# Religious Identity of Management Teams and Firm Productivity: An Economic Case for Embracing Workplace Diversity

By

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#### **ABSTRACT**

This paper models the trade-off between the creative generation of ideas in a team of managers with religious backgrounds against their discomfort from dealing with colleagues with different religious identities. This is done by operationalizing the notion of the important concept of managerial engagement. The paper identifies the features of the optimal religious mix that a secular owner of a competitive firm would choose for the management team. Generally, this optimum entails a tendency towards firm segregation of management by religion. It is seen that competition—especially domestic—entrenches this tendency towards this segregation. Aspects of globalization that would encourage more diversification by religion are identified. The role played by anti-religious discrimination laws in promoting diversity is discussed. It is argued that such laws, by spurring organizational innovation, can be more efficacious in generating religious diversity in private management teams.

*Key Words*: innovation, managerial engagement, religion, discrimination, law, competition *JEL Classification Nos.*: O3, Z12, J82, D20, D24

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- "I go into the Muslim mosque and the Jewish synagogue and the Christian church and I see one altar."
- Mevlana Jalaluddin Rumi, Konya, 13<sup>th</sup> C. (from *The Essential Rumi*, trans. C. Barks)
- "We believe not only in universal toleration, but we accept all religions as true."
  - Swami Vivekananda, Parliament of the World's Religions, Chicago, 1893
- "We are already one. But we imagine that we are not. And what we have to recover is our original unity."
  - —Thomas Merton, Trappist Monk, from Conjectures of a Guilty Bystander, 1966

#### I. Introduction

In recent years, religious diversity in the workplace has been an issue that is becoming increasing prominent in the news, in business practice, and in academic circles. Governments are concerned with it on grounds of human rights and freedom from discrimination, businesses from the point of view of what it means for their profits, and employees from the viewpoint of what it means for their right to practice their beliefs and be allowed to use their work as a means of self-actualization. While much attention has been devoted to gender and race diversity in the workplace, little has been given to the economics of religious diversity. This essay, taking an economic standpoint, makes a modest attempt at inquiring what religious diversity means for firms' performance. The empirical evidence on this is mixed, though the recent literature is leaning towards emphasizing how religious diversity is beneficial to firms. The simple model presented here reconciles the contradictory findings and identifies some conditions under which religious diversity in management teams can be profitable to firms. <sup>1</sup>

Influential work using data across the world has provided robust evidence that religious beliefs regarding after-life are positively correlated with GDP but that time devoted to religious activities (such as attending the church, mosque, or synagogue) is negatively related to GDP (Barro and McCleary, 2003; McCleary and Barro, 2006). The explanation offered for this is that religious beliefs motivate work whereas time devoted to religious activities detracts from time devoted to work. The authors acknowledge the possibility that religious activities may be responsible for enhancing religious beliefs. What is not acknowledged,

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<sup>&</sup>lt;sup>1</sup> Religious diversity in labor would affect productivity, too. But the literature in recent times has been emphasizing the importance of management on a firm's productivity because much of the variation in firm productivity is explained by differences in management practices (Bloom and van Reenan, 2007; Bloom et al. 2013). In this paper, I focus exclusively on diversity in management for analytic tractability.

however, is that the time devoted to work and that devoted worship are not necessarily mutually exclusive. In Hinduism, Islam, and Christianity, for example, there are well-established traditions that emphasize that work itself can be done as an act of devotion (Eswaran, 2025). This would suggest that the religious outlook of employees may be beneficial to firms because it might promote engagement with their professional work. What seems problematic in the workplace, however, is that these outlooks may differ across people drawn from different religious backgrounds.

Recent literature in business and psychology has uncovered the phenomenon of 'engagement' of an employee with the job and emphasized its importance (Kahn, 1990; May, Gilson, and Harter, 2004). By 'engagement' is meant the passion, the zest, identification, etc. that the employee feels for the job. Being employed is not necessarily the same thing as being engaged; those who are not engaged may go through the motions to do the bare minimum warranted by the job and offer nothing more. Engagement, by contrast, would naturally promote productivity through enthusiasm, the exercise of creativity, cooperation, and the like. Identifying the factors contributing to job engagement is an important issue in the business literature. Some of these are, no doubt, intrinsic—they come from within the employee's own motivation—and others are extrinsic, that is, they come from the work environment. The latter may include monetary aspects like incentives, which are well-studied, but generally will also include the nonmonetary aspects of the work environment. Empirically, the ability to express one's religious identity at work promotes engagement with the job (Héliot et al. 2020). Understandably, an unwelcoming work environment will dampen the effects of even an intrinsically motivated employee and loosen their commitment to work.

Religion is one of the most powerful markers of identity. In a 2019 survey across 34 countries, 62% of the 38,426 people surveyed claimed that religion played an important role in their lives.<sup>3</sup> That being the case, it is unlikely that religion can be compartmentalized and relegated to private life. It is reasonable to posit that one's religious upbringing (or lack thereof) will inform one's attitude towards life in general and, therefore, towards work. In fact, in some cases, the performance of the work itself may be imbued with religious significance (Weber, 1905/1930; Héliot et al. 2020; Eswaran, 2025). In that event, since work typically occupies a significant part of one's life, work would be an expression of a person's

<sup>2</sup> Gneezy, Meir, and Rey-Biel (2011) offer an overview of how these two motivations are distinct and how they interact.

<sup>&</sup>lt;sup>3</sup> https://www.pewresearch.org/religion/2020/07/20/the-global-god-divide

religious identity. As such, it would be integral to the person's self-actualization, in accordance with their psychological hierarchy of needs (Maslow, 1943).

When work is imbued with religious meaning, the latter would provide some intrinsic motivation for the work one does. The Protestant work ethic, to which Weber (1905/1930) attributed the emergence of capitalism, is perhaps the best-known example. Therefore, it is not difficult to conceive that the religion one subscribes to could be a determinant of employees' engagement with their work. A work environment that is not conducive to an employee's religious orientation would certainly undermine their engagement with their job.

Ethnic differences are an important source of conflict (Alesina and La Ferrera, 2005). Even when there is no overt conflict, ethnic differences matter to the degree of social capital that exists within a society. At the macro level, Putnam (2007) found in his research in the United States that counties that had more diversity in ethnic groups showed lower levels of social capital. In fact, not only was there more distrust across different ethnic groups, even trust levels between members of the same ethnic group were lower. In his words, it is as if people "hunker down" and reduce contact with others in the community when the number of ethnic groups increases. Though not all of the myriad factors that might drive behavior at the macro level need be present at the micro level, we might nevertheless expect that some of the same effects could be observed within a firm. In fact, the evidence suggests that ethnic differences between employees can have negative effects on the performance of the group or firm (Glaeser et al. 2000; Parrotta, Pozzoli and Pytlikova, 2011; Hjort, 2014; Garnero, Kampelmann, and Rycx, 2016, Afridi et al. 2020; Afridi, Dhillon, and Sharma, 2024); Ghosh, 2022).

At their core, all the major religions seem to declare the oneness of all of humanity. But in practiced religion, however, this is far from true. Ironically, however, among all ethnic markers, religion is often the most divisive. Perhaps this is because each religion offers a world view that is taken by its adherents as 'the Truth'—a claim that may be contradicted to various degrees by other religions. Practiced religion—based on religion as *interpreted* by its adherents—tends to set up a sharp dichotomy between the in-group of coreligionists, 'Us', and those who are outsiders, 'Them'. The emergence of this dichotomy is a manifestation of a well-known phenomenon in sociology (Tajfel, 1974, Tajfel and Turner, 1979) and experiments have shown the ease with which they can be easily generated even in a laboratory (Tajfel et al. 1971). This proclivity itself seems to draw from behavioral patterns

hardwired by natural selection, where adherence to one's tribe served some evolutionary purpose in maximizing biological fitness (Eaton, Eswaran, and Oxoby, 2011).

When religion is embraced as an important aspect of national identity, it can lead to hostility and bloodshed across countries, a point that does not require belaboring. But even at the microlevel, say at the level of a firm, religion has a tendency to create an 'Us v. Them' mindset that results in discrimination in various forms, if not overt or covert hostility. This discomfort of a manager with those perceived as the religious 'Other' in the firm's management team leads to a loss of engagement with their job. Workplaces deemed incongruent to one's religious identity are less likely to generate full engagement with the work. This, in turn, results in productivity loss in a religiously diverse management team. The downside of diversity, therefore, is that it carries the peril of disengagement, if not overt religious or cultural conflicts (Héliot et al. 2020).

The upside of religious heterogeneity in the firm's management stems from the diversity in ideas that it brings about. Diversity in skills confer benefits through the usual advantages of division of labor. Diversity in ethnicity, gender, religion, sexual orientation, etc. are more problematic for reasons alluded to above, but they nevertheless bring benefits, too. The world views, interpretations, knowledge of what would appeal to different segments of the domestic and foreign populations would differ across people subscribing to different religions. Homogeneity engenders approaches in which all team members share the same tacit assumptions and focus on the same information. When the team comprises people of diverse lived experiences, they bring diverse views that leads to innovations (Hong and Page, 2004; Alesina and La Ferrara, (2005); Page, 2007; Berliant and Fujita, 2008; Nathan and Lee, 2013; Phillips, 2014). Freeman and Huang (2015) found that academic papers coauthored by ethnically diverse researchers were cited more often, suggesting that these collaborations were more innovative than those of authors of homogeneous ethnicity. Ethnically diverse teams generate productivity improvements through their diverse ideas, mutual learning, the synergy or complementarity of their ideas (Lazear, 1999; Prat, 2002; Hamilton, Nickerson, and Owan 2003; Alesina and La Ferrara, 2005; Nathan and Lee, 2013; Hoogendoorn and van Praag, 2012). Religion being an important aspect of ethnicity, can be expected to have similar effects. The ensuing productivity gain is the upside of religious diversity to the firm.

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<sup>&</sup>lt;sup>4</sup> Ethnic diversity has been shown to also stabilize markets by thwarting price bubbles (Levine et al. 2014).

If fact, the presence of team members from different religious groups may possibly induce more thought and effort. A subtle rivalry, within limits, may instill a spirit of competitiveness among coreligionists so that they are not upstaged by other religious groups in generating ideas. Thus, religious diversity may induce greater productive effort. The empirical findings of Lount and Phillips (2007) on how social category differences can influence effort suggest that this might be so; they argue that social diversity can have positive benefits. While antipathy and discomfort can have a deleterious effect on managerial engagement, as noted above, on the innovative side, they can also spur more innovative effort. Nevertheless, Chua (2013) found that a tension-ridden workplace environment—one that he dubs 'ambient cultural disharmony'—reduces the creativity of the group. Thus, the considerable potential benefits of religious diversity also come with some perils that can be ignored only at considerable cost.

In this paper, I set out a simple and parsimonious model that captures the tradeoff entailed in the benefits and costs of religious diversity described above and use the model to reconcile some of the empirical findings on the effects of religious diversity on firm level productivity, thereby explaining the mixed results frequently seen in diverse teams (reviewed in Williams and O'Reilly 1998). It also sheds some light on the accommodations made by firms to formal and informal government mandates on eschewing religious discrimination. I argue that by spurring organizational innovations to comply with these requirements, private firms may have benefitted from government mandates by having to offer more hospital workplace environments to people of diverse religions—which would explain the increasing presence of human resource management teams in most large firms.

The next section sets out the model and works out its theoretical implications. Section III briefly discusses the rights of employees and the laws against religious discrimination implemented in some countries. Section IV discusses the endogenous responses of private firms to these laws. Some concluding remarks are presented in Section V.

# II. A Model for Religious Diversity in the Workplace

To analyze the conflicting claims in the vast emerging literature outside the field of economics on the effects of religious diversity in the workplace, in this section I set out a

simple bare-bones economic model of this phenomenon.<sup>5</sup> The purpose is to capture the tradeoffs involved in embracing religious diversity, to identify when we would tend to observe diversity and when we would see religious homogeneity in the management teams. The focus here is on the effect of the management team's religious composition on the total factor productivity of the firm. Although this model could apply to other forms of diversity, the focus here is on religious diversity per se.

Consider a firm that has a management team comprising members belonging to one of two religions, referred to here as 1 and 2, respectively. This only means that team members were raised in one of these two religions, so that that their world views are presumably influenced to some extent by their upbringing—not that they are actively practicing their religion. In the U.S., France, or Germany, for example, these two religions might be Christianity and Islam; in India, they might be Hinduism and Islam. We could even allow atheism to be one of the 'religions' because atheism, too, is a belief system that is accompanied by certain world views. The team comprises n managers with identical abilities, of which  $n_1$  are from religion 1 and  $n_2$  from religion 2.

There are two factors that impinge on total factor productivity in this model. The first is the creative synergy that arises from having a management team that comprises diversity and, therefore, managers with two different conceptual frameworks for approaching worldly activities. The second is the engagement level of the managers, the extent to which they identify with the organization and apply discretionary effort to their professional work. The first arises from the spontaneous generation of ideas, while the second comes from an aggregate of the individual choices of managers on the extent of their engagement with their jobs. The former is technological in nature, and the latter economic and sociological.

The total factor productivity, denoted by T(D, E), then, is a function of two variables: a measure of the management team's religious diversity, D, and the aggregate level of managerial engagement, E, of the team. This function is posited to be of the form

(1) 
$$T(D,E) = A_0 D^{\alpha} E^{\beta},$$

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<sup>&</sup>lt;sup>5</sup> Osborne (2000) offers a very different model of labor force diversity in a firm, though not oriented towards religious diversity per se.

<sup>&</sup>lt;sup>6</sup> See McFarland (1998) who argues, for example, that there is not much difference between religion and communism as far as belief systems go and that they lend themselves to fundamentalism at the one end and openness to exploration at the other. This is not to suggest that communism and atheism are synonymous but rather to point out that both atheism and religion are belief systems.

where  $A_0 > 0$  with  $0 < \alpha < 1, 0 < \beta < 1$  to ensure diminishing returns with respect to the inputs D and E. The exponents  $\alpha$  and  $\beta$  are the respective elasticities of the total factor productivity with respect to diversity and managerial engagement. Since managerial actions impinge on the firm's total factor productivity, this approach views "management as technology," in line with Bloom et al (2016).

## Managerial Engagement

I now present a simple model of how a manager's engagement is determined at the individual level. Engagement is not merely the application of effort, which traditionally causes only disutility and, therefore, needs compensation. There is also the zest, the delight, of performing creative work; it provides utility, too. Therefore, I posit that engagement is determined not merely by the manager's remuneration but also the self-actualization that it provides. However, the extent to which engagement is feasible is influenced by the work environment or what I call the 'milieu' of the workplace. An inhospitable milieu dissuades engagement just as a hospitable one encourages it. There is no reason to assume that the members drawn from both religions will face identical milieus in the same firm. The engagement level of individual managers will partly determine the firm's efficiency, here captured by the total factor productivity.

There is evidence to suggest that the productivity of an employee depends on their wellbeing, which should not be surprising but is generally not considered in models. The profitability of a firm, customer satisfaction, and firm performance in general are positively correlated with self-assessed sense of the firm's employee well-being (Harter, Schmidt, and Hayes, 2002; Krekel, Ward, and De Neve, 2019). Here, I identify a manager's well-being as being partly determined by the environment or milieu of the workplace, which in turn depends on the religious composition of the management team, in a manner we shall soon see.

I posit the well-being or utility,  $U_i(y, e)$ , of a manager from religion i, i = 1,2 to depend on the remuneration y and engagement e to be of the simple form

(2) 
$$U_i(y,e) = m_i y^{1/2} e^{1/2} - e,$$

where  $m_i > 0$  is a measure of the workplace milieu that the person encounters, with a higher measure implying better milieus. The second, linear, term denotes the disutility of effort associated with the effort of engagement. The remuneration y is set by the firm's owner and taken to be set in competitive markets and is exogenously given to a firm. I assume that this

remuneration takes the form of a salary; bringing in stock options etc. would merely complicate the model. The first term indicates that the utility from creative effort is enhanced by better work milieus.

A manager from religion i, i = 1,2 maximizes the objective function in (2) by choice of engagement. The solution,  $e_i, i = 1,2$ , is readily seen to be

(3) 
$$e_i^* = (y/4) m_i^2.$$

In this model, by construction, a manager's engagement is dependent on their perceived workplace milieu. Unless members of the two religious groups perceive identical milieus in the workplace, their engagements on the job will be different.

On substituting (3) into (2), the maximized well-being of an employee, denoted by  $U^*(y, m_i)$  belonging to religion i, i = 1,2 is given by

(4) 
$$U^*(y, m_i) = (y/4) m_i^2.$$

Since employees' engagement clearly will be related to their productivity, from (3) and (4) immediately see that this framework is consonant with the empirical finding that employees' well-being and the firm's productivity are positively correlated (Harter, Schmidt, and Hayes, 2002; Krekel, Ward, and De Neve, 2019).

The aggregate engagement, E, of the managerial team can then be written

$$E = n_1 e_1^* + n_2 e_2^*,$$

where  $e_1^*$  and  $e_2^*$  are given by (3). Writing  $n_1 = np_1$  and  $n_2 = np_2$ , where  $p_1$  and  $p_2$  are the respective proportions of managers from the two religions, the above expression for aggregate engagement may be rewritten as

(5) 
$$E = n(y/4)(p_1m_1^2 + p_2m_2^2),$$

The immediate question now is: How might the managers from the two religions perceive their workplace milieus differently? As briefly mentioned in the Introduction, the views from sociology, psychology, and evolutionary psychology point to religious beliefs seem to be appropriated by mechanisms that persuade humans to identify with the in-group against outgroups in competition for resources. This proclivity is incorporated into the model now to characterize the perceived milieu of the work environment.

In a pioneering study, Kahn (1990) investigated the conditions under which employees will engage with their work and found three: meaningfulness of the work, safety, and availability to engage. When employees find the work meaningful, they deeply engage with it. Full engagement to the point that they throw their whole selves into their work requires them to feel safe in the workplace—not just physically unthreatened but also psychologically, too. Engagement also requires them to be available physically, emotionally, and cognitively in their work and, therefore, relatively free from distractions. In the absence of these three conditions, employees disengage from their work and, naturally enough, the quality of their work suffers because the desire to call forth their creativity, to cooperate with coworkers, and to manifest their potentials are attenuated. These three conditions, when present, also contribute positively to an employee's well-being.

As May, Gilson, and Harter (2004) point out, social identity and the sense of belongingness is fostered by interactions with colleagues. Akerlof and Kranton (2000, 2005) have emphasized the important role of identity in economic organizations, and religion is certainly deemed an important aspect of a person's identity.

Here, a manager may be intrinsically motivated by the work but the social environment can affect the manifestation of that creativity (Amabile, 1997). As noted in the Introduction, the world views, the norms, the expectations of people subscribing to different religions are different. As a result, communication between colleagues drawn from different religions in a firm may be somewhat more constrained than when they are between coreligionists. This can induce a preference for interactions with coreligionist colleagues, a preference that can be very strong if there is hostility between the two religions for reasons that derive from past history or from ongoing communal tensions.

Within the setting of the management team of a firm, probably the simplest way of incorporating differences in perception regarding the workplace milieu is to posit that the level of comfort derived from a colleague coreligionist is different from that derived from a colleague who is not. One simple and parsimonious version of this is to posit that the workplace milieu,  $m_i$ , perceived by a member subscribing to religion i, i = 1,2, is given by

$$(6) m_i = p_i + \mu p_{-i},$$

where  $\mu \leq 1$  and  $p_i$  is the proportion of coreligionists in the management team and  $p_{-i}$  is the proportion subscribing to the other religion. Clearly,  $p_{-i} = 1 - p_i$ . Hereafter, we shall drop this subscript and set  $p_1 = p$ , so that  $p_2 = 1 - p$ . It is posited that  $\mu \leq 1$ , that is, a team

member feels less comfortable (when the inequality is strict) with a colleague who is not a coreligionist than with a coreligionist. In the event that the feeling evoked by colleagues who are not coreligionists is one of downright antipathy, it is even possible that  $\mu < 0$ . But it is not necessary, however, to assume antipathy in this model; a difference between the magnitudes of  $\mu$  and 1 due to discomfort with the "out-group" is all that is required for what follows. From (6) it follows that the milieu facing a person in group i worsens with the proportion  $p_{-i}$  because they are less comfortable to express their religious identity. The more of a minority a group becomes, the more its members tend to feel threatened and discriminated against. Then the decline in employee engagement implied by (3) would be consistent with the evidence of Messarra (2014) from Lebanon: the perception of discrimination reduces employee engagement and commitment. Jiminez et al. (2019) find that, in private participation infrastructural projects, high levels of within-country religious diversity are associated with a higher probability of project failure. This is consistent the claim here that there is a decline in engagement with religious diversity.

While I take this parameter  $\mu$  as exogenous in the model, it must be noted that the discomfort a team member feels in the workplace importantly depends on the tacit organizational policies set in place. Policies can make a workplace environment more hospitable for all religious adherents. I dub the parameter  $\mu$  characterizing the milieu as the 'ambience' parameter, borrowing the term from Chua (2013). I shall have more to say on this later in the paper.

#### Innovation

The upside of diversity has been stressed by several researchers cited in the Introduction. Page (2007) has argued that diversity contributes differences in perspective which, in team work, leads to more innovation. Hong and Page (2004) have further argued that diversity can even dominate ability in innovation. Within a firm, it would be expected that different world views and perspectives from religion would help generate more discussion, thoughtfulness, and innovations. Furthermore, in a globalized world where products can be sold in foreign countries in which the dominant cultures and religions are different, diverse managers can also suggest potential products for those markets. Since diverse views feed off each other, the

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<sup>&</sup>lt;sup>7</sup> Note that the issue here is the *interaction* between religious backgrounds in innovation, which is distinct from the question of whether religion per see encourages innovation. In fact, in an empirical investigation, Benabou, Tichhi, and Vindigni (2015) have found that an increase in religiosity has a robust negative correlation with favorable views on innovation.

benefit of diversity of views is synergistic or complementary. Thus, an appropriate way to represent the measure D that captures the effect of diversity on total factor productivity is the supermodular CES function

$$D = (n_1^{\rho} + n_2^{\rho})^{1/\rho},$$

where  $\rho < 0$ . The parameter  $\rho$  is a measure of the substitutability between the religions with regard to idea-generation; the elasticity of substitution is  $\sigma \equiv 1/(1-\rho)$ . It is easily verified that the cross-partial  $\partial^2 D/\partial n_1 \partial n_2$  is positive. An increase in the number of managers of religion 1 increases the marginal productivity of idea generation by religion 2 managers, and vice versa. As the CES parameter  $\rho$  increases towards 0, the inputs become less complementary, more substitutable. When  $0 < \rho \le 1$ , the inputs are substitutes and become perfect substitutes when  $\rho = 1$ . The above expression can be rewritten as

(7) 
$$D = n(p^{\rho} + (1-p)^{\rho})^{1/\rho}.$$

Substituting (5) and (7) into (1), we obtain the total factor productivity of the firm,  $A(n, p, \mu)$ , in terms of n and p as

(8) 
$$A(n, p, \mu) \equiv T(D, E) = A_0(y/4)^{\beta} n^{\alpha+\beta} (p^{\rho} + (1-p)^{\rho})^{\alpha/\rho} (pm_1^2 + (1-p)m_2^2)^{\beta}$$
, where, by (6),

(9) 
$$m_1 = p + \mu(1-p); m_2 = (1-p) + \mu p.$$

The size, n, of the management team and the proportion. p, are choice variables of firm's owners.

## The Firm's Profit Maximization and Optimum

The firm also employs an amount K of capital and L of labor to produce output given by  $A(n, p, \mu) f(K, L)$ , where f(K, L) is a standard production function. If K and L are hired from competitive markets and if rental rate on capital is r and the wage rate of labor is w, the profit of the firm may be written

(10) 
$$\Pi(n, p, K, L) = PA(n, p, \mu) f(K, L) - \gamma n - wL - rK,$$

where *P* is the product price.

Since choices of the capital and labor inputs are routine exercises and are not the focus of this analysis, to minimize algebra I assume a simple functional form for f(K, L). I assume it is of the Leontief fixed coefficients type:

(11) 
$$f(K,L) = (\min\{K,L\})^{\tau},$$

where  $0 < \tau < 1$ . This function uses capital and labor are used in fixed proportions but exhibits diminishing returns.

Setting L = K, the optimization problem of the owner can be written

(12) 
$$max_{n,p,K} \quad PA(n,p,\mu)K^{\tau} - yn - (w+r)K.$$

We can do the optimization step-wise and write it in nested form as

(13) 
$$\max_{n,p} \{ [\max_{K} PA(n,p,\mu)K^{\tau} - (w+r)K] - yn \}.$$

The maximized objective function within the square brackets is readily seen to be

(14) 
$$B(PA(n,p,\mu))^{1/(1-\tau)}$$
,

where 
$$B = (1 - \tau)(\tau/(w + r))^{\tau/(1-\tau)}$$
.

Thus, the maximization in (13) reduces to

(15) 
$$max_{n,p} \ B(PA(n,p,\mu))^{1/(1-\tau)} - yn.$$

From (8) we see that the expression for  $A(n, p, \mu)$  is a product of a function of n alone and of p alone. The maximization of n can be analytically done very simply; that over p is much more complicated. Thus, once again it is convenient to cast the maximization in (15) in nested form:

(16) 
$$max_p \{ max_n H(p)n^{\varphi} - yn \},$$

where  $\varphi \equiv (\alpha + \beta)/(1 - \tau)$  and

(17) 
$$H(p) \equiv B(PA_0(y/4)^{\beta}(p^{\rho} + (1-p)^{\rho})^{\alpha/\rho}(pm_1^2 + (1-p)m_2^2)^{\beta})^{1/(1-\tau)}.$$

After performing the routine maximization with respect to n within the braces in (16), assuming that  $\varphi < 1$ , we obtain the solution as

(18) 
$$n^*(p) = (\varphi H(p)/y)^{1/(1-\varphi)}$$

The maximization within the inner braces in (16) yields the optimal value

(19) 
$$(1-\varphi) (\varphi/y)^{\varphi/(1-\varphi)} (H(p))^{1/(1-\varphi)}$$

Substituting (19) into (16) and dropping all multiplicative constants, the outer maximization in (16) finally reduces to the choice of the proportion, p, of the proportion managers subscribing to religion 1 as

(20) 
$$max_p \quad \left( (p^{\rho} + (1-p)^{\rho})^{\alpha/\rho} (pm_1^2 + (1-p)m_2^2)^{\beta} \right)^{1/((1-\tau)(1-\varphi))},$$

where  $m_1$  and  $m_2$  are given by (9). The choice of the proportion of managers of religion 1 depends on a tradeoff between two factors: the creative benefits of diversity for innovation and the engagement of managers in the workplace. The former pushes for heterogeneity of the management team, while the latter for homogeneity.

Note that the objective function in (20) is just a monotonic transformation of the function H(p) defined in (17). We note for future reference that, in (20), the optimal proportion p essentially maximizes an increasing function of H(p).

Since the logarithm is a monotonic transformation, we may maximize the logarithm of the objective function instead. Once again, dropping irrelevant constants for this maximization, the problem in (20) can be recast as

(21) 
$$max_p \quad (\alpha/\rho) \ln(p^\rho + (1-p)^\rho) + \beta \ln(pm_1^2 + (1-p)m_2^2).$$

Substituting for  $m_1$  and  $m_2$  from (9), the first order condition for the maximization in (21) is given by

(22) 
$$\frac{\alpha(p^{\rho-1}-(1-p)^{\rho-1})}{p^{\rho}+(1-p)^{\rho}} - \frac{\beta(1-2p)(3-2\mu-\mu^2)}{1-3p+3p^2+2(1-p)p\mu+(1-p)p\mu^2} = 0.$$

Denote a local maximum, which may not be unique, by  $p^*(\mu, \rho)$ . Equation (22) leads immediately to the following proposition. (All proofs can be found in the Appendix to this paper.)

Proposition 1: When the ambience parameter  $\mu = 1$ , the optimal proportion of managers drawn from each religion is  $\frac{1}{2}$ , exhibiting maximum diversity.

When  $\mu=1$ , managers of either religion perceive no difference between the level of discomfort experienced with colleagues of the other religion compared to those of their own. Their engagement with their job, therefore, is unaffected by the religious make-up of the management team. In this case, the innovation from diversity is the sole determinant of the

choice of the optimal mix, and this is maximized when p = 1/2 because of the complementarity of the creative inputs from the two religious groups.

What happens in the more relevant case when  $\mu < 1$ ? The first term of the left-hand-side of (22) captures the marginal effect of an increase in p on idea generation due to diversity. This term, which is independent of  $\mu$ , is monotonically declining in p, is positive for p < 1/2, vanishes at p = 1/2, and becomes negative for p > 1/2. The second term of the left-hand-side of (22) is the marginal effect of an increase in p on managerial engagement. This term, which is independent of p, is negative at p < 1/2, vanishes at p = 1/2, and is positive for p > 1/2. Since both terms on the left-hand-side of (22) vanish at p = 1/2, we see that that p = 1/2 must necessarily be a solution to the first order condition—though it could be a minimum not a maximum.

In general, the solution to the first order condition admits multiple solutions. Notice that, by specification, religions 1 and 2 enter symmetrically into the model. So, if the solution is unique, it must occur at p = 1/2. This is shown by the solid curve in Figure 1. In such scenarios, the innovativeness brought about by religious diversity is the decisive factor.

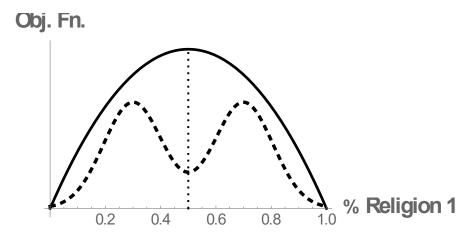


Figure 1: Shows how the objective function changes with the proportion of managers from Religion 1.

If there are multiple solutions, for every local maximum that occurs at p < 1/2, there must be another local maximum symmetrically placed around p = 1/2 in the region p > 1/2. Thus, when there are multiple optima, they must occur in pairs. This occurs because of symmetry: if a scenario with say, 90% of managers drawn from religion 1 (and 10% from religion 2) maximizes the firm's profit, then the scenario with 90% from religion 2 (and 10%).

from religion 1) must yield the same profit.<sup>8</sup> This is shown by the dashed curve twin-peaks in Figure 1. In this case, the zero of the first order condition that necessarily occurs at p = 1/2 is a minimum, not a maximum. In such scenarios, managerial engagement is important enough that the creative effect of diversity cannot be the overriding factor.

When we obtain multiple equilibria, it means that the negative effect of diversity on managerial engagement pushes towards greater segregation by religion in the management team. In the extreme, if managerial engagement were overwhelmingly dominant and the creative effect of diversity on innovation being negligible, firms would segregate in the composition of their managerial teams: they would either have all with religion 1 or all with religion 2. This is very reminiscent of Arrow's (1972) finding that racial discrimination by employees can result in segregation of firms by race. In the present context, in scenarios where  $\mu$  is substantially lower that 1, we would tend to observe firms with management teams comprising predominantly Jews or Christians or Muslims or Hindus, etc. The actual proportions in reality, of course, will also be influenced by the proportion of each religion in the population.

With significant presence of both religions in the population, the tendency toward virtual segregation would be most likely in scenarios where  $\mu \ll 1$  or where  $\mu < 0$ . This would appear in extreme form when there is open communal conflict between the religions. We would expect greater segregation in the managerial team when the population is religiously polarized. A good example of this is Northern Ireland in the decades during and soon after The Troubles, which led to severe segregation in the workplace between Catholics and Protestants (Shirlow, 2006). It must be borne in mind, however, that it is not only religion that was involved there but also a strong sense of nationalistic loyalties (Dingley and Morgan, 2005).

## **Comparative Statics**

On performing comparative statics with respect to  $\mu$ , we obtain the following result.

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<sup>&</sup>lt;sup>8</sup> It is doubtful that there can be more than two maxima—which, though consistent with numerical simulations, I am not able to prove analytically. I speak in term terms of two maxima (when there are multiple optima), but the propositions and arguments that follow do not depend on this.

<sup>&</sup>lt;sup>9</sup> Discrimination need not be conscious, as Rooth (2010) has shown; it can occur through automatic negative associations regarding productivity and attitudes.

<sup>&</sup>lt;sup>10</sup> See Mansoor and Abraham (2021), and the references cited therein, for occupational segregation at large in India. On caste-based discrimination in India, see Thorat and Newman (2007). On the basis of the theory of my paper, we would expect some segregation in management teams by caste.

Proposition 2: When the ambience parameter,  $\mu$ , increases marginally,

- (a, the optimum remains at p = 1/2 if it is unique, and
- (b) if there are multiple optima, they move towards p = 1/2.

This is intuitive. When  $\mu$  increases, it means that the discomfort of interacting with colleagues who are not coreligionists is attenuated. Therefore, disengagement of managerial effort in a mixed group is less of a problem, thereby putting greater weight on diversity's effect on innovation. This facilitates a reduction in segregation by religion and permits greater diversity in the managerial team. When  $\mu$  is sufficiently close to 1, the importance of diversity dominates and the twin peaks in Figure 1 collapse into a single peak at p=1/2, exhibiting maximum diversity, as is shown by the solid curve in Figure 1.

To obtain the comparative statics with respect to the measure of substitutability between the two religions in idea generation,  $\rho$ , we obtain the following result.

Proposition 3: When the two religions become marginally closer substitutes in their world views (that is,  $\rho$  increases),

- (a) the optimum remains at p = 1/2 if it is unique, and
- (b) if there are multiple optima, they move away from p = 1/2.

Recall that we have restricted that  $\rho < 0$  in order to capture the complementary of the ideas of diverse groups that is emphasized in the literature (Hong and Page, 2004; Page, 2007). As  $\rho \to -\infty$ , the creative input approach perfect complementarity. When  $\rho$  increases (towards 0), the ideas are becoming more substitutable; diversity offers marginally less benefit that before. To that extent, managerial engagement will become more important. Thus, there is less diversity in the management teams of the two local maxima when the solution is not unique—the optimal proportions move away from each-other, towards 0 and 1, respectively. An increase in the substitutability of perspectives, all else constant, offered by the two religions—perhaps due to similarities of world views—encourages greater managerial segregation by religion in the firms. It is ironic that greater disparity in the perspectives of religions generates a stronger tendency towards diversity in managerial composition. Greater competition in the religious market via similarity (substitutability) of religious beliefs will not by itself produce more diversity in firms in line with the religious representations in the population.

We may conjecture that globalization in the product market would result in more diversity in management teams. However, that depends on the nature of the globalization. One aspect of globalization is that, for a domestic firm, foreign prices may be higher than those in domestic markets. An increase in the product price, P, would spur an efficient domestic firm to export. However, the proportion p of religion 1 in the management team is determined by the first order condition (22), which has no dependence on P. Thus, exposure to foreign markets and competition will not affect the managerial diversity through a more lucrative price alone. We see from (18), however, that the number of managers hired depends positively on the product price, P. Since the optimal levels of capital and labor will obviously increase with P, the scale of operation of the firm will be larger. Therefore, higher exports of an existing product to foreign countries will increase the size of its management team and the employment of production inputs but not change the religious composition of management team. Exposure to foreign competition will not, by itself, affect bring about greater diversity. If the trend towards religious segregation is due to employee bias against religions that are not one's own, the manifestation of this bias will not be eliminated in Beckerian fashion (Becker, 1957). In fact, market forces could entrench religious discrimination by punishing deviations from the norm.

Globalization, nevertheless, can potentially increase workplace diversity under two conditions in the model. First, if the marketing of an existing product abroad needs to be tailored to the culture and religion of specific countries, a more diverse management team would clearly be helpful. Alternatively, if the product itself needs to be tailored to the cultural tastes of other countries, then, too, will great managerial diversity be helpful. Such possibilities are captured by an increase in the parameter  $\alpha$  in (1), which represents the importance of diversity in determining the firm's total factor productivity. The following result records the effect of an increase in the importance of global markets.

Proposition 4: When globalization increases the elasticity of total factor productivity with respect to diversity, with a marginal increase in globalization

- (a) the optimum remains at p = 1/2 if it is unique, and
- (b) if there are multiple optima, they move towards p = 1/2.

This is in accord with intuition. If the global market increases the importance of diversity, it will force profit maximizing firms to employ more diverse management teams. If the optimal

solution is not already at p = 1/2, the twin peaks of the dashed curve in Figure 1 will move towards each other when diverse markets are being served.

This suggests that multinational firms will employ more diverse management teams than firms serving only domestic markets, a point also made by Osborne (2000). The mechanism he suggests, however, is very different from what is captured in the model here. Osborne presumes that there are diverse employee groups, each with a special comparative skill for a particular characteristic of the many that the good could embody. On entering new markets, previously latent characteristics may be demanded and so the firm would call forth more such teams. Although the workforce at the company level would be diverse, there would necessarily not be greater interaction between these groups. In contrast, the demand for diversity in this paper's model derives from the greater scope for generating ideas due to complementarity stemming from diversity in perspectives, and this necessarily entails closer interactions between the members of the team. This is why innovative multinationals like Google, Accenture, Salesforce, Intel, among many others have been in the vanguard for promoting religious diversity in the workplace. 11

What happens when managerial engagement becomes more important to total factor productivity? Bloom and van Reenan (2007), in an empirical study involving European and American companies, found that greater competition is associated with better management while family firms with primogeniture tend to have poor management. Teece (2007) has argued that long run survival of enterprises requires management to have 'dynamic capabilities', that is, the ability to skills needed to respond by adjustment and innovation to an ever-changing market environment—which requires managerial engagement. The role of managers also becomes vital when firms have to utilize rapidly changing technologies in order to exploit their competitive edge, and this often requires managers to come up with corresponding organizational innovations (Brynjolfsson and McAfee, 2012).

The importance of managerial engagement is captured in the model by the parameter  $\beta$  in (1); it measures the elasticity of the total factor productivity with respect to managerial engagement. Comparative statics with respect to  $\beta$  recorded in the following result.

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<sup>&</sup>lt;sup>11</sup> For trends in Fortune 500 firms incorporating religious inclusiveness, see the REDI 2025 Report, available at: <a href="https://religiousfreedomandbusiness.org/wp-content/uploads/2025/05/2025-Faith-Friendly-Workplace-Report-Fortune-500-email-FINAL.pdf">https://religiousfreedomandbusiness.org/wp-content/uploads/2025/05/2025-Faith-Friendly-Workplace-Report-Fortune-500-email-FINAL.pdf</a>

Proposition 5: When the elasticity of total factor productivity with respect to managerial engagement increases marginally (that is,  $\beta$  increases),

- (a) the optimum remains at p = 1/2 if it is unique, and
- (b) if there are multiple optima, they move away from p = 1/2.

A greater emphasis on managerial engagement pushes the firm towards more religious segregation of the management team. This is because management engagement is adversely affected by the presence of members subscribing to the "other" religion. Surprisingly, if greater competition forces better management, it does not promote religious diversity of the management team. However, it must be noted that this prediction presumes that all else is held constant in this exercise. The recognition of the importance of managerial engagement, as has been the case in recent years, would induce firms to endogenously improve the ambience of the workplace, that is, to increase  $\mu$ . The net effect may be an increase in religious diversity. More will be said on the endogeneity of  $\mu$  in Section IV.

We noted above that  $p^*(\mu, \rho)$  maximizes a monotonic function of H(p), defined in (17). We see that the optimal size of the management team, given (18) as  $n^*(p^*(\mu, \rho))$ , is a monotonic transformation of this maximized value,  $H(p^*(\mu, \rho))$ .

Although the model here does not include the important feature of ability or talent of employees because all are tacitly assumed to be equally able, we can easily see what the effect on the firm's distribution of managerial talent would be in the various scenarios. It is reasonable to assume that the distribution of abilities is the same across both religions. When the firm draws most of its managers from the same religion, say 1, the quality of managers would likely decline because high ability people would be scarce. The ability of the few managers in the team from the relatively excluded religion 2 would be low, because the disproportionate representation of religion 1 in the team would induce high ability managers from religion 2 to stay away if their opportunity cost is increasing in ability. The loss of talent from potential high-ability managers from religion 2 and increased use of low-ability managers from religion 1 would be seen as a necessary cost of employing majority religion 1 managers. Incorporating this effect would temper the firm's tendency towards religious segregation but would not eliminate it.

The model in this paper has assumed that the management team draws from only two religions. The intuition of the tradeoffs will likely generalize when there are more religions in

the mix, through the details may not. If there are many religions involved, the benefits in terms of drawing talent from a wider pool and the attendant benefit on innovation would be greater. But, on the other side, the possible disengagement of managers because of the fragmented religious mix could also be greater. It is likely the innovation aspect of diversity is subject to diminishing returns. And managerial disengagement likely increases at an increasing rate in the number of religious denominations because there is greater scope for conflicts, lower probability of union formation that protects employees, etc. In this case, we may well see nonlinear behavior in the extent of religious diversity of the firm's total factor productivity. This nonlinear behavior is what Ancarani et al. (2016) find in their empirical study of the effect of religious diversity on productive efficiency of hospital wards in Dubai. Productive efficiency, they find, has an inverted-U shape with respect to religious diversity; it is at a maximum at intermediate levels of diversity.

## III. Anti-Religious Discrimination Laws and Human Resource Management Teams

The previous section has shown that, from a profit maximization point of view, firms would not voluntarily opt for serious levels of diversity in their management teams. This happens because a move towards diversity attenuates the aggregate level of engagement of management to the point that it more than offsets the positive effects on innovation. Opting for diversity when it is not warranted by profit considerations would put a competitive firm at a disadvantage with respect to other firms, and so the industry will not spontaneously gravitate towards greater religious diversity in management teams.

This raises the question of whether government's laws and regulations, in the interests and rights to fairness of the citizens, can be efficacious in promoting diversity at the cost of profit since that would force all firms in the country to play on the same level field and no single firm is unilaterally disadvantaged. Of course, if this works at all, it would work only if the firms are competing within the domestic market. Competition with foreign firms would put a domestic firm at a disadvantage if the latter attempted more religious diversity than is warranted by profit maximization. Competition with foreign firms would tend to thwart greater diversity—unless foreign markets call for more diverse products that could be conceived and delivered by more diverse management teams.

We have seen that there are many reasons why a manager may feel less comfortable with colleagues from another religious background. Therefore, if the owners of the firm are secular

and, seeking only to maximize profits, opt to hire mostly members of one religion, it will appear as religious discrimination. Citizens of many countries have the right to practice religion enshrined in their constitutions. For example, in the U.S., the Constitution offers freedom of religion to all in the First Amendment. and equal protection under the law to all in the Fourteenth Amendment. In France, the Constitution of 1958 offers equality without regard to origin, race, or religion. In Germany, the Constitution assures that people will neither be favored nor disfavored depending on the religious beliefs. In India, Article 16(2) of the Constitution guarantees that no one will be discriminated against by religion for any employment, but this applies only to the state's actions, not to those of private firms. In Canada, Section 15(1) of the Canadian Charter of Rights and Freedoms states that all are equal before under the law, without discrimination by religion among other traits.

But all these constitutional rights typically fall short of preventing religious discrimination because they are too broad and lack the mechanisms needed for enforcement. For that, statutory laws have frequently been put in place. In the United States, the Title VII of the Civil Rights Act of 1964 forbids discrimination by religion, along with other traits, in hiring promoting, or firing employees. <sup>12</sup> Unless it imposes "undue hardship" on the firms, they are required to reasonably accommodate religious practices. The Canadian Human Rights legislation <sup>13</sup> and the European Union's Employment Equality Directive (2000/78/EC) forbid discrimination by religion <sup>14</sup>. The degree of implementation in the EU countries, however, seems to be quite varied. India has no explicit legislation to date banning religious discrimination in the private sector (Thorat and Attewell, 2007). The Republic of Ireland has legislations on forbidding discrimination by religion in private sector firms but has exemptions given to education, health, and other organizations (Dunne, 2015).

The empirical question relevant to this paper is what effect these legislations have had on firms' productivity. Unfortunately, causal investigations are few and far between.

Correlational evidence is slightly more available but they are most often at aggregated, not firm, levels in the studies. Furthermore, most studies are for diversity in general (gender, race, minorities like LGBTQ+) but not exclusively on religious diversity. Since there are overlaps

 $\frac{12\ https://www.dol.gov/agencies/oasam/centers-offices/civil-rights-center/statutes/title-vii-civil-rights-act-of-1964}{1964}$ 

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<sup>13</sup> https://laws-lois.justice.gc.ca/eng/acts/h-6/page-1.html

<sup>14</sup> https://eur-lex.europa.eu/eli/dir/2000/78/oi/eng

in the considerations of discrimination against all these groups—each case being addressed in the model here by the single parameter  $\mu$ —the available evidence is nevertheless informative.

A milieu perceived as more hostile (lower  $\mu$ ) would suggest more disgruntled employees, higher absenteeism, greater scope for tension and conflicts, lower levels of physical and psychological safety, higher probabilities of legal battles over harassment and lack of religious accommodation. This will also naturally show up as a higher probability of job turnover—with its attendant loss of talent and firm-specific human capital—and, if not separation, at least lower engagement with the firm. Therefore, it must be noted that the parameter  $\mu$  is important for the organization's productivity and the bottom line. The firm is likely to view  $\mu$  as a policy parameter that it can determine, within limits.

At a theoretical level, we would expect that private firms will generate a response to any legal requirement or expectation of the government to see greater diversity. If the proportion of religion 1 (say the majority religion) is required, formally or informally, to be set at or below some suboptimal level  $\bar{p} < p^*(\mu, \rho)$ , aggregate managerial engagement will decline. Since the size of the management team is a monotonic function of H(p), the decline in the latter when the firm sets the proportion p at  $\bar{p}$ , the management team will shrink in size. The firm's total factor productivity will decline, too. Since the labor and capital hired by the firm are monotonically increasing function of the total factor productivity, the employment of these two inputs will also decline. Thus, the imposition of a suboptimal value of p will lower the firm's innovation, total factor productivity, scale of operation and, naturally, its profit.

The firm will then look for ways to offset the decline in profits due to the lower total factor productivity that follows this government mandate. Attempting to increase the ambience parameter  $\mu$ , which we have taken as exogenous so far, is a natural possibility. We would expect the firm to set about trying to make its employees feel more welcome and comfortable in the work environment, especially for the minorities, in order to increase engagement. In the United States, after Title VII of the Civil Rights Act of 1964 which forbids discrimination in employment was put in place, firms set up special branches of human resource management (HRM) teams to bring about compliance with the legislation. Initially, the intention of HRM teams was just to cover the firms and minimize the possibility of being sued. Over time, when enforcement of Title VII was relaxed in the Reagan era of the eighties,

these human resource departments were not dismantled. Instead, they became permanent features of firms.<sup>15</sup> In the next section, I discuss why this might have happened.

## IV. Policies for Accommodating Religious Diversity

Kelly and Dobbin (1998) have argued that the specialists who were employed to deal with equal employment and affirmative action in the U.S. morphed into human resource management (HRM) teams that later justified their existence by claiming that diversity improves the efficiency of the firm and increases profits. To economists, such a claim by HRM teams would not survive scrutiny if they did not ultimately deliver on profits. If these departments survived, they are likely to have found that embracing diversity is a profit-maximizing strategy. The empirical evidence on religious diversity is mixed but it is seen that the programs implemented by HRM teams are effective if carefully crafted (Dobbin and Kalev, 2009).

We see from expression (10) that the revenues of the firm depend on the total factor productivity  $A(n, p, \mu)$  defined by (8) and (9). Now if the firm can devise means to change the parameter  $\mu$ , it should be considered endogenous. From the expression for  $A(n, p, \mu)$ , we can readily verify that the cross partial  $\partial^2 A(n, p, \mu)/\partial n\partial \mu$  is positive. In other words, the firm's size and the ambience parameter are strategic complements. Therefore, an increase in  $\mu$  would increase the firm size—and this increase might even more than offset the decline in n that follows the fixing of p at the mandated level  $\bar{p} < p^*(\mu, \rho)$ . Essentially, ambience could be a strategic complement of diversity, so when the former is endogenously improved the firm's demand for the latter could increase.

The ambience parameter  $\mu$  is partly determined by the managers' upbringing, as argued, which may be taken as exogenous. Any extraneous attempt by the firm to tamper with personal beliefs will draw an adverse reaction from the managers because it might be seen as very intrusive. This is indeed the case, as is documented by Dobbin and Kalev (2016) for cases of gender and race diversity. Top-down attempts at mandating the desired behavior invariably fail because they are sabotaged by the managers. But the parameter  $\mu$  is also determined by the milieu of the workplace—a very different thing. Nevertheless, there are numerous routes outlined by Dobbin and Kalev (2016) that firms have devised which work

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<sup>&</sup>lt;sup>15</sup> Dobbin and Sutton (1998) trace the history and organizational consequences in the private sector of Title VII.

quite well to facilitate diversity goals by engaging the *voluntary* efforts of the managers—like involvement in hiring, promoting mentorships, etc. Another strategy that works well, according to these authors, is social accountability. Comparisons across various departments of the firm in a transparent manner makes division managers more aware that selections have to be based on performance and not their personal biases.

There are other low-cost and successful organizational changes that can be implemented that improve the workplace milieu especially for minorities. One route has been through making accommodations that enable employees of various religions to practice their faith at the workplace (by providing prayer rooms, for example). Creating employee resource groups is another. Restricting work on days that are of religious significance to employees is another practice becoming common. Considering dietary restrictions at company events, offering chaplaincy services, donating to religious non-profits, etc. are all ways of signaling religious inclusiveness. Allowing employees to wear attire of religious significance to them is yet another measure to show respect for all faiths. Permitting paid or unpaid leave on days considered holy by some employees but are not statutory holidays is an easy way to implement accommodation. These are relatively inexpensive measures that improve the ambience of the workplace for a broad religious spectrum of employees. A survey of U.S. based and multinational companies by the Society for Human Resources Management revealed that such accommodations were accompanied by significant increases in employee loyalty and retention (SHRM, 2008).

These managerial changes can be considered to be technological changes in the spirit of Bloom et al. (2016) because they end up improving the firm's total factor productivity. We can reconcile such changes in terms of the fundamental idea of induced innovation (Hicks, 1932). A government mandate that the firm must set  $p \le \bar{p}$  essentially increases the cost of the managerial engagement input, and the firm would be induced to innovate around it, and increasing the ambience parameter  $\mu$  is one such route.

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<sup>&</sup>lt;sup>16</sup> In 2025, Accenture was the company that was deemed the most faith-friendly among on Fortune 500. See <a href="https://religiousfreedomandbusiness.org/2/post/2025/05/accenture-most-faith-friendly-fortune-500-workplace-2025.html">https://religiousfreedomandbusiness.org/2/post/2025/05/accenture-most-faith-friendly-fortune-500-workplace-2025.html</a>

<sup>&</sup>lt;sup>17</sup> However, this can be contentious in some countries—France is an example.

<sup>&</sup>lt;sup>18</sup> Gruber and Hungerman (2008) found that, when blue laws forbidding work on Sundays were repealed in some states of the U.S., there was a causal increase in drinking and drug use among former churchgoers. Respecting some days as holy can have social benefits, too.

There is an enormous potential benefit to a firm from such organizational changes that raise  $\mu$  but which have not been modeled here. One would surmise that a great benefit of religious diversity is in the hiring of talent. This would be particularly relevant when it comes to innovation. <sup>19</sup> It is reasonable to posit that the distribution of raw talent is more or less distributed in a similar manner across people of all religious persuasions. Retention of employees due to hospitable workplace milieus would be a great benefit to the firm. The payoff to investments in workplace inclusion would the retention of the most talented people because these are the ones with the best outside options. The people who are thus retained will be far more productive than the median team member. As a result, the resources devoted to becoming inclusive will likely yield disproportionate returns.

A question that then arises is: If accommodating religious and other forms of diversity can work in the interest of profit, why was there an increase in HRM teams as a standard feature of firms only after explicit laws banning such discrimination were passed? This should have happened without any government intervention. One answer to this question may be that, as long as an economy is dominated by employees of one religion, a "business as usual" stance may be that religion is to be kept out of (arguably) secular workplaces, though the underlying values may be those of the dominant religion. But this stance becomes increasingly out of place in a globalized world where immigration significantly changes the population mix. It is a mistake to couch our explanations in purely ahistorical terms. When circumstances change, the governments may be under greater pressure than firms to make changes for political reasons and suitable laws subsequently get implemented. And these laws may have profitable results, though unintended.

In the context of environmental regulations, Porter and van der Linde (1995) have argued compellingly, citing evidence, that regulations can induce innovations that can more than offset the cost of compliance for many reasons. One reason is that regulation focuses the attention of private firms on a particular avenue and this often generates many cost-saving innovations. The same logic is equally applicable here, except that here the innovations are not technical but organizational in nature.

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<sup>&</sup>lt;sup>19</sup> This can be simply modeled by allowing the quality or ability of managers of the two religious groups, denoted by  $q_1(\mu)$  and  $q_2(\mu)$ , respectively, to be increasing in the parameter  $\mu$ , and replacing  $n_1$  and  $n_2$  in (6) by  $q_1(\mu)n_1$  and  $q_2(\mu)n_2$ , respectively. The effect of an improved workplace environment would be to an increase in the firm's total factor productivity because of the higher ability managers.

Miller (2018) has found a similar effect when his econometric work discerned that affirmative action laws implemented in 1965 and later rescinded in the 1980s have had beneficial and persistent long-term effects. Especially applicable to contractors with federal contracts, the law originally required large contractor firms to employ workers of minorities in proportion to their representations in the local populations. (Two years later, women were added to the minorities covered by the law.) The law was successful in eliminating much of the gap between employment proportions in these firms and their proportions in the local populations. One of the means for this, according to Miller, was improving the screening process for hiring minorities. Better minority candidates were thus found to fill the jobs. As a result, even after some firms ceased to engage in federal projects, they continued to hire minorities at higher rates than before because of the continued use of these profitable screening mechanisms.

There are also long-term benefits to diversifying ethnic or religious groups within firms. In psychology, what is known as 'contact theory' maintains that bringing together people from different groups that are averse to each other brings about more tolerance (Pettigrew, 1998; Boisjoly et al., 2006). Among the reasons are that there is more learning about the out-group and affective ties can build up between them, leading to changed attitudes and behavior. There is empirical evidence of this in the Indian context. Ghosh (2022) has examined the output of teams requiring continuous coordination in a manufacturing firm in West Bengal, India. He found that mixing Hindu and Muslim workers in the same team initially led to a lower output but eventually to a higher output relative to activities that did not require continuous coordination. This is strong evidence suggesting that close contact with employees who are not coreligionists produces a change in attitudes. There may be other ways of motivating team effort, through social connections, as shown by Bandeira, Barankay, and Rasul (2009), Afridi et al. (2020), and Afridi, Dhillon, and Sharma (2024). The findings of Ghosh (2022) would suggest that, by continuous contact, these social connections may be forged on the job. This is consistent with the classic experiments in psychology that ascertained that conflict is attenuated when antagonistic groups collectively embark on complementary actions with a common goal (Serif, 1958). All of these experiments suggest mechanisms that broadly correspond to increasing the workplace ambience parameter μ. Once this comes about due to organizational innovations, it may bring about an increase in minority religion hiring to an optimal value that could exceed the mandated level by the government; its constraint  $p \leq \bar{p}$  can become non-binding.

Firms can do much even at the hiring stage, for there is compelling causal evidence of discrimination by religion in the recruiting of employees. When identical resumés with different names suggestive of religion were sent out as job applications, candidates with Muslim-sounding names received far fewer callbacks than those with non-Muslim names. Controlling for human capital and eliminating the effects of confounding factors like country of origin, gender, and race, in France the callbacks to such applicants were found to be 2.5 times less relative to the others (Adida, Laitin, and Valfort, 2010). In the American cities of Boston and Chicago, Bertrand and Mullainathan (2004) responded to help-wanted ads with resumés of African-American and White names. They found that the former elicited 50% less callbacks than the latter. Resumés with enhanced credentials elicited more callbacks, but the increase was far greater for resumés with Whites names than for those with African-American names.

In a similar experiment conducted in India, among CVs constructed of educated and equally qualified applicants for jobs in the private sector, Thorat and Attewell (2007) found that applications with Muslim and lower caste Hindu names met with less success in interview calls than were those associated with high caste Hindu names. As the model of this paper shows, we cannot infer in these cases that such outcomes are necessarily due to employer discrimination; rather, it could be due to employee prejudice. A secular firm owner may be forced to discriminate by religion to maintain the managerial team's engagement. Regardless, people in some social categories are not any less disadvantaged by such discrimination.

These empirical findings suggest that any attempt to implement fairness in the recruitment stage can succeed only if it is accompanied by complementary organizational changes that raise the ambience parameter μ. Implementing hiring procedures in which the names and all personal details irrelevant to the job requirements are deleted have been attempted.<sup>20</sup> While these procedures may seem somewhat fairer in hiring, they, too, have some unintended consequences such as hurting the very minorities they are intended to protect (Behaghel, Crépon, and Le Barbanchon, 2015).

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<sup>&</sup>lt;sup>20</sup> On the attempt of Deloitt (UK) to use "blind" CVs, see <a href="https://www.accaglobal.com/hk/en/professional-insights/pro-accountants-the-future/Generation-Next-large-accounting-firms/deloitte-uk.html">https://www.accaglobal.com/hk/en/professional-insights/pro-accountants-the-future/Generation-Next-large-accounting-firms/deloitte-uk.html</a>

#### V. Conclusions

Religion is part of most people's identity, even if it is atheism that is the 'religion' they subscribe to. Full engagement with their work probably requires the person to have the freedom to bring their religious attitudes towards their work. <sup>21</sup> Operationalizing the notion of managerial engagement, this paper has modelled the trade-off between the creative benefit of religious diversity in a firm's management team against the managerial disengagement that can arise when working with team members who are not coreligionists. This trade-off can result in profit maximizing managerial compositions that do not reflect the population proportion of the religions. Far from eliminating the religious bias of employees, some forms of competition can in fact entrench it. This paper shows what aspects of globalization can promote religious diversity in private firms.

It is only after governments made firms conscious that their "business as usual" position is untenable that they got nudged into undertaking diversity measures and exploring profitmaximizing ways of accommodating these laws to keep out of legal trouble. As with all research, there is a probability of unexpected serendipitous benefits that can arise in the endeavors. It is quite possible that simple changes with regard to accommodating religious diversity brought about significant cost savings. One of these was likely to have been the relatively recent recognition of the importance of religious beliefs for engagement with the firm.<sup>22</sup> There are many psychological benefits to improving the workplace environment, which improves productivity (Chrobot-Mason and Aramovich, 2013). For this improvement to have occurred, the governments need not have had the explicit goal of nudging firms towards greater organizational changes. Nevertheless, organizational innovation by firms to increase managerial engagement may well have has this effect. These innovations can make the hiring of managers of religious minorities profitable to the point that the original government mandate becomes non-binding. This paper brings out the efficacy of antireligious discrimination laws relative to market competition in eliminating this form of discrimination.

Given that religious beliefs often come with deep conditioning and can arouse strong feelings, the negative aspects of religious diversity are potentially serious to firms. All disharmony of this nature fundamentally stems from a perception of an in-group that sees

<sup>&</sup>lt;sup>21</sup> See Eswaran (2025) for an analysis of the economic benefits of this.

<sup>&</sup>lt;sup>22</sup> There was little talk of recognizing or of taking steps to accommodate religious diversity even a few decades ago.

itself as distinct from 'Other'. Ironically, religion, which offers routes to obliterating the difference between 'self' and 'other' through experiential knowledge (exemplified by the quotes at the beginning of this paper), gets hijacked by our evolutionary baggage to bring about its very antithesis. While firms can do little to eradicate the perception of difference between self and other, as a second-best option it can strive to cultivate tolerance and enhance employee wellbeing at the workplace.<sup>23</sup> This paper has sought to present a parsimonious model that formalizes the core trade-off to show what can be gained in terms of productivity by these efforts.

Finally, perhaps I should note that it is high time business schools took seriously the potential interaction between business and religion and engage in more scholarly research on this. Research on business ethics and corporate social responsibility are not the only deviations possible from the paradigm of self-interest (that, nevertheless, may increase profits). Given the pervasiveness of religious sentiment, its consideration in business practice may also generally increase wellbeing while also increasing profits.

<sup>&</sup>lt;sup>23</sup> As Robertson (1956) famously claimed seven decades ago, economists should "economize on love" while theorizing, for 'self-interest' can do the explanatory job. That four-letter word 'love' has virtually been banned in economic theory—as has the flip side of that concept, namely, hate. But these emotions nevertheless do exist and they have their consequences in the firm. I believe, the theory of the firm can ill-afford to ignore them.

#### **Appendix**

## **Proof of Proposition 1**

When  $\mu = 1$ , the second term on the left-hand-side of the first order condition in (22) vanishes. Since the first term is monotonically decreasing in p and it is zero at p = 1/2, there is only one solution and that must be at p = 1/2.

# **Proof of Proposition 2**

Upon taking the total derivative of (22) with respect to  $\mu$ , we obtain

(A1) 
$$SOD\frac{d}{d\mu}p^*(\mu,\rho) = -\frac{2(1-2p^*)\beta(1+\mu)}{(1+p(-3+2\mu+\mu^2)-p^2(-3+2\mu+\mu^2))^2},$$

where SOD denotes the second derivative of the objective function in (21) with respect to p and is taken to be < 0 by the second order sufficient condition if  $p^*(\mu, \rho)$  is a local maximum, Since the squared term in the denominator of the right-hand-side is necessarily positive, it follows that

(A2) 
$$sign\left(\frac{d}{d\mu}p^*(\mu,\rho)\right) = sign\left(1 - 2p^*\right).$$

The result follows. ■

#### Proof of Proposition 3

On totally differentiating the first order condition (22) with respect to  $\rho$  we obtain

(A3) 
$$SOD_{\frac{d}{d\rho}}p^*(\mu,\rho) = \frac{\alpha(p(1-p))^{-1+\rho}(\ln[1-p]-\ln[p])}{((1-p)^{\rho}+p^{\rho})^2},$$

Therefore,

(A4) 
$$sign\left(\frac{d}{d\rho}p^*(\mu,\rho)\right) = -\operatorname{sign}\ln((1-p^*)/p^*).$$

Thus,

$$\frac{d}{d\rho}p^*(\mu,\rho) < 0 \quad \text{if } p^*(\mu,\rho) < 1/2$$

$$= 0 \quad \text{if } p^*(\mu,\rho) = 1/2$$

$$> 0 \quad \text{if } p^*(\mu,\rho) > 1/2,$$

which is the result stated in the proposition.

## **Proof of Proposition 4**

Totally differentiating the first order condition (22) with respect to  $\alpha$ , we obtain

(A5) 
$$SOD_{\frac{d}{d\alpha}}p^*(\mu,\rho) = -(\frac{(p^{\rho-1}-(1-p)^{\rho-1})}{p^{\rho}+(1-p)^{\rho}}$$

(A6) 
$$sign\left(\frac{d}{d\alpha}p^*(\mu,\rho)\right) = sign\left(\frac{1}{p^{1-\rho}} - \frac{1}{(1-p)^{1-\rho}}\right).$$

Thus,

$$\frac{d}{d\alpha}p^*(\mu,\rho) > 0 \quad \text{if } p^*(\mu,\rho) < 1/2$$

$$= 0 \quad \text{if } p^*(\mu,\rho) = 1/2$$

$$< 0 \quad \text{if } p^*(\mu,\rho) > 1/2,$$

which is the result stated in the proposition.

# **Proof of Proposition 5**

Using (22), the comparative statics of  $p^*(\mu, \rho)$  with respect to  $\beta$  is given by

(A7) 
$$SOD\frac{d}{d\beta}p^*(\mu,\rho) = \frac{(1-2p)(3-2\mu-\mu^2)}{1-3p+3p^2+2(1-p)p\mu+(1-p)p\mu^2}.$$

Because the denominator of the right-hand-side of (A7) is seen to be always positive and  $\mu \le 1$ , we readily see that, when  $\mu < 1$ ,

$$\frac{d}{d\beta}p^*(\mu,\rho) < 0 \quad \text{if } p^*(\mu,\rho) < 1/2$$

$$= 0 \quad \text{if } p^*(\mu,\rho) = 1/2$$

$$> 0 \quad \text{if } p^*(\mu,\rho) > 1/2,$$

which is the result stated in the proposition.

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