so. Women wearing discreet symbols appear to be moderately religious, but still report higher degrees of religiosity than women without any symbol. Women who wear conspicuous symbols also seem to live in more religious environments: they are more likely to have a Muslim partner and to report that most of their friends are Muslims. Moreover, they live in communes (and neighborhoods) populated by a larger Muslim community (proxied by Maghrebi immigrants and Muslim places of worship). Veiled women also seem to be subject to stronger parental religious pressures. They are significantly more likely to report that religion was very important in their education and to be given a religious first name. In short, all of the core potential mechanisms mentioned so far display some association with veiling behavior in the expected directions (see Table 1). Moreover, we do not observe strong variation in the local vote share for the Front National by veiling status. This might

suggest, as we assumed in the theoretical model, that the social pressure to unveil is similar for every Muslim woman. In other words, we do not find strong evidence of local heterogeneity in this social cost, which is reassuring.

The main fact that motivates the first part of our analysis is that women wearing religious symbols, in particular those who always do so, have much poorer labor-market and schooling outcomes than the rest of the sample. Indeed, women who always wear conspicuous religious symbols are much less economically active on average. Our measure of economic activity is the activity rate, that is, whether the woman is either working, studying, or looking for a job (unemployed) at the time of the survey. While less than 20% of women not wearing conspicuous signs are inactive at the time of the interview, this proportion increases to 30% for women who sometimes wear a conspicuous symbol and up to 64% for women who always do. Moreover, while 20% of women not wearing a symbol report having never worked in their life, almost half of women who always veil indicate having never entered the labor force. In terms of schooling outcomes, Muslim women who wear a conspicuous symbol are less likely to have any schooling degree. They have completed, on average, 2 to 7 fewer years of schooling than Muslim women who wear discreet symbols or none. Overall, the data suggests that wearing the veil seems to be strongly associated with a decline in economic integration, but this correlation may be due to many other factors over which veiled women differ from other Muslim women. We therefore turn to a more thorough regression analysis of this pattern in the next section.

5 The Economic Cost of Veiling

We start our empirical analysis by investigating whether, as suggested in Section 2.1, wearing the veil is indeed costly in terms of economic opportunities in France. We proceed in two steps. First, we explore the potential effect of the veil on the female activity rate using the cross-sectional survey data. Second, exploiting the information on the respondents' employment history, we construct a retrospective panel dataset of women's schooling and employment status from the beginning of adulthood. The two analysis are complementary to provide a robust assessment of the correlation between veiling and economic participation. While, in the cross-section, we can include a more extensive set of controls, the analysis of panel data allows us to confirm that the observed relationship is not merely due to the particular timing of the survey. By moving to panel data, we can include year fixed effects and time-varying observables to explain economic participation at a given point in the respondent's life. This step is particularly crucial in this context because the survey was conducted during the Great Recession, which is a period that is largely unrepresentative of the French economy in "normal times". Since this period was marked by higher unemployment rates in Western countries, it may have affected veiled women disproportionately if they face stronger discrimination.

5.1 Analysis of cross-sectional data

The key pattern that motivates the empirical analysis is the negative correlation between the wearing of conspicuous religious symbols and the activity rate, our main measure of integration, in Table 2. In particular, this negative relationship is much stronger for women who always

veil. Table 4 shows the results of logistic regressions of the activity rate at the time of the interview on the veiling status, respondents' religious characteristics, and various controls. We restrict the sample to Muslim women for whom all the regressors are non-missing. The outcome variable is a dummy variable equal to 1 if the respondent is *economically active* (which includes working, attending school, or looking for a job at the time of the interview), and equal to 0 if the respondent is inactive. We find that the wearing of conspicuous symbols is negatively associated with economic participation and that the magnitude and significance are much larger when they are always worn. The point estimates indicate that individuals always wearing a conspicuous symbol (such as the Islamic headscarf) are 27 percentage points less likely to be active at the time of the interview than individuals not wearing any. This coefficient is statistically significant at conventional levels (using robust standard errors). Even in the most parsimonious specification, the estimated effect is substantial as it represents 37.5% of the mean outcome and is equivalent to the effect of having about 1.5 additional children aged less than 4 years old.

From column (2) to (6), we include groups of control variables one by one to investigate the relative contribution of different potential mechanisms. In the first column, we only include veiling status and a constant as regressors. We find that veiling behavior is a relatively strong predictor of the activity rate since the R-squared of this simple regression is as high as 0.135. That is, veiling behavior alone explains 13.5% of the variation in the activity rate at the time of the interview. In columns (2) to (6), we include a full set of birthyear, age of arrival in France, birthplace, and region of residence dummies. We further include a set of dichotomous variables capturing the conditions in which the survey took place (whether the partner was present, whether parents were present, survey month dummies, age group of surveyor dummies, and surveyor's gender), which gives us confidence that social desirability bias is minimized in our regressions. While the inclusion of these variable substantially improves the model fit, it has a rather small effect on our coefficients of interest, thus suggesting that the relationship is not solely due to different life trajectories of veiled women. In column (3), we control for various demographics (fertility, marital status, and whether the individual has an Arabic-sounding name) as well as for self-reported feelings of French identity, our proxy of non-religious identity.[24] Not surprisingly, the inclusion of these variables lowers the magnitude of the coefficients on veiling status. In particular, the number of young children is a strong determinant of Muslim women's activity rate. In the fourth column, we control for the frequency of attendance of religious ceremonies, a proxy of religiosity, as well as for various measures of the respondent's religious environment (Muslim affiliation of the respondent's close community (father, mother, partner, and friends) and percentage of Maghrebi immigrants in the local area of residence). In the fifth column, we control for educational attainment using three measure, that is, the number of years of education, and two dummies capturing the obtaining of a high school degree and of a higher-education degree. Finally, the last column reports the results of a regression controlling for all of the covariates. In this last specification, we obtain that the only significant determinants of the activity rate are the wearing of conspicuous symbols, the number of children, age, birthplace, and the education level. The magnitude of the main coefficients of interest is

[24]For our measure of feelings of French identity, we use the answers to the statement "I feel French" to which respondents could answer one of four choices going from "totally agree" to "totally disagree". "Totally disagree" is the omitted category in our regressions.

further reduced, but remains statistically and economically significant. Indeed, always wearing a conspicuous symbol is associated with a reduction in the activity rate that is about 1.5 times larger than having an additional young child. Overall, those regressions thus suggest that there is a strong negative association between wearing conspicuous religious signs and economic participation. Nevertheless, these results should be interpreted with caution because we may be worried that they are driven by the particular timing of the survey. To account for this possibility, we turn to the analysis of the panel data in the next section. Before doing so, we conduct below a number of robustness checks on the cross-sectional sample. Results are reported in Appendix Table B.2.

Robustness checks. In a first robustness check, we change the definition of the dependent variable. We define the outcome variable as a dummy equal to 1 if the respondent reports having never worked in her life and exclude students. We observe the same negative association between economic participation and veiling with this outcome variable. The estimated effect of veiling on the working status is essentially identical or, if anything, slightly larger in magnitude.

In a second series of sensitivity checks, we run the regressions on different subsamples. In the second column, so as to check whether our results are driven by differences in immigration status between veiled and non-veiled women, we restrict the sample to individuals born in France. As shown in Table 2, the data indicates that only a small proportion of veiled women are not born in France while other Muslim women are usually second-generation immigrants. We could thus be worried that these sharp differences might be driving our results. However, we obtain that the main results are unaffected by this sample restriction, thus suggesting that our estimates are not capturing a pattern that is specific to immigrant women who might face more hiring discrimination, for instance. In the third column, we remove women who report wearing a religious symbol labelled as "other", i.e. that is not jewelry, a headcovering, or clothing. With this regression, we confirm that our estimated effects are not driven by the choice of treating "other" symbols as discreet.

5.2 Analysis of panel data

The TeO survey is conducted in a very unusual period, that is, in the heart of the Great Recession. The effects we are capturing may be biased if veiled women were differentially affected by the repercussions of the economic crisis on employment possibilities. To investigate this potential threat to identification, we exploit the data on respondents' employment histories to construct a retrospective panel dataset. In the survey, respondents are asked to indicate their yearly situation in terms of employment and migration over all of their life. For each year, the respondent reports whether she was working (salaried work), self-employed, unemployed, studying, staying at home, inactive for other reasons, or out of metropolitan France. Individuals who report multiple activities in the same year are coded as "variable" and we exclude those observations as well as periods in which the respondent was not living in metropolitan France. This empirical strategy allows us to control for time-varying observables and time fixed effects, to substantially increase the number of observations, as well as to include random effects. For the sake of space, this analysis is relegated to Appendix B. The results from those regressions overall confirm the findings obtained in the cross-sectional analysis. Indeed, the wearing of a

conspicuous symbol is associated with a significant decline in economic participation that is similar in magnitude to that obtained in the cross-sectional analysis.

6 Determinants of veiling behavior

In the previous section, we documented that the wearing of the veil in France is a costly cultural practice in terms of labor-market integration. This cost being particularly high, it is crucial to understand why these women take such a costly decision that impedes their economic and social integration. We thus turn to our main research question, that is, understanding the main incentives for veiling in France. The richness of the data notably allows us to investigate the relative roles of individual religiosity, social (parental and communitarian) influence, and identity over the largest sample of Muslim women in France.

6.1 Empirical approach

We produce two sets of results. First, in Table 5, we estimate equation (9) treating the veiling choice as a binary decision. That is, we perform logistic regressions of different dichotomous variables capturing the veiling status on several indicators of religiosity, our proxies for religious pressures, and a wide array of non-religion-related covariates that might explain veiling behavior or that may act as confounders. In particular, as motivated in the previous sections, we use measures of non-religious identity, which is known to be a motive to veil in France, for example how much the individual feels French as well as its region of origin. We proxy for the economic returns to integration b_{iv} with the respondent's education level. We include dummies for the obtaining of a high school and of a higher education degree and the number of years of schooling. Additionally, we include as controls 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, age group of surveyor dummies, and surveyor's gender. As already mentioned, the use of these variables should reduce social desirability bias in our analysis. Other controls included are demographics (age, age squared, whether the individual is a first-generation immigrant, marital status, and whether the individual has an Arabic-sounding name), a set of dummies of deciles of the local unemployment rate of immigrants to account for local economic conditions, and measures of social integration (whether the individual participates in the household's food shopping, often meets her family, often meets her friends, and meets with neighbors), which are suggestive of the kind of people the respondent is in contact with. In the first column, the dependent variable is a dummy taking the value of one if the individual wears any symbol. In the second and third columns, the outcomes are the wearing of some discreet and conspicuous symbol respectively. In the last column, the outcome variable takes the value of one if the respondent always wears a conspicuous symbol in public spaces.

Second, to directly take the theory to the data and better account for the non-binary nature of the veiling status, we estimate equation (9) using a multinomial logistic model. Results are reported in Table 6. For this regression, we pool religious symbols along the salience dimension (discreet vs conspicuous) because we do not have enough power to allow for the four types as in Tables 2 and 3. We allow for three mutually-exclusive veiling options, that is, wearing a

discreet religious symbol, a *conspicuous* symbol, or not wearing any.[25] We include the same set of covariates as in the logistic regressions above.

6.2 Results

Overall, the results suggest that the main determinants of veiling are individual religiosity (self-reported importance of religion in one's life, attendance of religious ceremonies, and using religion to self-identify), birthplace, self-reported feelings of French identity, and marital status. Perhaps surprisingly, our main proxy for parental (vertical) transmission of religion does not seem to significantly affect the choice of wearing conspicuous symbols. Indeed, coefficients on the self-reported importance of religion in the education received are very small and statistically indistinguishable from zero. Also, respondents whose first name is religious, our second measure of vertical transmission, are not significantly more likely to veil.

For our proxies of horizontal religious transmission, we obtain mixed results. Our estimates of the impacts of these variables almost always have the expected positive sign, but are rather small and are usually indistinguishable from zero. The only statistically significant predictors are the fact of living in a neighborhood that has a large Maghrebi population, to have mostly Muslim friends, and having a Muslim partner. The estimates are, however, also small in magnitude. These results for vertical and horizontal pressures are similar to the findings by (Algan et al. 2022) that such channels explain little variation in Arabic name-giving in France.

For the wearing of discreet religious symbols, our results seem to support the conceptual framework. First, there appears to be some moderate private religious benefit associated to those symbols. In Table 6, we indeed find that the coefficients on individual religiosity are lower in magnitude for discreet symbols than they are for the conspicuous ones. Though more imprecisely estimated, they remain positive (except for frequent religious attendance), suggesting, as expected, a moderate religious intrinsic benefit of wearing discreet symbols. External pressures do not appear to be driving discreet-symbol wearing. This does not come as a major surprise because women wearing discreet symbols do not substantially differ from women not wearing any symbol on this dimension (see Table 3). Second, our measure of the potential benefit of integration, educational attainment, is positively associated with discreet-symbol wearing while it is negatively correlated with conspicuous-symbol wearing. This result is in line with our conceptual framework: educated religious women, those who have the most to gain from entering the labor force, but who want to lower the associated religious risk, should refrain from adopting the costly religious practice and opt for the less harmful one. It suggests that, in France, wearing a discreet symbol might actually act as the integration strategy that the veil appears to be in Muslim-majority contexts (see Shofia 2020).

The estimates of the constant terms are also consistent with the two assumptions made in our theoretical extensions. For conspicuous symbols, it is negative and large in magnitude, suggesting a high cost of veiling such as an important social stigma. For discreet-symbol wearing, the constant term is rather small and is indistinguishable from zero, which suggests both a low initial cost (as assumed in equation 5) and no judgement from the secular part of society.

[25] Very few women report wearing more than one religious symbol. We treat an individual wearing a symbol of each type as only wearing a conspicuous one.

Moreover, interestingly, Muslim women who have more interactions with other people from their community (family, friends, and neighbors) are a little more likely to veil. This pattern is at odds with the original model since we would expect Muslim women to have to veil less if they stay within their community. However, this result can be rationalized through our proposed extensions: when a woman integrates with a veil in France, she exposes herself to an increased economic cost (i.e. she obtains a lower benefit B). Muslim women should thus not veil more when facing secular individuals than when meeting with relatives. The estimates on those groups of covariates are, however, much smaller in magnitude compared with those obtained for individual religiosity so they do not appear to be major drivers of veiling behavior.

Quantifying the importance of the different incentives. To give a clear portrait of the relative weight of the various incentives in the veiling choice, we not only wish to understand which determinants are significant, but also *how much* of the veiling patterns they explain. To do so, we perform an R^2 decomposition of our regression on the main dichotomous outcome of interest. We estimate the relative contributions of our main covariates of interest to the model's goodness-of-fit by computing their Owen (1977) values as advocated by Huettner and Sunder (2012). This statistical method consists in calculating the average marginal contribution of groups of covariates in all possible submodels of the original regression. Those submodels are formed by iteratively removing one group and the latter's marginal contribution is then the difference in goodness-of-fit between the two iterations. It is particularly useful when the researcher is interested in asserting the contributions of groups of variables rather than of covariates individually (Huettner and Sunder 2012). Thus, it allows us, for example, to group our proxies of individual religiosity without having to assume a way to combine them into a single measure. We study the share of the model's R^2 explained by five groups of variables: individual religiosity, external influences, self-reported feelings of French identity, birthplace dummies, and other variables (including schooling). We perform this analysis on the last regression in which we treat the veiling choice as a dichotomous variable taking the value of one if the respondent always wears a conspicuous religious sign because this is the very costly behavior we ultimately wish to explain. Results are reported in the last column of Table 5. In line with our observations above, we find that private motives explain most of the observed variation in veiling behavior. Specifically, we find that our measures of individual religiosity explain more than 36% of the explained variation in veiling behavior. This relative contribution to the explained part of veiling behavior is twice that of external pressures. Non-religious identity, schooling and other controls account for the other half of the model's explanatory power. Thus, since we consider non-religious identity as capturing mostly private motives, our results suggest that veiling behavior is mostly driven by private incentives.[26]

7 Conclusion

Theoretical and empirical studies of veiling in economics have so far mainly focused on Muslim-majority countries, perhaps because of the paucity of data on veiling in developed

[26] In a robustness check, we included our measure of the local pressures to unveil, the Front National vote share, and found that it explains a negligible share (0.5%) of the regression's goodness-of-fit.

countries. With the rising immigration flows of Muslims to secular countries, getting a better understanding of why women veil is nonetheless crucial for social welfare as many countries, of which France is the most emblematic, limit the expression of religious faith in public.

In this paper, we tackle this question using rare rich observational data on Muslim women in France. The richness of the data notably allows us to distinguish between private and communitarian incentives to veil. Our empirical approach is grounded in economic theory of veiling, for which we consider some extensions of Carvalho (2013) to rationalize ethnographic evidence on veiling in France. We first document that the wearing conspicuous religious symbols is associated with poorer economic integration of Muslim women in this secular country. Second, we find that, among the main incentives for veiling highlighted in the economic literature, the wearing of conspicuous symbols appears to be mainly driven by private religious motivations. Lastly, we uncover novel patterns on the wearing of discreet symbols of religious affiliation, which suggest that, in France, they might act as a negotiation device allowing women to take-up economic opportunities outside their community, which is the role usually attributed to the veil in Muslim-majority countries (e.g. Carvalho 2013, Shofia 2020).

If individual religiosity (and non-religious identity) is an appropriate proxy for the private motives for veiling, our results question the rhetoric often used to justify policies restricting the wearing of religious symbols in France. In the media and in political spheres, journalists and politicians almost always defend the restrictions on the wearing of conspicuous symbols 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 (eg. Maurin and Navarrete-Hernandez 2021). Actually, even in this case, Carvalho (2013) shows that banning the wearing of the veil in public might lead to *more* segregation because women would lose the ability to signal their piety to their community. However, consistent with existing qualitative evidence from interviews with Muslim women, we find that the main incentives for veiling appear to be private. In other words, Muslim women *do* want to veil and do so for personal reasons. Therefore, further restricting the wearing of conspicuous religious symbols is likely to lead to even poorer integration of Muslim women if these private benefits are high and discreet symbols are imperfect substitutes. Our complementary analysis of the Turkish case, a country which also imposed secular constraints in the public sphere, is consistent with this argument.

Our empirical approach in this paper is descriptive and by no means we claim that we identify causal relationships between the wearing of religious symbols and economic integration in France. We estimate a strong negative correlation between veiling behavior and economic participation that is notably robust to using retrospective panel data on respondents' employment status. However, our results should only be seen as descriptive evidence and suggestive that veiling in France entails large costs and is mostly driven by private incentives. Given the importance of better integrating Muslim populations in developed countries, future work could provide more robust assessments of the patterns uncovered in this paper. For example, if larger databases on Muslim women become available, one could evaluate the effect of external shocks to the local religious composition, such as exogenous migration waves, on veiling patterns. We finally note that data limitations inherent to studies of this type call for more initiatives like the Trajectories and Origins survey to better document the experiences of

minority populations in a context of increasing global migrations.

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Tables

Table 2: Summary statistics by veiling status, Muslim women

Veiling status:	No symbol	Sometimes discreet	Always discreet	Sometimes consp.	Always consp.	Diff (C-D)
Demographics						
Age in 2008	33.84	27.92	27.33	34.32	36.77	8.62***
First-gen. immigrant	0.55	0.27	0.23	0.64	0.74	0.47***
Second-gen. immigrant	0.45	0.73	0.75	0.36	0.26	-0.46***
Number of children	1.15	0.88	0.70	1.28	1.65	1.88***
Lives in a couple	0.58	0.46	0.37	0.65	0.80	0.34***
Not a French speaker	0.07	0.02	0.01	0.14	0.32	0.26***
Labour-force status in 2008						
Employed	0.52	0.45	0.43	0.43	0.22	-0.17***
Unemployed	0.18	0.20	0.25	0.13	0.11	-0.10***
Inactive	0.20	0.14	0.11	0.30	0.64	0.44***
Student	0.11	0.21	0.21	0.14	0.03	-0.15***
Has never worked	0.20	0.25	0.32	0.30	0.47	0.16***
Schooling attainment						
Completed high school	0.78	0.85	0.81	0.72	0.58	-0.22***
Higher education degree	0.23	0.23	0.15	0.16	0.12	-0.06**
Years of schooling	15.39	17.48	17.04	13.10	10.63	-6.09***
Social life and integration						
Participates in household's food shopping	0.49	0.39	0.34	0.59	0.69	0.30***
Often meets her family	0.89	0.89	0.89	0.89	0.93	0.03
Often meets her friends	0.88	0.90	0.94	0.87	0.90	-0.03
Meets with neighbors	0.41	0.45	0.50	0.52	0.62	0.13***
Meets with work colleagues[1]	0.32	0.36	0.33	0.22	0.11	-0.11**
Visits some recreation sites	0.67	0.78	0.76	0.53	0.42	-0.32***
Refuses to visit some recreation sites	0.09	0.12	0.15	0.06	0.04	-0.08***
Belongs to an association	0.17	0.18	0.21	0.18	0.12	-0.07**
Brings the children to school most of the time[1]	0.78	0.88	0.78	0.83	0.82	-0.02
Opinions on discrimination and French institutions						
Victim of racism due to religion	0.36	0.50	0.56	0.51	0.66	0.09***
Victim of racism due to origins	0.79	0.84	0.84	0.83	0.75	-0.07**
Victim of discrimination in past 5 years	0.28	0.41	0.34	0.40	0.28	-0.07**
Believes that racism happens often in France	0.49	0.60	0.68	0.45	0.38	-0.25***
Does not trust the French justice system	0.23	0.28	0.32	0.20	0.20	-0.10***
Does not trust the French police	0.29	0.40	0.50	0.28	0.25	-0.19***
Does not trust the French school	0.07	0.10	0.15	0.07	0.06	-0.06***
ID controlled by the police at least once	0.18	0.28	0.31	0.28	0.12	-0.14***
Observations	2,017	166	151	148	516	

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

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

Table 3: Religious environment and religiosity by veiling status, Muslim women

Veiling status:	No symbol	Sometimes discreet	Always discreet	Sometimes consp.	Always consp.	Diff (C-D)
Religious environment						
Muslim partner	0.568	0.506	0.430	0.723	0.814	0.33***
Muslim father	0.963	0.946	0.907	0.966	0.984	0.05***
Muslim mother	0.960	0.940	0.894	0.986	0.983	0.06***
At least half of friends are Muslims	0.719	0.783	0.675	0.838	0.919	0.17***
At least half of work colleagues are immigrants[1]	0.43	0.37	0.42	0.46	0.55	0.14**
Had conflicts on religion with parents when 18 years old	0.152	0.169	0.179	0.128	0.128	-0.04*
Individual religiosity						
Importance of religion in one's life						
A little important	0.185	0.109	0.066	0.041	0.033	-0.06***
Quite important	0.296	0.333	0.318	0.277	0.171	-0.14***
Very important	0.476	0.558	0.583	0.682	0.792	0.20***
Attends religious ceremonies						
Familial ceremonies only	0.290	0.329	0.247	0.284	0.198	-0.07**
Religious feasts only	0.216	0.348	0.273	0.372	0.283	-0.01
Once or twice a month	0.036	0.061	0.047	0.088	0.099	0.05***
At least once a week	0.027	0.006	0.047	0.088	0.155	0.11***
Other indicators of religiosity						
Always respects the religious dietary restrictions	0.826	0.898	0.901	0.946	0.975	0.07***
Religious marriage	0.390	0.307	0.298	0.527	0.657	0.33***
Share of children with a religious first name[1]	0.030	0.013	0.096	0.172	0.186	0.06***
Uses her religion to self-identify	0.119	0.199	0.179	0.230	0.238	0.05*
Parental influence and communitarian religious presence						
Religious first name	0.082	0.090	0.046	0.108	0.126	0.05***
Local Front National vote share	0.098	0.100	0.099	0.102	0.106	0.005***
Importance of religion in education received						
A little important	0.173	0.115	0.139	0.068	0.074	-0.06***
Quite important	0.303	0.265	0.231	0.225	0.198	-0.05
Very important	0.468	0.566	0.543	0.674	0.708	0.14***
Percentage of Maghrebi immigrants in IRIS of residence						
(5.9%, 10.7%]	0.086	0.066	0.093	0.095	0.045	-0.02
(10.7%, 16.7%]	0.150	0.199	0.166	0.088	0.130	-0.06***
(16.7%, 27.3%]	0.289	0.295	0.265	0.304	0.275	0.00
More than 27.3%	0.418	0.398	0.417	0.473	0.510	0.09***
Presence of Muslim places of worship in commune (or arrond.)						
Places of worship (/1000 inh.)	0.053	0.047	0.050	0.055	0.069	0.01***
Capacity in a place of worship (/1000 inh.)	12.249	8.882	11.498	12.582	17.243	5.42***
Capacity for women in a place of worship (/1000 inh.)	2.061	1.600	2.197	2.041	3.095	0.94***
Observations	2,017	166	151	148	516	

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

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

Table 4: Effect of veiling on economic participation, Muslim women, 2008

Dep. variable: activity dummy	(1)	(2)	(3)	(4)	(5)	(6)
Veiling status						
Sometimes discreet symbol	0.053*	-0.010	-0.001	-0.003	-0.014	-0.007
	(0.029)	(0.029)	(0.028)	(0.029)	(0.029)	(0.028)
Always discreet symbol	0.088***	0.018	0.031	0.020	0.030	0.038
	(0.028)	(0.027)	(0.026)	(0.027)	(0.028)	(0.027)
Sometimes conspicuous symbol	-0.123***	-0.104***	-0.082**	-0.089**	-0.096**	-0.078**
	(0.044)	(0.038)	(0.037)	(0.039)	(0.038)	(0.037)
Always conspicuous symbol	-0.432***	-0.351***	-0.293***	-0.330***	-0.318***	-0.275***
	(0.027)	(0.028)	(0.027)	(0.029)	(0.028)	(0.028)
Demographics						
Arabic-sounding first name			0.015			0.008
			(0.016)			(0.016)
Has some children			0.008			0.030
			(0.029)			(0.028)
Number of children			-0.044***			-0.036***
			(0.011)			(0.011)
Number of children below age 4			-0.142***			-0.148***
			(0.020)			(0.019)
Lives in a couple			-0.080***			-0.060*
			(0.030)			(0.032)
Partner works			0.011			-0.002
			(0.028)			(0.028)
Mother born in France			-0.035			-0.004
			(0.035)			(0.037)
Father born in France			-0.046			-0.016
			(0.061)			(0.062)
"Right" political opinions						0.049
						(0.048)
Feels French						
Disagrees			0.024			0.016
			(0.030)			(0.030)
Agrees			0.042			0.027
			(0.026)			(0.026)
Strongly agrees			0.051**			0.033
			(0.025)			(0.026)
Attends religious ceremonies						
Familial ceremonies only				-0.025		-0.015
				(0.020)		(0.019)
Religious feasts only				0.016		0.005
				(0.021)		(0.020)
Once or twice a month				0.040		0.026
				(0.037)		(0.037)
At least once a week				-0.026		-0.037
				(0.041)		(0.039)
Importance of religion in educ. received						
A little important				0.004		-0.012
				(0.043)		(0.040)
Quite important				-0.033		-0.058
				(0.042)		(0.038)
Very important				-0.016		-0.025
				(0.041)		(0.038)
Religion of close community						
Muslim partner				-0.112***		-0.014
				(0.016)		(0.019)
Muslim father				0.073		0.063
				(0.060)		(0.056)
Muslim mother				0.029		0.032
				(0.053)		(0.054)
At least half of friends are Muslims				-0.045***		-0.024
				(0.017)		(0.016)
Educational attainment						
Years of schooling					0.011***	0.008***
					(0.002)	(0.002)
Completed high school					0.046*	0.037
					(0.023)	(0.023)
Higher education degree					0.058***	0.040**
					(0.021)	(0.020)
Constant	0.813***	0.882***	0.699***	0.820***	0.680***	0.426**
	(0.009)	(0.140)	(0.147)	(0.151)	(0.165)	(0.176)
Birthyear dummies	N	Y	Y	Y	Y	Y
Age of arrival in France dummies	N	Y	Y	Y	Y	Y
Birthplace dummies	N	Y	Y	Y	Y	Y
Region of residence dummies	N	Y	Y	Y	Y	Y
Additional controls[1]	N	N	N	Y	Y	Y
Observations	2,546	2,546	2,546	2,546	2,546	2,546
R^2	0.135	0.310	0.378	0.330	0.334	0.396

Note: Robust standard errors in parentheses. The estimation sample is restricted to Muslim women with no missing covariates. Veiling status is measured using the respondents' answers to the wearing of religious symbols. We distinguish four categories depending on whether (1) the symbol is "discreet" or "conspicuous", and (2) it is worn "sometimes" or "always". Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[1] In column (4), the additional control is the percentage of Maghrebi immigrants in the IRIS of residence (collapsed into 5 bins). In columns (5), the additional control is the unemployment rate of 15 years old + (collapsed into 9 bins) in the IRIS of residence. In column (6), both variables are included.

Table 5: Determinants of veiling status, logistic regressions

Dep. variable:	(1) Some rel. symbol	(2) Discreet rel. symb.	(3) Consp. rel. symb.	(4) Always consp.	(5) Share of R^2 explained (%)[1]
Individual religiosity					36.16
Uses her religion	0.467***	0.072	0.586***	0.580***	
to self-identify	(0.130)	(0.185)	(0.152)	(0.170)	
Importance of religion in respondent's life					
Somewhat important	0.980**	0.451	1.699	1.127	
	(0.496)	(0.548)	(1.106)	(1.137)	
Quite important	1.823***	1.271**	2.618**	1.973*	
	(0.494)	(0.537)	(1.105)	(1.128)	
Very important	2.127***	0.991*	3.386***	3.059***	
	(0.493)	(0.536)	(1.117)	(1.146)	
Attends religious ceremonies					
Family ceremonies only	0.351***	0.143	0.392**	0.180	
	(0.130)	(0.178)	(0.167)	(0.189)	
Religious feasts only	0.568***	0.078	0.792***	0.511***	
	(0.133)	(0.184)	(0.167)	(0.190)	
Once or twice a month	1.111***	-0.166	1.580***	1.350***	
	(0.216)	(0.329)	(0.241)	(0.266)	
At least once a week	1.229***	-0.880*	1.806***	1.666***	
	(0.235)	(0.480)	(0.263)	(0.284)	
External influences					17.21
Importance of religion in education received					
A little important	-0.338	-0.523	-0.126	0.317	
	(0.307)	(0.361)	(0.431)	(0.493)	
Quite important	-0.500	-0.775**	-0.150	0.346	
	(0.307)	(0.364)	(0.417)	(0.470)	
Very important	-0.364	-0.451	-0.314	-0.015	
	(0.298)	(0.352)	(0.409)	(0.467)	
Religious environment					
Muslim partner	0.150	-0.279	0.530***	0.330	
	(0.161)	(0.207)	(0.191)	(0.216)	
At least half of respondent's	0.274**	0.149	0.468***	0.579***	
friends are Muslims	(0.128)	(0.164)	(0.178)	(0.213)	
Muslim father	0.077	-0.173	0.019	0.489	
	(0.363)	(0.425)	(0.469)	(0.585)	
Muslim mother	-0.304	-0.702**	0.776	0.138	
	(0.339)	(0.351)	(0.570)	(0.568)	
Religious first name	0.128	-0.123	0.243	0.364	
	(0.178)	(0.282)	(0.204)	(0.228)	
Presence of Muslim places of worship in commune (or arrond.)					
Places of worship (/1000 inh.)	-1.041	0.202	-0.883	-0.887	
	(0.984)	(1.518)	(1.083)	(1.186)	
Spaces in a place	0.001	-0.028*	0.008	0.007	
of worship (/1000 inh.)	(0.007)	(0.015)	(0.006)	(0.007)	
Spaces for women in a place	0.008	0.069	0.000	0.027	
of worship (/1000 inh.)	(0.028)	(0.053)	(0.029)	(0.029)	

Table 5: (continued)

Dep. variable:	(1) Some rel. symbol	(2) Discreet rel. symb.	(3) Consp. rel. symb.	(4) Always consp.	(5) Share of R^2 explained (%)[1]
Percentage of Maghrebi immigrants in IRIS of residence					
(5.9%, 10.7%]	0.185	-0.027	0.310	0.274	
	(0.332)	(0.417)	(0.485)	(0.625)	
(10.7%, 16.7%]	0.383	0.301	0.451	0.906*	
	(0.310)	(0.398)	(0.446)	(0.536)	
(16.7%, 27.3%]	0.424	0.150	0.685	0.978*	
	(0.296)	(0.379)	(0.427)	(0.529)	
More than 27.3%	0.347	0.087	0.582	0.964*	
	(0.306)	(0.396)	(0.439)	(0.543)	
Non-religious life[2]					14.63
Feels French					5.59
Disagrees	-0.241	-0.002	-0.243	-0.243	
	(0.185)	(0.276)	(0.214)	(0.234)	
Agrees	-0.455***	-0.494**	-0.248	-0.363*	
	(0.159)	(0.242)	(0.185)	(0.209)	
Totally agrees	-0.603***	-0.573**	-0.377**	-0.369*	
	(0.159)	(0.240)	(0.185)	(0.207)	
Demographics					
Age in 2008	-0.087**	-0.097*	-0.038	-0.024	
	(0.035)	(0.053)	(0.044)	(0.051)	
Arabic-sounding first name	0.290**	0.383**	0.145	0.104	
	(0.119)	(0.165)	(0.144)	(0.159)	
First-gen. immigrant	0.067	-1.492***	0.664***	0.790***	
	(0.216)	(0.453)	(0.257)	(0.287)	
Lives in a couple	0.170	-0.324	0.456	0.789**	
	(0.242)	(0.361)	(0.288)	(0.327)	
Birthplace dummies					14.86
Social life					
Participates in household's	0.185	0.273	0.084	-0.102	
food shopping	(0.195)	(0.312)	(0.235)	(0.257)	
Often meets her family	0.143	-0.130	0.389*	0.533**	
	(0.165)	(0.225)	(0.202)	(0.238)	
Often meets her friends	0.083	0.096	0.006	0.050	
	(0.159)	(0.238)	(0.200)	(0.222)	
Meets with neighbors	0.268***	0.124	0.313**	0.334**	
	(0.102)	(0.145)	(0.126)	(0.141)	
Schooling attainment					11.08
Completed high school	-0.293**	-0.247	-0.248	-0.310*	
	(0.137)	(0.203)	(0.163)	(0.179)	
Higher education degree	-0.078	-0.407**	0.196	0.272	
	(0.154)	(0.206)	(0.193)	(0.218)	
Years of schooling (in 2008)	-0.027*	0.060***	-0.066***	-0.085***	
	(0.016)	(0.021)	(0.020)	(0.024)	
Constant	-1.145	0.753	-7.841***	-7.703***	
	(1.520)	(1.422)	(2.534)	(2.738)	
Additional controls[2,3]	Y	Y	Y	Y	
Observations	2,372	2,339	2,372	2,372	
Pseudo R^2	0.144	0.133	0.241	0.270	

Note: Robust standard errors in parentheses. The estimation sample is restricted to Muslim women with non-missing covariates. Veiling status is measured using the respondents' answers to the wearing of religious symbols. We distinguish four categories depending on (1) whether the symbol is "discreet" or "conspicuous", and (2) whether it is worn "sometimes" or "always". Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[1] In column (5), we report Owen values of an R^2 decomposition of a linear-regression version of column (4).

[2] For our R^2 decomposition, we grouped all non-religious life aspects and other controls except for feelings of French identity and birthplace dummies to further isolate the explanatory power of those variables.

[3] Additional controls are a set of dummy variables capturing the conditions in which the survey took place and deciles of the local unemployment rate of immigrants.

Table 6: Determinants of veiling status, multinomial logistic regression

	(1)	(2)
Veiling status:	Discreet rel. symb.	Conspicuous rel. symb.
Individual religiosity		
Uses her religion	0.212	0.571***
to self-identify	(0.189)	(0.152)
Importance of religion in respondent's life		
Somewhat important	0.530	1.634
	(0.541)	(1.077)
Quite important	1.373***	2.559**
	(0.531)	(1.076)
Very important	1.207**	3.292***
	(0.526)	(1.086)
Attends religious ceremonies		
Family ceremonies only	0.210	0.460***
	(0.181)	(0.167)
Religious feasts only	0.214	0.864***
	(0.185)	(0.166)
Once or twice a month	0.272	1.726***
	(0.348)	(0.251)
At least once a week	-0.303	1.816***
	(0.500)	(0.262)
External influences		
Religious environment		
Muslim partner	-0.187	0.496**
	(0.208)	(0.193)
At least half of respondent's	0.197	0.501***
friends are Muslims	(0.163)	(0.177)
Muslim father	-0.085	0.092
	(0.432)	(0.454)
Muslim mother	-0.719**	0.593
	(0.366)	(0.538)
Religious first name	-0.059	0.254
	(0.290)	(0.208)
Importance of religion in education received		
A little important	-0.527	-0.124
	(0.370)	(0.440)
Quite important	-0.790**	-0.192
	(0.373)	(0.430)
Very important	-0.491	-0.377
	(0.361)	(0.424)
Presence of Muslim places of worship in commune (or arrond.)		
Places of worship (/1000 inh.)	0.056	-0.334
	(1.551)	(1.126)
Spaces in a place	-0.027*	0.002
of worship (/1000 inh.)	(0.015)	(0.007)
Spaces for women in a place	0.070	0.020
of worship (/1000 inh.)	(0.052)	(0.029)

Table 6: (continued)

	(1) Discreet rel. symb.	(2) Conspicuous rel. symb.
Percentage of Maghrebi immigrants in IRIS of residence		
(5.9%, 10.7%]	0.026	0.303
	(0.411)	(0.465)
(10.7%, 16.7%]	0.338	0.448
	(0.392)	(0.427)
(16.7%, 27.3%]	0.246	0.664
	(0.373)	(0.411)
More than 27.3%	0.166	0.632
	(0.388)	(0.423)
Non-religious life		
Feels French		
Disagrees	-0.103	-0.285
	(0.285)	(0.212)
Agrees	-0.589**	-0.360**
	(0.244)	(0.184)
Totally agrees	-0.705***	-0.563***
	(0.241)	(0.184)
Demographics		
Age in 2008	-0.110**	-0.064
	(0.055)	(0.044)
Arabic-sounding first name	0.426**	0.225
	(0.167)	(0.144)
First-gen. immigrant	-1.624***	-0.160
	(0.323)	(0.224)
Born in Maghreb	0.732**	0.178
	(0.346)	(0.198)
Lives in a couple	-0.225	0.406
	(0.364)	(0.282)
Social life		
Participates in household's	0.306	0.231
food shopping	(0.312)	(0.225)
Often meets her family	-0.057	0.444**
	(0.228)	(0.204)
Often meets her friends	0.114	0.067
	(0.239)	(0.199)
Meets with neighbors	0.194	0.369***
	(0.146)	(0.126)
Schooling attainment		
Completed high school	-0.280	-0.214
	(0.206)	(0.163)
Higher education degree	-0.360*	0.143
	(0.208)	(0.195)
Years of schooling (in 2008)	0.044**	-0.072***
	(0.021)	(0.020)
Constant	0.610	-6.640***
	(1.400)	(2.198)
Additional controls[1]	Yes	
Observations	2,389	
Pseudo R^2	0.191	

Note: Robust standard errors in parentheses. The estimation sample is restricted to Muslim women with non-missing covariates. Veiling status is measured using the respondents' answers to the wearing of religious symbols. We distinguish two categories depending on whether the symbol is "discreet" or "conspicuous". Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[1] Additional controls are a set of dummy variables capturing the conditions in which the survey took place and deciles of the local unemployment rate of immigrants.

Appendix

A Proofs

Proof of Proposition 1. The incentive to veil for woman i is $-p\lambda_i - pq\lambda_r - p(1-q)\lambda_s$, so that woman i adopts a positive level of veiling if and only if

$$q \geq \frac{\lambda_i + \lambda_s}{\lambda_s - \lambda_r}.$$

When $|\lambda_r| \leq \lambda_s$, this level for secular women is $\overline{q} = \frac{2\lambda_s}{\lambda_s - \lambda_r} \geq 1$, so that secular women never veil for any value of q. For secular women to veil, it must then be the case that $|\lambda_r| > \lambda_s$. Even then, they will veil only when $q > \overline{q}$.

Let us now assume that the conditions are met for secular women to veil, i.e. $|\lambda_r| > \lambda_s$ and $q > \overline{q}$. The first-order condition of the utility-maximization problem for woman i who makes the integration decision ℓ is given by

$$c'(v_i^\ell) = -p_\ell(\lambda_i + q\lambda_r + (1-q)\lambda_s).$$

Since c' is an increasing function (because c is convex), integrated secular women will veil more than segregated religious women as long as

$$\begin{aligned} & -p_1(\lambda_s + q\lambda_r + (1-q)\lambda_s) > -p_0(\lambda_r + q\lambda_r + (1-q)\lambda_s) \\ \iff \quad & q > \overline{q} + \frac{p_0}{p_1 - p_0}. \end{aligned}$$

For this equation to be able to hold at all (i.e. for the right-hand side to be less than 1), p_1 must be large enough compared to p_0:

$$p_1 > p_0 \, \frac{2 - \overline{q}}{1 - \overline{q}} = p_0 \, \frac{2|\lambda_r|}{|\lambda_r| - \lambda_s}.$$

with q that, as mentioned above, must simultaneously be close enough to 1.

To summarize, three conditions must be met for integrated, secular women to veil more than segregated, religious women:

$$|\lambda_r| > \lambda_s, \qquad p_1 > p_0 \, \frac{2|\lambda_r|}{|\lambda_r| - \lambda_s}, \qquad q > \frac{2\lambda_s}{\lambda_s - \lambda_r} + \frac{p_0}{p_1 - p_0}.$$

We illustrate this result by plotting veiling patterns as a function of q and for different values of $|\lambda_r|$, λ_s, p_1 and p_0 in Figure A.1. □

B Additional results

B.1 Analysis of panel data

Exploiting the respondents' employment history available in the TeO data, we construct a retrospective panel dataset of economic activity to test the robustness of our results to the timing of the survey. We restrict the sample to adults, meaning that we remove observations

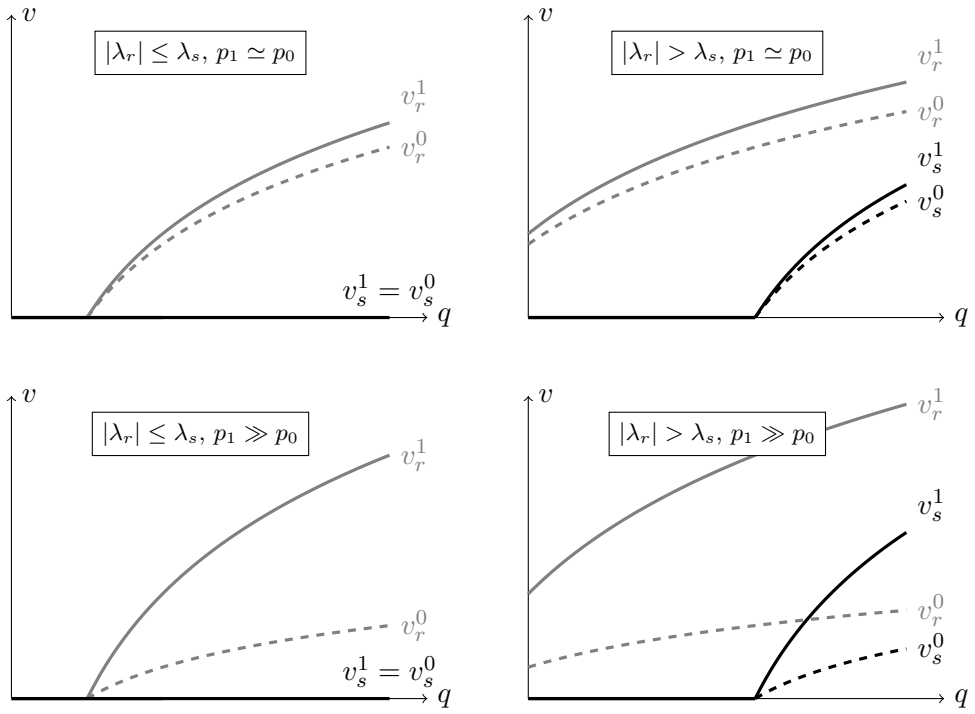


Figure A.1: Optimal veiling levels v_i^ℓ for $i \in \{r, s\}$ and $\ell \in \{0, 1\}$ for four configurations of the model's parameters. Left column: "low-veiling regime" ($|\lambda_r| \leq \lambda_s$). Right column: "high-veiling regime" ($|\lambda_r| > \lambda_s$). Top row: small difference in exogenous risk between integration and segregation ($p_1 \simeq p_0$). Bottom row: large difference in exogenous risk ($p_1 \gg p_0$).

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.[27] We estimate random effects models using this data and report results in Table B.1. In column (1), we regress the activity rate on veiling status and year fixed effects. In columns (2) and (3), we include, in turn, time-varying observables and time-invariant controls. The time-invariant controls are all covariates and dummies included in the cross-sectional analysis that are not likely to have changed over time (at least after age 18). These include the mother's and father's religion (Muslim or other), whether the individual has an Arabic-sounding name, attendance of religious ceremonies (proxy for religiosity), self-reported feelings of French identity, the importance of religion in the respondent's education, birthplace dummies, and a set of survey fixed effects. In these regressions, we cluster standard errors at the individual level to account for serial correlation. However, we cannot include individual fixed effects because we do not have panel data on veiling. We thus implicitly assume that the veiling decision is permanent, which we argue is a reasonable assumption because "unveiling" is a relatively rare phenomenon in France.[28]

[27] 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.

[28] Two surveys conducted over (rather small) representative samples of the French Muslim population suggest that between 8 and 10 percent of women of Muslim faith declare having worn the veil in the past and are no longer doing so (IFOP 2019, Institut Montaigne 2016). Out of the total number of women not currently wearing the

The results from these regressions overall confirm the findings obtained in the cross-sectional analysis. Indeed, the wearing of a conspicuous symbol is associated with a significant decline in economic participation. Once more, the estimated effect is much stronger when the individual always wears the symbol. The estimates are smaller in magnitude then those obtained in the cross-section, but are still statistically and economically significant. The results indicate that women who always veil are 20 percentage points less likely to be active than women not wearing any religious symbol in a given year. Other important determinants of the activity rate, as expected, are the number of young children, marital status, and the number of years of schooling. These results suggest that those obtained in section 5.1 are not merely due to the timing of the survey and portray a more general phenomenon about Muslim women in France.

B.2 Robustness checks

veil, this figure represents between 12.3% and 14.7%. Since here, we have both untreated individuals to which we assign treatment and treated individuals whom we assign to the untreated group, it is not clear in which direction this measurement error biases our estimates. In light of those issues, we treat this analysis simply as a robustness check of our main results obtained in the cross-section.

Table B.1: Effect of veiling on economic participation of adult Muslim women, retrospective panel data

Dep. variable: activity dummy	(1)	(2)	(3)	25 y.o. +
Veiling status				
Sometimes discrete	0.099***	0.000	0.002	-0.026
	(0.027)	(0.021)	(0.022)	(0.043)
Always discrete	0.090***	-0.014	-0.008	-0.032
	(0.030)	(0.023)	(0.023)	(0.046)
Sometimes conspicuous	-0.119***	-0.064**	-0.053*	-0.063
	(0.036)	(0.028)	(0.028)	(0.039)
Always conspicuous	-0.369***	-0.245***	-0.200***	-0.227***
	(0.020)	(0.018)	(0.019)	(0.024)
Educational attainment				
Years of schooling in France		0.011***	0.008***	0.008***
		(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		-0.005	-0.002	0.026**
		(0.004)	(0.005)	(0.008)
Age squared		0.000	0.000	-0.000**
		(0.000)	(0.000)	(0.000)
Number of children		-0.006	-0.006	-0.020***
		(0.005)	(0.005)	(0.006)
Number of children below age 4		-0.081***	-0.080***	-0.059***
		(0.006)	(0.006)	(0.007)
Married		-0.148***	-0.140***	-0.073***
		(0.014)	(0.014)	(0.020)
Constant	0.634***	0.602***	0.642***	0.284
	(0.018)	(0.109)	(0.123)	(0.233)
Time-invariant controls	N	N	Y	Y
Year fixed effects	Y	Y	Y	Y
Number of individuals	2,799	2,799	2,799	1,917
Total observations (N X Years)	38,791	38,791	38,791	24,202
R^2	0.123	0.332	0.341	0.275

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 B.2: Robustness checks, cross-sectional data

	Dep var. = ever worked	Born in France	Excl. "other" symbols
Veiling status			
Sometimes discreet	-0.003	0.033	-0.021
	(0.038)	(0.028)	(0.029)
Always discreet	0.017	0.019	0.038
	(0.035)	(0.030)	(0.028)
Sometimes conspicuous	-0.109*	0.043	-0.082*
	(0.046)	(0.041)	(0.038)
Always conspicuous	-0.341***	-0.260***	-0.282***
	(0.031)	(0.048)	(0.029)
Controls and FE	Y	Y	Y
Observations	2,158	1,999	2,427
R^2	0.316	0.320	0.402

Robust standard errors in parentheses. Controls and fixed effects included in the regressions are the full set of variables included in Table 4 column (6). In column (1), we change the dependent variable to a dichotomous variable taking the value of one if the woman reports having ever worked in her life and exclude students from the sample. 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. Level of significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C 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; in and 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).[29] 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. 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.[30] In Figure C.2, 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.[31] For all of the outcomes we observe a negative association, suggesting that, in Turkey as in France, the

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

[30] Note that this procedure is imperfect since the data on non-religious variables are currently only available as yearly averages while the data on veiling and religiosity are pooled over all years. Avital Livny generously accepted to send us the data on economic outcomes pooled at the appropriate level, but it was not yet available at the time of writing these lines.

[31] 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.

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).

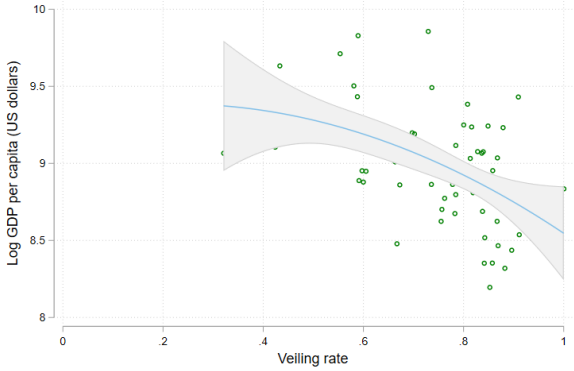
We take these results as further suggestive evidence in line with the theory. Indeed, as shown in Appendix A, in most situations, we should observe such a negative relationship. Given the Turkish institutional context, we think of Turkey as being in one of the two cases on the left of Figure A.1. That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

Figure C.2: Relationship between veiling and economic outcomes at district level, Turkey 2010–2015

(a) Primary school completion

(b) Secondary school completion

(c) Literacy



(d) GDP per capita

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