

Work as Worship: An Investigation into Some of its Economic and Wellbeing Effects

By

Mukesh Eswaran*

Vancouver School of Economics, University of British Columbia
Canada

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ABSTRACT

This paper examines the doctrine of Karma Yoga of Hinduism, which incorporates work into the spiritual life and converts even secular work into an act of worship. It seeks to replace desire for material rewards by the aspiration of offering up the work to Deity, thereby converting work into worship. It is shown here that, as an unintended consequence, this would have a positive effect on a worker's economic productivity because the practice of work-as-worship relaxes their time constraint. When karma yoga is practiced in team work, this productivity increase can offset not only diminishing returns to labor but also counter the effects of free-riding in teams. Furthermore, if executed in the spirit laid down by the doctrine, karma yoga would induce altruism towards others, and this is shown to have an additional positive effect on the productivity of organizations. The paper also discusses the salutary health and wellbeing consequences that can be expected of work done as worship. Finally, this paper ends with a brief discussion on the relevance of the theory on work as worship to two other religions: Christianity and Islam.

Key Words: karma yoga, spirituality, work as worship, productivity, health and wellbeing

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*Email: mukesh.eswaran@ubc.ca

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I. Introduction

Work is the primary activity for the vast majority of humankind. To those seeking a religious or spiritual life, work would be viewed as an impediment because the unavoidable burden of earning a living consumes vast amounts of their resources, mainly time. In the standard application of neoclassical economics to religion, time dedicated to religious activity is time taken away from other activities, mainly work. Therefore, how secular work can be incorporated into the spiritual life (or vice versa) is an issue that spiritual aspirants have to address. The point of departure of this paper is to inquire whether time for religious activities and time devoted to earning a living are really mutually exclusive. If it were possible to conduct one's spiritual life so that work is performed *as worship*, what would be the economic and wellbeing consequences of this?

All the major religions have important things to say about how one should deal with work in the religious life. The Bhagavad Gita (or Gita, for brevity), a Hindu scripture, has laid down a detailed philosophy of the spiritual side of work in its doctrine of karma yoga. Therefore, I shall focus on this doctrine and, on the assumption that it is a feasible practice, examine as an economist what follows from it. Later in the paper, I discuss how the conclusions implied by karma yoga should be equally applicable to other religions, such as Christianity and Islam.

In the Hindu tradition, the ultimate goal of life has been considered for millennia to be the achievement of liberation (or *moksha*) from the cycle of reincarnations. Liberation from the cycle of birth and death is said to occur when one has experiential knowledge on the one ultimate Reality, transcendent and immanent, referred to in Hinduism as *Brahman*, the One without a second.¹ Although Hinduism is said to be polytheistic, the belief is that all the myriad gods derive from the One.²

The greatest impediment to direct experience of this Reality is deemed in Hinduism to be the belief that we are separate entities, each with a separate ego or self. The direct experience of Brahman is said to occur when our perception of our existence as a separate self is shed. This experiential knowledge of Brahman is referred to as Self-Realization in Hinduism, and it is also known as enlightenment. It is called liberation because, by establishing one in unity, it

¹ Chandogya Upanishad 6:2:1, <https://www.wisdomlib.org/hinduism/book/chandogya-upanishad-english/d/doc239260.html>

² “That which exists is One: sages call it variously.” Rigveda, I, 164, 46.

sets one free of the multiplicity perceived in the world and the suffering that entails. There are many proposed routes to Self-Realization in Hinduism, and karma yoga (“the yoga of action”) is one.

The goal karma yoga espouses is not only liberation but also of becoming perfect conduits of God in the field of action.³ The doctrine was spelled out by Sri Krishna (who is deemed an avatar, a human manifestation of God, in Hinduism) to his disciple Arjuna just before the start of a horrendous fratricidal war. That Arjuna was one of the main protagonists of this war underlines the fact that karma yoga need leave no action, terrible or mundane, out from its purview.

Karma yoga, one of the four traditional paths in Hinduism leading to moksha, lays out how all work—indeed, all of life—is to be incorporated into a spiritual life. Rather than pursue salvation or moksha in some far-off heaven or other-worldly realm, karma yoga fastens on the immanence of God by engaging in the everyday reality of action in the here and now. The goal of this practice, we must be clear at the outset, is *solely spiritual*; its economic consequences, if any, would be entirely incidental and unintended consequences.

Nevertheless, I believe it is worth investigating what these consequences may be.⁴ This is what I attempt to do in this paper.

The first of the basic tenets of karma yoga is that one *should* engage in work because seeking to avoid actions is futile—a principle that is particularly relevant to Hinduism, in which renunciation and a retreat from participating fully in life has a long and esteemed tradition. The second tenet is embodied in one of the most famous verses of the Bhagavad Gita: “To action alone do you have the right, not to the fruits thereof. Perform your duty without attachment to the results of your labor, but also do not be attached to inaction.” [Gita 2:47] In effect, the Gita requires one to act but the actions are to be performed *desirelessly*.

This requirement of desireless actions (“nishkama karma”) immediately raises the question of whether karma yoga is even feasible in practice. It is invariably assumed that all economic activity, which is undertaken with a goal in mind, a specific outcome, is necessarily driven by *desire* for the goal. If desire is taken away, what is there to motivate conscious action? It is

³ The Gita was preceded in its emphasis on karma yoga by the Hindu scripture Isha Upanishad (Verse 2): “Indeed, by always engaging in actions, hope to live a hundred years; there is no other way to liberation.”

⁴ Probably the greatest exponent of karma yoga in the 20th Century is the philosopher-sage Aurobindo Ghose, better known as Sri Aurobindo. I must acknowledge a great debt to his *Essays on the Gita* and *The Synthesis of Yoga* in enhancing my understanding of the subject. Swami Vivekananda’s *Karma Yoga* is also an authoritative exposition but for a general audience.

presumably in anticipation of this objection that Sri Krishna lays down the third tenet of karma yoga that makes karma yoga explicitly spiritual: the work is to be done as an offering to the Divine. “All that you do—whatever you eat, whatever you offer or give away, and whatever sacrifices you make—do that as an offering to me,” says Sri Krishna. [Gita 9:27]⁵ The test that it has been done in this manner, he teaches, is that the worshipper remains totally equanimous no matter what the outcomes are of the action. In other words, the motivation for work is that it is entirely an occasion for paying homage to God.⁶ Karma yoga or “work as worship”, therefore is deemed to be feasible in Hinduism—difficult, perhaps—but feasible in principle. The performance of work in this spirit over time will undermine the ego or sense of a separate self—so the logic goes—and, ultimately, erode it enough that direct knowledge of the Absolute is experienced. That is the spiritual purpose of karma yoga. But what, if anything, does the practice of karma yoga imply for economics? In this paper, I assume that the practice of karma yoga is feasible and explore some of its economic consequences.

I begin with a simple owner-operated firm and examine what effect the practice of work as worship has on the firm’s performance. The first important material benefit I identify pertains to the problem of scarcity. As noted, the standard application of economics to religion begins with the premise that time devoted to religious activities has an opportunity cost, which is usually taken to be time diverted from productive work (and leisure). This is the way it was modelled in the classic paper by Azzi and Ehrenberg (1975), and it is the way it has been viewed in the literature on the economics of religion ever since. In influential work, Barro and McCleary (2003) and McCleary and Barro (2006) found that beliefs (in hell, heaven, or after life) causally increase per capita GDP whereas frequency of attendance at religious institutions, for given beliefs, causally reduce it. The authors propose that this is explained by the fact that attendance reduces productive work by diverting time. They conclude that the effects of religion on economic growth are through “believing, not belonging”.⁷

In karma yoga, *secular activity* itself has to be harnessed for spiritual purposes. Work that is ostensibly done in one’s workplace to earn a living, say, can be offered up to Deity. This blurs the distinction between secular and spiritual activity, between work and prayer. Indeed, Sri

⁵ In the New Testament, St. Paul offers a similar instruction in one of his epistles: “Whether therefore you eat, or drink, or whatsoever you do, do all to the glory of God.” [1 Corinthians 10:31]

⁶ Sri Krishna is a representative of Deity for Hindus, but for them it could just as well be one of myriad others like Rama or Durga or Ganesha or Parvati. Those of other religions could choose the Buddha or Christ or Mary, for example, as representatives. The practise seems universal in its application.

⁷ By “belonging” is meant being part of a religious congregation, which allows for networking and increasing social capital—thereby facilitating more economic transactions.

Krishna asserts that every activity can be offered up in this manner, whether it is something mundane as eating a meal or as sombre as performing a ritual [Gita 9:27].⁸ What this means, in economic terms, is that time dedicated to devotion and that devoted to secular work are not mutually exclusive or competing, as it is traditionally modelled in rational choice theories [see Iannaccone (1998)]. In effect, the practice of work as worship relaxes the resource (here time) constraint a person faces because activity and time can be used simultaneously for material and spiritual ends. Even if done imperfectly, the released time can be split between to secular work, spiritual endeavors, and leisure. The model in the next section shows that the income that is generated in an owner-operated firm would increase in the extent to which karma yoga is practised. Work as worship enhances the economic productivity of labor. Paradoxically, tempering the desire for the fruits of one's labor by offering them up to Deity actually increases output because the practice economizes on time.

There is a second benefit to this practice that is brought out when I consider team production in which the firm has more than one worker but the assumed technology is the same. Here, the average output per team member evaluated at the equilibrium choices made by the members might be expected to be lower because of free-riding in the application of effort and also because of diminishing returns to labor in production. However, the model incorporating karma yoga shows that the expansion of the time constraint alluded to above can partly or wholly offset these drawbacks and bring about an increase in the per capita output as team members are added. Work as worship counters the effect of diminishing returns to labor in production and of free-riding in teams, making team production more viable than otherwise.

There is a third, independent, economic benefit that is potentially generated by work as worship when the practice is genuinely undertaken. To the extent that an individual's actions are performed without desire, to that extent practitioners are deemed to become indifferent to whether the fruits accrue to them individually or to others. As a result, the distinction between "self" and "others" begins to get blurred. That is, they begin to feel altruistic towards fellow team members. This is perfectly in accordance with Sri Krishna's injunction that one who practices karma yoga should work for the benefit of others: "Those whose doubts are purged, who live inwardly, who are free of sins, and who are always working for the welfare of all living beings achieve liberation." [Gita 5:25] Crucial to this practice is Sri Krishna's

⁸ Karma yoga practiced in this manner becomes synonymous with prayer, it also enables one to "pray without ceasing," as St. Paul espoused. [1Thessalonians 5:17]. It also enables the practice of an injunction of Christ: "Pray at all times and not lose heart". [Luke 18:1]

insistence that God dwells in all living beings: “I am lodged in the heart of all living beings.” [Gita 15:15] and again “Vasudeva (Sri Krishna) is all” [Gita 7:19]⁹¹⁰ The immanence of God allows what is offered to others to be offered *through them* to Deity.¹¹ This attitude engendered by karma yoga would induce a degree of altruism in individual choices within a team. The model in this paper demonstrates that this practice would bring about a better equilibrium, with even higher output.

This paper formally examines the effects of karma yoga only in the workplace.¹² The mechanism modelled here may be seen as one plausible avenue through which believing brings about salutary economic benefits, especially since the logic of work as worship also broadly applies also to other religions. In the penultimate section of this paper, I briefly discuss the relevance of this model to Christianity and Islam. These major religions, too, independently espouse the idea that work should be done as an offering to God, though that aspect is less widely known. Thus, what is offered here may be construed as a theory of why believing has the robust beneficial economic outcomes that have been found by Barro and McCleary (2003) and McCleary and Barro (2006).

In reality, however, the scope of this practice of karma yoga is much broader. In principle, virtually all actions can be brought into its purview, as the Gita suggests, so that all of life can be converted into one continuous act of worship. This is the exhortation of Sri Krishna to Arjuna: “Always be mindful of me, be devoted to me, worship me, and offer all your actions to me, and so doing you will surely come to me.” [Gita 18:65] The ultimate effect of karma yoga, the Gita says, is that it completely erodes concern for oneself. Since all suffering ultimately arises from preoccupation with self, I argue that karma yoga would carry profound health benefits through the reduction of fear and stress. In the antepenultimate section of this paper, I discuss some of these health benefits.

The rest of the paper is as follows. The next section offers a model showing the effects of karma yoga in an owner-operated firm. Section III examines the ramifications of karma yoga in a firm with more than one worker. Section IV adds the effect of altruism that is induced by

⁹ See an interesting article on this in the publication *Renaissance*, Sri Aurobindo Society, <https://renaissance.aurosociety.org/vasudeva%E1%B8%A5-sarvam-iti-and-karmayoga/>

¹⁰ Compare with an analogous statement in the New Testament: “Christ is all, and in all.” [Colossians 3:11]

¹¹ Recall a similar saying of Christ: “Inasmuch as you have done it to the least of my brethren, you have done it to me.” [Matthew 25:40]

¹² Hinduism is subscribed to mostly in India by nearly a billion people. The reader may consult the thoughtful book by Iyer (2018), which applies economic analysis to understand issues pertaining to religions in contemporary India. However, her book does not touch upon the matters relating to this paper.

the practice of karma yoga. While Sections II through IV examine some of the economic consequences of karma yoga, Section V discusses some of the health consequences of the practice. Section VI offers a brief discussion of the relevance of this paper to Christianity and Islam. Concluding thoughts are presented in the final section. The Appendix models how work as worship influences an individual's labor supply function.

II. Model of the Relevance of Karma Yoga in Economic Activity

In this section, I construct a simple model that will enable us to examine the effects of karma yoga or the practice of work-as-worship on the productivity of economic actions. To this end, consider a classical owner-operated firm that generates an output, y , given by the Cobb-Douglas production function:

$$(1) \quad y = AT^\delta,$$

where T is the total effort applied and the parameter δ (with $0 < \delta \leq 1$) is an inverse measure of the extent of diminishing returns to effort; if $\delta = 1$, of course, the technology exhibits constant returns to effort. The parameter A represents the production function's total factor productivity. If there is a fixed factor (e.g. land, capital, etc.) that induces diminishing returns to labor, the productivity of that factor is subsumed in A . Such a factor, should it exist, plays no active role in the model. The owner-manager consumes the output y , which we can take as the composite material good in this model. We may take the price of output to be 1, and so y can be interpreted as the income the firm generates and as the owner's material consumption. The generation of income in this owner-managed firm is the primary economic activity in the model.

Time available to an individual is effectively the only resource in this model, and each person is endowed with 1 unit of time. This is spent on three goods in the individual's preferences: a material good (income), a religious or spiritual good, and leisure. The consumption of the spiritual good (an aggregate of all religious/spiritual activities) is measured by the time devoted to these activities. We take the preferences to be represented by a utility function, $U(y, x, \ell)$, of the Cobb-Douglas form:

$$(2) \quad U(y, x, \ell) = y^\alpha x^\beta \ell^\gamma,$$

where x denotes the time devoted to the spiritual activities and ℓ denotes the amount of leisure. I assume that $0 < \alpha < 1, 0 < \beta < 1, 0 < \gamma < 1$, to ensure diminishing marginal

utility with respect to these goods. Furthermore, since the utility function is only an ordinal measure that can be put through a monotonic transformation, we can scale these parameters so that $\alpha + \beta + \gamma = 1$. Throughout this paper, these preference parameters will be held constant, so that it is clear that nothing that follows depends on changes in these parameters. The function in (2) may be taken to represent the individual's perceived wellbeing.

Since karma yoga is defined as “skill in action,” [Gita 2:50], we need to carefully consider the nature of effort applied, T . I shall elaborate on this now. The total effort, T , that goes into the production function can generally comprise of two components in this model. One component, denoted by e , measures the purely *secular* effort applied by an individual to production. By secular effort I mean the intention of the performer is purely secular: the effort applied is motivated by the intention of bringing about an outcome, here producing a material output. This is the way we normally conceive of work. The other component of T is a “spiritual” effort which, though done as an offering to Deity, is also partly applied to the production of the material good. This is precisely what the doctrine of karma yoga espouses—that the actions of a devotee should be done as an offering to Deity. In other words, spiritual activities spill over into material ones because even routine secular activities, especially work, are to be undertaken with a spiritual end in mind. Let the parameter σ ($0 \leq \sigma \leq 1$) captures this spillover, so that the spiritual component of work devoted to *material production* is σx , where x is the time spent on spirituality. This parameter σ captures the extent to which an individual engages in work as a form of worship. If $\sigma = 0$, there is no overlap between secular and spiritual activities; at the other extreme where $\sigma = 1$, all of spiritual activity is devoted to secular work. Thus, the total effort, t , applied by the owner-operator practicing karma yoga to the production of the material good is given by

$$(3) \quad t = e + \sigma x.$$

This characterization captures the notion of “spiritualizing” work, with σ denoting the extent or scope of this. In religious language, this might be called the “sanctification” of work, which can be done whether the job is menial or lofty in the eyes of society. It may be the work of a janitor, a delivery person, or an academic.¹³ This spiritualizing of work in karma yoga is not merely that of creating outwardly religious significance, like putting religious

¹³ The spirit of karma yoga was aptly captured by the medieval Catholic sage Meister Eckhart when he said, “The kind of work we do does not make us holy but we may make it holy. However ‘sacred’ a calling may be, as it is a calling, it has no power to sanctify; but rather as we are and have the divine Being within, we bless each task we do, be it eating, or sleeping, or watching, or any other.” Eckart (1941)

symbols and artefacts around the workplace; rather, it is a deep engagement with the process of offering the work being done to one's chosen Deity.

The budget (time) constraint facing the individual is

$$(4) \quad e + x + \ell = 1.$$

It is important to mention that the spiritual good is modeled here as a privately consumed good. In an influential paper, Iannaccone (1992) argued that religion is best seen as a club good—one the consumption of which is benefitted by the contributions of all members of a congregation, like joint singing of hymns, etc. This is very appropriate for western (Abrahamic) religions and also, to some extent, to Buddhism which emphasizes the role of the sangha. However, it is not the best way to model the religious good in Hinduism. In Hinduism, the religious good is more appropriately viewed as a private one. The idea of a “congregation” is quite alien to Hinduism, as is the notion that free-riding occurs in the provision of this religious good and so needs to be controlled. The seeking of moksha or salvation via karma yoga is even more of an individual endeavor in Hinduism. Therefore, I model the spiritual good as a private good. Even so, it has consequences for society, as we shall see.

Notice that the wage rate does not appear in this model; the opportunity cost of leisure is the marginal productivity in the enterprise. The presumption is that the participation constraint is satisfied, that is, the owner-operator's utility from this activity exceeds that from engaging in the market work. In this context, it may be noted that the model of this section can readily be interpreted, with some latitude, as a model of household work as worship. This may be particularly relevant for women, given that there may be social, religious, and cultural norms that urge them to attend primarily to household production. In the Appendix, I present a model of the labor supply of an individual practicing work as worship.

The problem of the owner-operator is the maximization of the utility function in (2), with T given by (3), subject to the production function (1) and the time constraint (4). Substituting (3) into (1) and in turn substituting this into (2), the optimization problem may be written

$$(5) \quad \max_{e,x} \quad A^\alpha (e + \sigma x)^{\alpha\delta} x^\beta (1 - e - x)^\gamma,$$

where leisure ℓ has been substituted out using the time constraint (4). The solution does not change if we take a monotonic transformation of the objective function, and so we may take its logarithm and, after dropping an additive constant, the maximization may be rewritten

$$(6) \quad \max_{e,x} \quad \alpha\delta \ln(e + \sigma x) + \beta \ln x + \gamma \ln(1 - e - x).$$

Assuming for the moment that the solution is fully interior, the first order conditions are

$$(7a) \quad e: \quad \frac{\alpha\delta}{e+\sigma x} = \frac{\gamma}{1-e-x}$$

$$(7b) \quad x: \quad \frac{\alpha\delta\sigma}{e+\sigma x} + \frac{\beta}{x} = \frac{\gamma}{1-e-x}.$$

Denote the solution to (7a) and (7b) by (e^*, x^*) . The optimal value of the total effort, t^* is then given by (3) and optimal leisure, ℓ^* , is obtained from the time constraint (4).¹⁴ The explicit expressions of optimal values are readily seen to be given by

$$(8a) \quad e^* = \frac{\alpha\delta - \sigma(\alpha\delta + \beta)}{(1-\sigma)(\alpha\delta + \beta + \gamma)}; \quad x^* = \frac{\beta}{(1-\sigma)(\alpha\delta + \beta + \gamma)}$$

$$(8b) \quad t^* = \frac{\alpha\delta}{(\alpha\delta + \beta + \gamma)}; \quad \ell^* = \frac{\gamma}{(\alpha\delta + \beta + \gamma)}.$$

From (8a), it follows that e^* becomes zero when

$$(9) \quad \sigma = \frac{\alpha\delta}{\alpha\delta + \beta} \equiv \bar{\sigma}.$$

Thus, the solution is interior when σ is in the range of $0 \leq \sigma < \bar{\sigma}$. The fully interior solution discussed above occurs when $\sigma < \bar{\sigma}$, that is, when the scope of the practiced karma yoga is relatively “small”.

Notice that, when the solution is fully interior, the two effort components of material production are both dependent on the parameter σ , which represents the scope of the individual’s practice of work-as-worship. As this scope increases, starting from 0, the secular component of effort e^* declines while the spiritual component (σx^*) of effort increases. This is because, from the point of view of material good production, these two forms of effort are perfect substitutes. When the spiritual component increases, the secular component correspondingly decreases so that the total effort (t^*) stays constant and is independent of σ , as is seen by (8b). Furthermore, the consumption of leisure is also constant, independent of σ .

Continuing with our analysis for a fully interior solution, we may ask: What effect does increasing the performance of work as worship have on the material output and on the utility

¹⁴ Given the assumed curvature of the utility and production functions, we are assured that the solution to the first order conditions also satisfy the second order sufficient conditions for a maximum.

of the individual? First consider the effect on output. As σ starts increasing from 0, we saw that the total effort applied to material production, t^* , remains constant. Over the range, $0 \leq \sigma < \bar{\sigma}$, an increase in the spiritual component merely displaces and amount of secular input by σx^* . Consequently, over the range of $0 \leq \sigma < \bar{\sigma}$, the output of the owner-operator is constant. An increase in the scope of work as worship has no deleterious effect on output.

How does a change in σ affect the individual's utility or wellbeing in this fully interior solution? Note, first, that if the parameter σ directly enters into the individual's utility function, it would be meaningless to track changes in the utility function because the function itself would be changing when σ changes. But since this is not the case, we can track changes in the utility function as σ varies. Notice from (8a) that x^* increases as σ increases. (In other words, the increase in σx^* discussed above is not entirely due to the increase in σ .)

Consequently, the individual's consumption of the spiritual good increases. As a result, the person's utility *increases* even though their material and leisure consumptions are constant. This is an outcome of the fact that karma yoga relaxes the time constraint facing the individual and makes "more time" available for allocation—which here results in an increase in consumption of the spiritual good. The sanctification of work through karma yoga is efficient use of resources, given the individual's preferences.

This feature underlines the important point that, for material good production, effort is all that matters and the *motivation* that drives the effort is irrelevant. The same, however, is not true for the spiritual good: effort motivated exclusively by material ends does not serve a spiritual purpose. In spirituality, motivation and intention are paramount. This asymmetry, which is heavily harnessed by the philosophy of karma yoga, is captured by the simple model being presented here.

The effects discussed above arise when the scope of karma yoga is limited ($\sigma < \bar{\sigma}$). This is important to note because it says that the benefits of karma yoga do not require perfection in its application for economic benefits to arise. Perfection in this regard ($\sigma = 1$) is a very difficult goal that very few will likely manage to attain. Since that outcome in any case will necessarily be a progression from small beginnings, the economic benefits of work as worship should be discernible even in organizations whose members show a modicum of the practice of karma yoga. (I discuss some empirical evidence on this later.) Before I move to discussing the case with the corner solution, I summarize the results for the fully interior solution:

Proposition 1: An increase in the scope σ of work as worship over the range $0 \leq \sigma < \bar{\sigma}$,
(a) increases the spiritual component of the effort applied to material production,
(b) decreases the secular effort applied to material production,
(c) leaves the total effort applied to material production constant,
(d) leaves the leisure consumed constant
(e) keeps the material output constant,
(f) increases the time consumed in spirituality, and
(g) increases the individual's maximized utility.

Now let us consider the regime of σ which does not yield a fully interior solution, that is, when $\sigma \geq \bar{\sigma}$. In this regime, spiritually motivated effort driven by karma yoga completely crowds out the purely secularly oriented effort—which is why we have a corner solution with regard to e . Consequently, the material good is produced entirely with effort that is motivated by *spiritual* ends.

When we investigate the allocation of effort for the region $\sigma \geq \bar{\sigma}$, we need to set $e = 0$ and recast the optimization in (6) as

$$(10) \quad \max_x \quad \alpha\delta \ln(\sigma x) + \beta \ln x + \gamma \ln(1 - x),$$

The solution the individual's optimization for σ in the range $\bar{\sigma} \leq \sigma \leq 1$ is given by

$$(11a) \quad e^* = 0 \quad ; \quad x^* = \frac{\alpha\delta + \beta}{(\alpha\delta + \beta + \gamma)}$$

$$(11b) \quad t^* = \frac{\sigma(\alpha\delta + \beta)}{(\alpha\delta + \beta + \gamma)} \quad ; \quad \ell^* = \frac{\gamma}{(\alpha\delta + \beta + \gamma)}.$$

Here the economic benefit conferred by karma yoga are even more transparent. Notice that as the scope of work as worship increases beyond $\bar{\sigma}$, the time allocation towards spiritual effort and leisure stay constant and exhaust the time available ($x^* + \ell^* = 1$). The time spent of material production (t^*), which is equal to σx^* is a “freebie” in a resource sense since, in work as worship, it has already been accounted for in x^* ; the entire effort applied to produce the secular good is spiritually motivated. The optimal values of spiritual effort and leisure are determined by the exponents α, β, γ of the utility function and, as noted before, these preference parameters are being held constant in this exercise.

What changes when σ increases is the proportion of spiritual effort dedicated to material ends; as σ increases, a greater proportion of the spiritual effort is applied towards material ends; more of the material work is spiritualized by being seen as an offering to Deity. In the

limit when $\sigma = 1$, all of the spiritual effort applied by the individual is dedicated to material activity. This is when an individual's dedication to God is shown entirely in the physical realm, that is, by being active in the world. Meditation, prayer, contemplation, etc. would be ruled out in this limit; the individual's spirituality comprises entirely in “serving God”.¹⁵

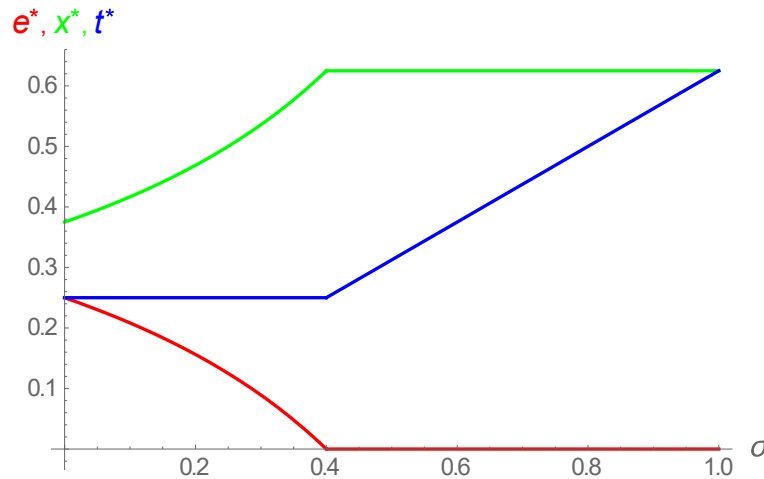


Figure 1: Secular effort (e^* , red) spiritual time (x^* , green), and total material production effort (t^* , blue) as a function of σ for a sole owner-operator. Parameter values: $A = 1$; $\alpha = 1/3$; $\beta = 1/3$; $\gamma = 1/3$; $\delta = 2/3$.

The behavior of time allocations over the entire range $0 \leq \sigma \leq 1$ is shown in Figure 1 as a function of σ . As σ increases from 0, the time devoted to spirituality, x^* , increases and there is a corresponding decrease in the secular time, e^* , devoted to the material good. This is because, when $\sigma > 0$, time devoted to spirituality does “double duty”—it serves spiritual ends, of course, but a proportion σ of this time also serves material ends. Notice that the total effort applied to the material good when σ is in the range $0 \leq \sigma \leq \bar{\sigma}$ is constant. Over this range, karma yoga economizes on time by harnessing spiritualizing actions in the material realm and thus also serve spiritual ends. It enables the individual to increase the time devoted to spirituality by economizing on the scarce resource, time, without decreasing the material output. This is one of the important, though unintended, economic benefit conferred by the practice of karma yoga: it relaxes the resource constraint.

¹⁵ In Hindu systems, spiritual aspirants would have $\sigma = 0$ when they are dedicated entirely to jnana yoga (the path of knowledge) and $\sigma = 1$ when entirely dedicated to karma yoga. A roughly similar distinction is made in Catholicism between “contemplatives” and “actives”. In reality, of course, σ will be between these extremes for spiritual aspirants.

For $\sigma > \bar{\sigma}$, an increase in σ by the amount $\Delta\sigma$ makes an additional amount of spiritual time $\Delta\sigma x^*$ available for material good production, courtesy karma yoga. But since $e^* = 0$, there is no more secular input that can be crowded out of material good production. Thus, an increase in σ will necessarily bring about an *increase* in the material output. The increase in material output in response to an increase in σ when $\sigma > \bar{\sigma}$ would seem surprising. In the objective function in (5), the amounts of the three goods have exponents $\alpha, \delta, \beta, \gamma$, and it is a well-known property of the Cobb-Douglas function that the optimal allocations in the fixed (time) budget would be strictly in these proportions, which are exogenously fixed. And indeed, from (11a) and (11b) we see that x^* and ℓ^* are constant. How, then, can output increase with σ when $\sigma > \bar{\sigma}$?

The reason for this is revealing. Karma yoga enables actions to serve double duty, as noted: an action performed for material production can also count as spiritual *if the action is done as an offering to Deity*. Thus when $\sigma > \bar{\sigma}$, an increase in σ by the amount $\Delta\sigma$ means that an extra amount of spiritual time $\Delta\sigma x^*$ becomes available for also for material production. This extra time, which has already been accounted for in x^* does not come at the expense of any other time inputs. Thus, this additional time is applied to secular production and the material output increases. Utility will naturally also increase because the extra output has not come at the sacrifice of any other good. Work as worship, quite apart from enhancing spiritual ends, by easing up the time constraint, improves productivity in material production.

We summarize the results for the corner solution in the following proposition:

Proposition 2: If the scope of work as worship is sufficiently large ($\sigma > \bar{\sigma}$), when σ increases
(a) the purely secular effort applied to the material good remains zero,
(b) the time devoted to spirituality remains constant,
(c) the leisure consumed is constant,
(d) the material output increases, and
(e) the individual's utility increases.

It is interesting that, in the regime of the corner solution ($\sigma > \bar{\sigma}$), the increase in utility or wellbeing with rising σ comes from increasing consumption of the *material* good, the consumption of the spiritual good (x^*) being constant. This proposition brings home how the imbuing of secular work with spirituality in the form of karma yoga relaxes the problem of scarcity of resources, releasing more time for production. This is one of the main mechanisms behind the efficacy of work-as-worship in its economic effects.

The model in this section has only considered an economic activity involving a single individual. What happens when individuals work in a firm with many people? When more than one person is involved, standard neoclassical economics immediately brings up the problem of moral hazard in teams—the issue of free-riding off the effort of others. I address the role of karma yoga on this issue in the next section.

III. Work as Worship in Organizations

Suppose that, in the model of the previous section, instead of having one individual we have a group or team of n people ($n \geq 1$) with identical skills who jointly work in the firm. The output depends on their total effort and the individuals then equally share the output. For purposes of comparison, it is helpful and instructive to keep the technology the same as in (1). For tractability, I further assume that individual effort levels are unobservable, which circumvents the possibility of introducing monitoring. In what follows, I shall subscript the variables by i ($i = 1, 2, \dots, n$) when they refer to individual i . Denote the total effort applied by the entire team to the material production by T , and the total effort applied by all individuals other than i by T_{-i} . The output of the firm will be given by (1) with T given by the sum of the total effort (material and spiritual components) of all the team members. Each individual takes home a $1/n^{th}$ share of this output, which I call the per capita output.

Note that an individual's leisure and spiritual consumption remain private goods, but the consumption of the material good now depends not only on their own effort but also those of others. Thus, there is an externality in the production of this good, which would generally render the outcome suboptimal compared to what a benign manager would like to implement.

Assume that all individuals in the group practice karma yoga and are characterized by the same value of the parameter σ . Also assume that individuals behave *noncooperatively* within the firm and make their decisions under Nash conjectures. This approach is the simplest one to use; it suffices for the examination of the role played by karma yoga, which is practiced as an individual, not communal, activity. Furthermore, the assumption of Nash behavior rigs the case against karma yoga by undermining the possibility of cooperation; the beneficial effects of the practice will be shown *despite* explicitly noncooperative behavior.

The problem confronting individual i is

$$(12) \quad \max_{e_i, x_i} \left(\frac{A}{n}\right)^\alpha (e_i + \sigma x_i + T_{-i})^{\alpha\delta} x_i^\beta (1 - e_i - x_i)^\gamma.$$

We could, instead, maximize the logarithm of the objective function, that is, person i solves

$$(13) \quad \max_{e_i, x_i} \alpha\delta \ln(e_i + \sigma x_i + T_{-i}) + \beta \ln x_i + \gamma \ln(1 - e_i - x_i).$$

Under Nash conjectures, individual i maximizes (13) taking T_{-i} as given. Assuming a fully interior solution, the first order conditions with respect to e_i and x_i , respectively, are

$$(14a) \ e_i: \quad \frac{\alpha\delta}{e_i + \sigma x_i + T_{-i}} = \frac{\gamma}{1 - e_i - x_i}$$

$$(14b) \ x: \quad \frac{\alpha\delta\sigma}{e_i + \sigma x_i + T_{-i}} + \frac{\beta}{x_i} = \frac{\gamma}{1 - e_i - x_i}.$$

We may now invoke symmetry, then drop the subscript i , and solve for the common equilibrium values. Denote these by e_g^* and x_g^* , respectively, where the subscript “g” denotes that these are relevant to the group or team production scenario. Denoting an individual’s total effort in material production by t_g^* and leisure by ℓ_g^* , the fully interior solution is readily shown to be

$$(15a) \quad e_g^* = \frac{\alpha\delta - \sigma(\alpha\delta + n\beta)}{(1-\sigma)(\alpha\delta + n\beta + n\gamma)}; \quad x_g^* = \frac{n\beta}{(1-\sigma)(\alpha\delta + n\beta + n\gamma)}$$

$$(15b) \quad t_g^* = \frac{\alpha\delta}{(\alpha\delta + n\beta + n\gamma)} \quad ; \quad \ell_g^* = \frac{n\gamma}{(\alpha\delta + n\beta + n\gamma)}.$$

Comparing (15a) and (15b) with (8a) and (8b), we see that when $n > 1$ an individual’s time devoted to spirituality and to leisure are larger in the group setting than in the individual setting. The total effort per person applied to material production is smaller in the group setting. This arises from the standard problem of moral hazard in teams: since material production is shared, each individual has an incentive to economize on the communal effort and consume more of the time in strictly private consumption (spirituality and leisure).

Notice from (15b) that the total material effort and the leisure of an individual in the Nash equilibrium are independent of σ , the scope of work as worship. As before, these are determined entirely by the preference parameters and the group size n . From (15a) we see that the secular and spiritual components of effort vary with σ , the former declining and the latter increasing with σ . Since the total material effort is independent of σ , the firm’s output is constant (as is the per capita output) in this fully interior regime as σ increases. Since the

time devoted to spirituality is increasing in σ , an individual's equilibrium utility increases with σ . These features had already shown up in the previous section and, to avoid repetition, I do not discuss the reasons in detail.

As with the sole-owner operator's case studied in the previous section, here too the range of σ over which the solution is fully interior is limited. We see from (15a) that $e_g^* = 0$ when

$$(16) \quad \sigma = \frac{\alpha\delta}{\alpha\delta+n\beta} \equiv \bar{\sigma}_g(n).$$

By setting $n = 1$, we can verify that $\sigma_g(1) = \bar{\sigma}$. The range of values of σ over which the solution is fully interior in the group setting declines with n since $\bar{\sigma}'_g(n) < 0$, where prime denotes the derivative with respect to the argument. This is because the total material effort an individual applies is declining in n and the time devoted to spirituality, x_g^* , increases with n . Therefore, the spiritual component of material effort, σx_g^* , can comprise all of the material effort at lower values of σ .

Before analyzing the corner solution, let us summarize the results for the fully interior solution, which occurs when $0 \leq \sigma < \bar{\sigma}_g(n)$:

Proposition 3: An increase in the scope σ of work as worship over the range $0 \leq \sigma < \bar{\sigma}_g(n)$,

- (a) increases the spiritual component of the effort applied to material production,*
- (b) decreases the secular effort applied to material production,*
- (c) leaves the total effort applied to material production unchanged,*
- (d) leaves the leisure consumed unchanged,*
- (e) leaves the material output unchanged, and*
- (f) increases the individual's maximized utility.*

The comparative statics with respect to the group size n are recorded in the following proposition:

Proposition 4: When $0 \leq \sigma < \bar{\sigma}_g(n)$, in the Nash equilibrium, an increase in the group size

- (a) decreases an individual's total effort applied to material production,*
- (b) increases their time devoted to spirituality,*
- (c) increases their leisure consumed*
- (d) reduces the team's per capita material output, and*
- (e) reduces an individual's maximized utility.¹⁶*

¹⁶ This is seen by taking the derivative with respect to n of the logarithm of the utility function in equilibrium. Some algebra shows that the sign of this derivative is given by $\text{sign}[-(n - \delta)(\beta + \gamma) - \alpha\delta(1 - \delta)] < 0$.

Parts (a) – (d) of Proposition 4 follow by inspecting the expressions in (15a) and (15b). Part (d) follows from the moral hazard in teams, for well-known reasons [Alchian and Demsetz (1972), Olson (1971)]. In a group of size n , an individual bears only $1/n^{th}$ of the cost of reduced effort to team effort but enjoys the full benefit of the extra private spirituality and leisure consumed. This incentivizes a team member to free-ride off the effort of others. Since all members think in this fashion, the Nash equilibrium output per capita is reduced relative to the output of an owner-operator. The incentive to free-ride increases when there are more group members, because an individual bears an even lower cost of free-riding, thereby collectively worsening the free-rider problem. Part (e) follows from the fact that this free-riding in the Nash equilibrium results in a misallocation of time, a problem that gets exacerbated as the group size increases. These results are expected outcomes of moral hazard in teams.

In the regime with a corner solution (with $e_g^* = 0$), which occurs when $\sigma \geq \bar{\sigma}_g(n)$, an individual's optimization problem in (13) becomes

$$(17) \quad \max_{x_i} \quad \alpha \delta \ln(\sigma x_i + T_{-i}) + \beta \ln x_i + \gamma \ln(1 - x_i).$$

We can easily verify that the solution in this regime is

$$(18a) \quad e_g^* = 0 \quad ; \quad x_g^* = \frac{\alpha \delta + n \beta}{(\alpha \delta + n \beta + n \gamma)}$$

$$(18b) \quad t_g^* = \frac{\sigma(\alpha \delta + n \beta)}{(\alpha \delta + n \beta + n \gamma)} \quad ; \quad \ell_g^* = \frac{n \gamma}{(\alpha \delta + n \beta + n \gamma)}.$$

The time allocated to spirituality and to leisure are independent of σ . However, since the total effort applied to material production increases with σ , the material output increases, too, as in the previous section. Also, as before, an individual's utility in the Nash equilibrium also increases with σ because output increases without any offsetting decline in the consumption of any other good.

These results for groups are broadly similar to those found in a sole-owner operator firm. In that sense, the effects of work as worship might seem to be the same. However, there are two added and important benefits in the case of teams: karma yoga can mitigate the effects of free-riding in teams and also the effect of diminishing returns to labor. In fact, this benefit can entirely overwhelm the effects of free-riding and diminishing returns to the point that an individual in the group Nash equilibrium can be *better off* with karma yoga in teams than in sole production in the absence of karma yoga. This is surprising because the technology

exhibiting diminishing returns to labor is assumed to be the same as for the sole owner-operator. To see that this can happen and to grasp the reason for it, it is best to consult Figure 2 because the algebra is tedious.

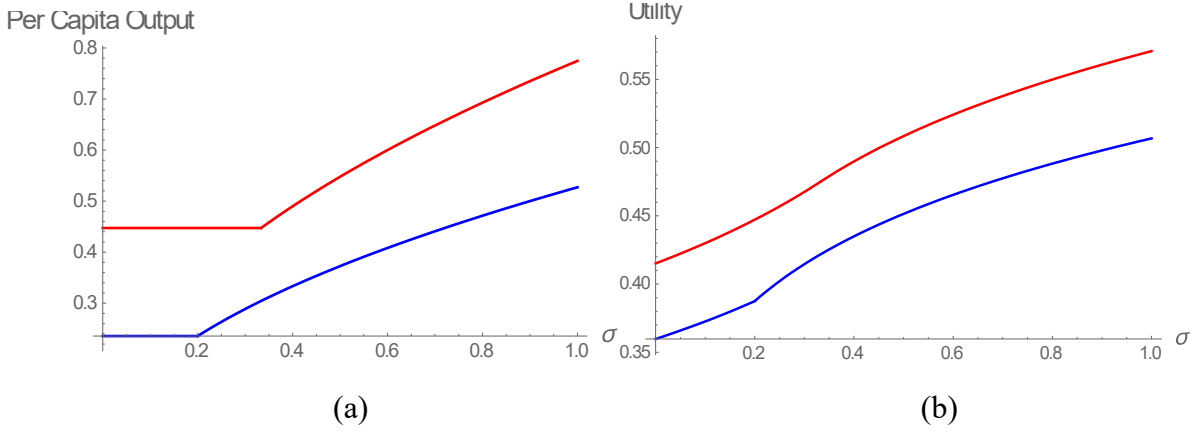


Figure 2: Equilibrium per capita output in (a) and utility in group production in (b) (red for $n = 1$ and blue for $n = 2$). Parameter values: $A = 1$; $\alpha = 1/3$; $\beta = 1/3$; $\gamma = 1/3$; $\delta = 1/2$.

Fig. 2 (a) shows the per capita output of the firm for $n = 1$ (red) and $n = 2$ (blue) as a function of the scope σ of work as worship practiced by member(s) of the firm. Notice that each of these schedules has an initial flat portion along which output is constant when σ increases. This occurs when $\sigma < \bar{\sigma}_g(n)$; the production effort is greater than what is forthcoming from just karma yoga (σx_g^*) and so some secular effort (e_g^*) is needed. As σ increases, the secular effort is gradually crowded out. At $\bar{\sigma}_g(1)$ and $\bar{\sigma}_g(2)$, respectively, the secular effort is entirely crowded out for $n = 1$ and $n = 2$. Further increase in σ increases the spiritual component (σx_g^*) of the material effort applied and this comes with no sacrifice of the other time allocations because it has already been accounted for in x_g^* . Thus, the segments in Figure 2 (a) for when the solution is a corner one are increasing in σ .

Consider the scenario where work is not practiced as worship at all ($\sigma = 0$). Then, the output of sole owner-operator ($n = 1$) would be given by the ordinate of the flat segment of the red curve because this ordinate is obviously independent of σ . The per capita output when $n = 2$ (blue schedule) is also independent of σ when the solution is fully interior. This ordinate is lower because of two reasons. First, the production function (1) exhibits diminishing returns with respect to effort if we set $\delta < 1$ in (1), as is the case in Figure 2. So, even if the effort level were exactly doubled when we go from $n = 1$ to $n = 2$, the average output per capita

would fall. Second, when $n = 2$ we introduce the scope for moral hazard, inducing free-riding. The combined cost of diminishing returns and free-riding in terms of per capita output is shown by the vertical distance between the flat segments of the red and blue curves in Figure 2 (a). How does this outcome compare with what happens when the group members practice work as worship? The answer to this question illustrates the economic efficacy of karma yoga in teams.

We see from Figure 2 (a) that, when workers in the $n = 2$ group are increasingly *practicing karma yoga*, the ordinate of the upward sloping segment of their per capita output with $n = 2$ (blue) equals that of the flat segment of a *non-practicing* sole owner-operator when σ is sufficiently high. When σ exceeds this value, the per capita output when $n = 2$ is higher than that of a sole-owner who does not practice karma yoga. In other words, the combined cost of diminishing returns and of free-riding in going from $n = 1$ to $n = 2$ is offset and even reversed.¹⁷ Of course, since by definition σ is bounded by 1, we may not always find a sufficiently high σ to cause an entire reversal. Nevertheless, the general point remains that work done as worship attenuates the effects of diminishing returns and free-riding. In standard neoclassical models, which incorporate no spiritual discipline, we would not obtain a higher per capita output with $n = 2$ than with $n = 1$ unless the technology exhibits increasing returns to scale, all else constant. It follows that a team practicing karma yoga would certainly produce higher per capita output than a non-practicing team of the same size.

Figure 2 (b) compares the levels of utility or wellbeing of a person when $n = 1$ (red curve) with $n = 2$ (the blue curve) as a function of σ . Since we see from (18a) and (18b) that the spiritual and leisure consumptions are independent of σ in the corner solutions, the utility increases with σ because more of the material good is produced. As in the above discussion, a person's wellbeing in the $n = 2$ team practicing karma yoga can exceed that of a non-practicing owner-operator ($n = 1$). This, again, would be surprising in conventional models.

It is important to note that this effect of work done as worship is not because of any preference change in the utility function. Recall that the parameters α, β, γ of the utility function that determine the relative allocations of the resource (time) are held fixed. Nor is there invoked any change in moral character, greater concern for others in the organization, etc.—though these can be expected to also change with practice in reality. In the model of this and the previous section, the only thing that is assumed to change is the scope of karma

¹⁷ For example, if we set $\alpha = \beta = \gamma = 1/3$, and $\delta = 1/2$, this crossover occurs at $\sigma = 0.72$.

yoga as measured by the proportion of effort *already* devoted to spiritual ends that is diverted to spiritualized material production. The effects of work as worship here operate through the fact that work is spiritualized and the subsequent saving in the resource (time) can be used to enhance output and wellbeing.

The very act of working for a living is harnessed to spiritual ends by karma yoga, and that confers unintended benefits in economic production, both with teams (this section) or without (previous section).

IV. When Work as Worship Induces Pro-Social Preferences

The doctrine of work-as-worship as expounded by Sri Krishna in the Bhagavad Gita also added a social dimension to the practice. An individual practicing karma yoga is exhorted not to work to satisfy their selfish desires but to work for the good of all (“always working for the welfare of all living beings” [Gita 5:25]). The rationale behind this is the claim that God indwells all living beings. From a practical point of view, this recognition of the presence of divinity in others would induce empathy for them.¹⁸ Empathy, in turn, would generate altruism towards them, as argued by Mulla and Krishnan (2008) and, in a different context, by Eswaran (2023a).¹⁹ We can accommodate this aspect of the yoga within the model quite easily, though it adds a little bit of complexity.

By offering one’s work to Deity, one is perforce not offering it to oneself. The work could be done for others who are believed to embody Deity [Gita 15:15] Thus, we may also consider the parameter σ to denote the extent to which the individual puts weight on the wellbeing of others. In other words, we can now replace the individual utility function, U , by a utility function that exhibits preferences extended over others, too. Indicating individual i ’s extended preferences by a utility function, V_i , we write

$$(19) \quad V_i = U_i + \sigma \sum_{j \neq i}^n U_j.$$

We may now refer to U_i as the individual “egoistic” utility function (assumed to retain the form in (2)) because it only pertains to self, and refer to V_i as the “extended” or “altruistic”

¹⁸ This, in fact, is the basis of Swami Vivekananda’s theory of ethics [see Medhananda (2023)].

¹⁹ The purpose of karma yoga is Self-Realization or enlightenment, not moral development as such, though the latter may emerge in the process. Mulla and Krishnan (2014), based on a sample drawn from two large Indian organizations, provide some evidence that karma yoga is correlated with moral sensitivity, motivation, and character.

utility function because the individual's concern extends beyond the self. From (19), we see that when $\sigma = 0$, there is no difference between the altruistic and egoistic preferences. At the other extreme where $\sigma = 1$, extended preferences are represented by a utility function that is an equal-weighted sum of the egoistic utilities of all the team members. An individual's altruistic preferences, in this instance, give as much weight to the wellbeing of others as they do to their own, that is, they "treat their neighbors as themselves" [Mark 12:31]. This is also how a Benthamite social planner would behave because she puts equal weight on the wellbeing of all individuals. In the real world, however, the limit $\sigma = 1$ would represent the height of perfection, and we can reasonably expect it to be almost impossible to achieve. Nevertheless, this Golden Rule, as it is called, almost universally across cultures serves as an ideal to strive for.

Under Nash conjectures, the optimization problem confronting individual i of the team is now

$$(20) \max_{e_i, x_i} \left(\frac{A}{n}\right)^\alpha (e_i + \sigma x_i + T_{-i})^{\alpha\delta} x_i^\beta (1 - e_i - x_i)^\gamma + \sum_{j \neq i} \left(\frac{A}{n}\right)^\alpha T^{\alpha\delta} x_j^\beta (1 - e_j - x_j)^\gamma,$$

where, as before, T_{-i} is that put in by all members other than i . Under Nash conjectures, presuming a fully interior solution, first taking the derivatives with respect to e_i and x_i , then invoking symmetry and dropping all subscripts yields the respective first order conditions

$$(21a) \quad \frac{\alpha\delta\rho}{n(e+\rho x)} = \frac{\gamma}{1-e-x}$$

$$(21b) \quad \frac{\alpha\delta\sigma\rho}{n(e+\rho x)} + \frac{\beta}{x} = \frac{\gamma}{1-e-x},$$

where $\rho = 1 + (n - 1)\sigma$. Solving these two equations yields the solution to the Nash equilibrium in a team with altruistic preferences. Denote this solution by (e_a^*, x_a^*) , which yields the total time an individual spends on material production as $t_a^* = e_a^* + \sigma x_a^*$. We can retrieve the equilibrium leisure ℓ_a^* from the time constraint. The fully interior solution is seen to be

$$(22a) \quad e_a^* = \frac{\alpha\delta\rho - \sigma(\alpha\delta\rho + n\beta)}{(1-\sigma)(\alpha\delta\rho + n\beta + n\gamma)}; \quad x_a^* = \frac{n\beta}{(1-\sigma)(\alpha\delta\rho + n\beta + n\gamma)}$$

$$(22b) \quad t_a^* = \frac{\alpha\delta\rho}{(\alpha\delta\rho + n\beta + n\gamma)}; \quad \ell_a^* = \frac{n\gamma}{(\alpha\delta\rho + n\beta + n\gamma)}.$$

We see from (22a) that e_a^* becomes 0 when

$$(23) \quad \sigma = \frac{\alpha\delta\rho}{\alpha\delta\rho+n\beta} \equiv \bar{\sigma}_a(n).$$

Comparing (16) with (23), we see that $\bar{\sigma}_a(n) \geq \bar{\sigma}_g(n)$, with the inequality being strict when $n > 1$ and $\sigma > 0$, that is, when $\rho > 1$. For $\sigma > \bar{\sigma}_a(n)$, there is a corner solution with regard to e_a^* , and the Nash equilibrium is easily shown to be characterized by

$$(24a) \quad e_a^* = 0 \quad ; \quad x_a^* = \frac{\alpha\delta\rho+n\beta}{(\alpha\delta\rho+n\beta+n\gamma)}$$

$$(24b) \quad t_a^* = \frac{\sigma(\alpha\delta\rho+n\beta)}{(\alpha\delta\rho+n\beta+n\gamma)} \quad ; \quad \ell_a^* = \frac{n\gamma}{(\alpha\delta\rho+n\beta+n\gamma)}.$$

What are the differences between the Nash equilibrium of the previous section and that with altruistic preferences here? Comparing the corresponding expressions for the solutions, we see that the difference between the two scenarios is due to the presence in the latter of the factor $\rho = 1 + (n - 1)\sigma$. This factor ρ embodies the concern that an individual in the team has for the wellbeing of others. When either $n = 1$ or $\sigma = 0$, all differences vanish. When $n > 1$ and $\sigma > 0$, karma yoga induces a concern for others and so a person is cognizant of the externalities inflicted on others while making choices. Consequently, the total effort an individual applies to material production is higher and, therefore, the per capita output of the team is higher than in the previous section. In effect, work done as worship, by inducing altruism towards others in the group, elicits a more “cooperative” outcome even though the individuals are making Nash conjectures in the choices.

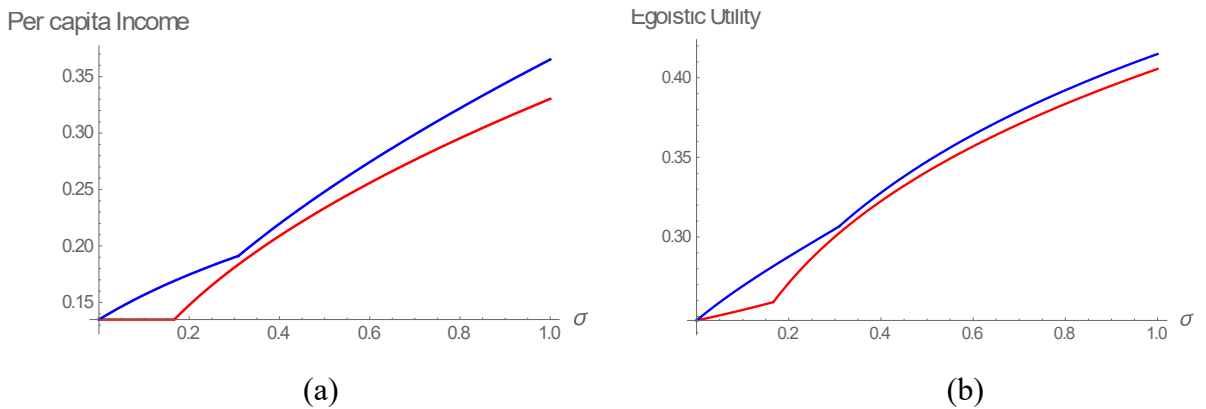


Figure 3: (a) displays the per capita income as a function of σ in team production without altruism (red) and in team production with altruism (blue). (b) shows the corresponding egoistic utilities in equilibrium. Parameter values: $A = 1; \alpha = 1/2; \beta = 1/4; \gamma = 1/4; \delta = 1/2; n = 5$.

These points can be seen in Figure 3 (a), which shows the per capita income in a team with $n = 5$ when there is production without karma yoga (red) and with karma yoga (blue). Notice that, in the region before the kink occurs in these curves (that is, when the solutions are fully interior), the red curve is flat, but the blue one is higher and increasing in σ . This is because, when karma yoga extends to others in the group, individuals increase their total time devoted to material production even in this segment because it bestows benefits to others. Notice, furthermore, that the entire schedule of per capita income is higher with altruism than without (the blue schedule lies above the red one). The team produces higher output per person when work done as worship induces some altruism.

What about the comparative behaviors in the two cases of utility or wellbeing? Here we have to notice that, with altruistic preferences as shown in (19), the altruistic utility function explicitly depends on σ . So, an increase in V may simply reflect the change in σ even if there are no attendant equilibrium effects of the change in σ . However, the egoistic utility function U in (1) does not explicitly depend on σ , and so it is meaningful to examine how the equilibrium value of the egoistic utility changes with σ in the team scenario. As can be expected from the intuition provided above, the equilibrium egoistic utility in the altruistic case would be expected to increase with σ and be higher than in the case without altruism. Concern for others in the team would magnify the already positive effect of karma yoga on team work seen in the previous section. This is indeed so, as is seen in Figure 3 (b): the blue curve lies entire above the red.

At this point we may note that the altruism generated by work as worship, by reducing moral hazard in production, renders team production in organizations more viable than before. Standard neoclassical models tend to overemphasize the negative aspects of human nature by focusing exclusively on egoistic behavior. Spirituality brings out the non-egoistic aspects that are more conducive to cooperation.

In summary, then, the practice of work as worship induces altruism towards others and, specifically here, towards other team members. In the last section we saw that the expansion of the time constraint brought about by the practice tends to offset the effects of free-riding in teams, but it does not eliminate free-riding. Here we see that altruism promotes a more cooperative stance that incorporates concern for the externality generated for others due to one's own actions. As a result, it tends to eliminate free-riding as σ increases. In fact, as

noted, in the limit where $\sigma = 1$, which represents the ideal where all others are treated as oneself, free-riding is completely eliminated and the Nash equilibrium would reproduce the social planner's solution.

There is some evidence to support these predictions. In an interesting empirical endeavor, Adhia, Nagendra, and Mahadevan (2010a) performed a controlled experiment on how “the yoga way of life” might affect organizational performance which is worth going into in some detail. The experiment was done using managers drawn from a manufacturing company in Gujarat, India. Over a period of six weeks, a treatment group comprising 42 individuals, was given 30 hours of yoga practice and 25 hours of lectures on the yoga way of life, including talks on the four traditional systems of yoga (karma, bhakti, jnana, and raja yoga) along with ashtanga yoga, and Vedanta (a prominent Hindi philosophical system). An equal-sized control group was given an equal number of hours of physical training and lectures on success factors in the light of modern thought. Information on five different performance-related variables were collected from pre- and post-treatment self-reported answers to a questionnaire administered to the top 30 attendees in each group.

The authors found that, in four out of the five performance-related variables, there were significant differences between the two groups in their pair-wise correlation coefficients with exposure to yoga, being higher in the treatment group. Particularly noteworthy is the finding that exposure to the yoga way of life improves goal orientation, in line with the claim by karma yoga that it is possible to pursue a goal without the usual desire: the goal and the actions may be outwardly the same but the motivation could be spiritual. The one variable on which yoga did not appear to have a statistically significant positive effect is job identification. This is not surprising, in my view, because karma yoga ostensibly engenders detachment and, importantly, reliance on God rather than on one's livelihood. Job identification is seen as a positive in the business environment, but other positive effects like increased goal orientation could compensate for no significant improvement in this one aspect. The empirical results of Adhia, Nagendra, and Mahadevan (2010a), therefore, suggest that the net effect of yoga on measures of organizational performance is positive.

That said, it must be added that the results are quantitatively not as strong as one would hope because the entire experiment was conducted over a relatively short period of two months. Since karma yoga requires very deep attitudinal changes to reverse thought systems and behaviors acquired since early childhood, one would expect the effects to take years to show

up. In corporations, one would not expect the intense dedication to the practice that is espoused in the Bhagavad Gita. It is therefore noteworthy that the effects are nevertheless statistically discernable even in the short run.

V. Some Salutory Health Effects of Work as Worship

There are very good reasons to believe that even an imperfect practice of karma yoga is beneficial for psychological wellbeing. I discuss the reasons in this section.

Our actions often stem from a grasping tendency that derives from the perception of scarcity. When we take actions to acquire an object, be that wealth or food or anything else, it is because we perceive that we do not have it or enough of it, that it is a scarce commodity for us. When we take actions to achieve some purpose, it is almost invariably because we perceive ourselves as incomplete entities and hence need accomplishments to complete us. This perceived lack of abundance insinuates a grasping tendency into most of our purposive actions. Virtually everything humans do with a purpose, as a result, is done to enhance their sense of self in one way or another. Karma yoga wears down this tendency to grasp, and in so doing also denudes one's preoccupation with self and its obsession with scarcity and loss. The more general effects of karma yoga stem from this.

Psychological suffering ultimately arises because of our inveterate tendency to view all our encounters and experiences in terms of a "me", an ego, that is taken to be who we are, our identity. This tethering of our identity and being to a particular body/mind complex, with the ego as the overseer that manages this complex, is consonant with Darwinian evolution. This entity promotes survival in the harsh world of competition for resources—"red in tooth and claw," in Hobbes's graphic phrase. The ego, with its innate need to improve its perceived conditions in order to promote survival of the body, is responsible for much of the progress in innovation and technology for millennia. But it is also the cause of suffering—as the Buddha emphasized—by making every disappointment, every thwarting of our purpose, felt as acutely as a physical blow. This is the evolutionary baggage that we have to work with. All major spiritual traditions—although unaware of the phenomenon of evolution until relatively recently—have found various ways to deal with this problem to arrive at Self-Realization, or

enlightenment, or whatever else is the term used to describe it. Even if a person never arrives there, the religiosity itself has beneficial health consequences.²⁰

Karma yoga's approach is through work and, therefore, we would expect it to be relevant to psychological problems that arise in workplaces. Stress is a common experience of many people in the work environment. Stress comes from an ego feeling overwhelmed by circumstances. One way this occurs, for example, is when the compensation for the work is way less than what the effort warrants [Siegrist (1995)]. Those who practice karma yoga may well be aware of these feelings of stress arising within them, and may even take reasonable steps to change the compensation to something fairer. But they would be more likely to be free from the usual feeling of anger or resentment that may accompany it. This is because such feelings arise when either explicitly recognized or unrecognized demands of the ego are thwarted. Since karma yoga should erode the sense of self, the intensity of such feelings should be lower, though the cognitive perception of unfairness need not—and often, should not—disappear. The consequence is that the stress felt in the work environment would be reduced. By way of some evidence, I cite a companion piece to the paper discussed in Section IV, in which Adhia, Nagendra, and Mahadevan (2010b) found in a controlled experiment that karma yoga significantly reduced burnout on the job (a result of unresolved job stress) among managers.

Sri Krishna, as we have seen, emphasizes the importance of detachment in the Bhagavad Gita. The instruction is to focus on the work itself, not on the rewards. In an insightful paper, Pande and Naidu (1992) investigated the effect of detachment (“anāsakti” or non-attachment) on health. The authors posited that individuals who are more detached would experience less distress in given stressful life events and would exhibit lower strain on average (strain being a measure of the outcome of stress). The authors tested these hypotheses with a sample of 465 individuals. They identified five factors characterizing anāsakti, grouped events deemed stressful into a dozen categories, and they identified nine health outcomes that could constitute indicators of strain. In their statistical analysis, they found that detachment is correlated with less stress and fewer symptoms of strain, despite the fact that those who are more detached did not experience fewer stressful events than the less detached. This is suggestive evidence that detachment is positively correlated with good health.

²⁰ Fruehwirth, Iyer, and Zhang (2019), for example, showed that religiosity had a salutary *causal* effect on the incidence of depression in American adolescents.

Generally, we would expect that a genuine practice of karma yoga—as presented in the Gita—would have beneficial health effects simply because of the philosophy of this yoga. The idea, after all, is to completely engage with actions alone, which are to be done as an offering to Deity, and to totally relinquish preoccupation with the outcomes. This entails a surrender of one’s desires and concerns for how things might turn out and how they should be handled if they are adverse. This, in effect, means an abdication of the claim to ownership of outcomes after the work has been done. The dropping of this sense of agency delivers peace because it is desire for the fruit of one’s labor that keeps us bound to our actions. In the measure that karma yoga is undertaken along the lines prescribed, in that measure one would experience peace that does not depend on circumstances. This effect would be manifest even when it has not yet led to Self-Realization. However, karma yoga cannot be done in its fullness unless one is already enlightened, for only then does one truly experience God as indwelling in all beings.²¹

Peace, of course, is the absence of stress. There is a vast literature in psychology on the causes and consequences of stress [see e.g. Schneiderman et al (2005), APA (2024), O’Connor et al (2021)]. While some stress may have no long-term ill effects, and may possibly be adaptive and beneficial, continuing stress can cause very debilitating diseases. Stress especially during childhood, stemming generally from the absence of a nurturing environment, can generate responses and behavior patterns that have long-term effects. In adults, persistent stress is known to lead to anxiety and ultimately to depression. Serious experiences of trauma have a significant chance of leading to PTSD (post-traumatic stress disorder), a debilitating condition that causes hyperarousal in the face of otherwise nonthreatening, or only mildly threatening, events.

The body has evolved elaborate mechanisms for dealing with stress. Changes in the nervous, cardiovascular, endocrine, and immune systems are called forth in response to stress [Schneiderman et al (2005)]. In brief, during stressful events resources are diverted from their routine uses to immediate uses in order to preserve the body. When acute stress is prolonged, the evolved coping mechanisms are overstretched and the body becomes vulnerable to serious diseases, which can damage physical, emotional, and mental health [APA (2024)]. Since the consequences of stress are so serious, we may ask how the practice of karma yoga can possibly alleviate these problems.

²¹ For more on this, see Sri Aurobindo’s (2003) remarks in his commentary on the Isha Upanishad.

Before we discuss this, we must be clear that objective measures of the stress inherent in various life events are not as relevant as the *perception* of stress by individuals [Cohen et al (1983)]. The effects of identical events may vary widely across different people because they perceive the events differently. Karma yoga affects how we perceive events. All the stresses one encounters in life, the ego perceives as occurring to ‘me’. The ego takes the stressful events as personal. It is this that leads to the various ill effects of stress. If these very events were seen as occurring to someone else, for example, the effects would not be anywhere as serious. The primary purpose of karma yoga is to undermine the ego in actions so that, ultimately, its dissolution leads to moksha or enlightenment. Along the way, the sense of self would be eroded and so the ego is invoked less and less as the center of one’s attention and actions. Thus, theoretically the person becomes more and more detached from the inevitable vicissitudes of life.

This detachment would reduce the level of stress felt and produces the equanimity that is repeatedly emphasized by Sri Krishna in the Bhagavad Gita. The systems of yoga in India claim this outcome can arise through many different routes—bhakti yoga or jnana yoga, for example—but karma yoga attempts this through the field of action. Beneficial physical, emotional, and mental health consequences are salutary *by-products* of karma yoga, whether or not the direct realization of the Absolute is the ultimate solution to the problem of stress and all personal problems.

It is commonly accepted that stress occurs when the demands of circumstances on a person exceeds their resources [Schneiderman et al (2005)]. Karma yoga enhances the psychological resources of a person by reducing the identification with a specific body/mind, in the manner described above. This affects the incidence and the intensity of stress. Situations that are seen as stressful by a non-practitioner may not be experienced as such by one who practices karma yoga because the sense of ‘me’ is attenuated. Even when the practitioner does feel stress, the intensity could be lower because the sense of ‘mine’ is eroded.

This erosion of the sense of being a separate self reduces fear, too, because fear requires the perception of at least two different entities (that is, a perception of duality as opposed to unity). When only the One is perceived, who is to fear and what is to be feared?²² This is probably why Sri Krishna tells Arjuna that even a little of this practice of karma yoga protects against great fear. [Gita 2:40] Along with this attenuation of fear, the perceptions that a

²² Brihadaranyaka Upanishad (1:4:2)

particular oppressive circumstance belongs to *me* and that it is *my* problem do not weigh heavily on such people. This is consistent with the empirical findings of Pande and Naidu (1992) on stress discussed above.

The salience of karma yoga, I suggest, has increased since the discovery in neuroscience a couple of decades ago of the so-called Default Mode Network in the human brain. When a person is not engaged in any specific task and is idle, this network in the brain lapses into its default option, which is to preoccupy itself with matters pertaining to the body/mind (see the review by Raichle (2015)). In other words, the brain defaults into thoughts and emotions about the self. This is undoubtedly a contrivance of Darwinian evolution, because such preoccupation enhances the survival chances of the body. Of course, it also leads to unhappiness [Killingsworth and Gilbert (2010)]. This would be as expected because there cannot be prolonged unhappiness without a self-concept, as forcefully emphasized by the Buddha.²³ But evolution's primary goal has always been survival and the propagation of genes, not the generation of happiness per se. The wisdom of the Bhagavad Gita and the Buddha repeatedly tell us that our wellbeing depends on where we place our attention and that we should avoid discursive thought.²⁴ Spiritual disciplines (such as, for example, staying in the present moment) prevent the mind from wandering [Brewer et al (2011)]. I suggest that the practice of karma yoga, by urging a person to perform all actions—even the most mundane—as an offering to Deity, would have the benefit of enhancing wellbeing by sabotaging the constant self-referencing of the default mode network.

In summary: just as karma yoga relaxes the time constraint that every person functions under and thereby raises productivity in the workplace, it would also expand the psychological resources of a person in dealing with life contingencies and thereby bring about beneficial health effects.

VI. A Brief Outline of the Relevance to Christianity and Islam

While the notion that works can be used for worship has been elaborated with great care in Hindu philosophy and spirituality, many other religions have recognized the relevance of

²³ For an elaboration of these points, see Eswaran (2023b).

²⁴ Dolan et al (2021) have recently suggested that how people feel during the day and their subjective sense of wellbeing is determined by the amount of attention they confer on various activities, stimuli, and objects during the day. Sri Krishna urges control over one's attention in his advice to Arjuna [Gita 6:26]. The Buddha repeatedly urged heedfulness if one is to find the way to deathlessness.

work in the spiritual life.²⁵ I now briefly discuss similar views on work in Christianity and Islam.

The best known of the examples in Christianity, perhaps, is Max Weber's (1905/1930) classic claim that Calvin's Protestantism brought about a work ethic which induced Protestants to work hard, save and invest—thereby heralding capitalism.²⁶ In Weber's view, since Calvin's theology held that only a few of the believers are predestined to be granted salvation, a person's success in economic life was taken as a sign that the person was one of the select. This encouraged hard work for the purpose of obtaining this positive signal. There is, however, strong evidence to suggest that the economic effects of Protestantism came from the literacy that was promoted by Martin Luther's insistence that Protestants should be able to read the Bible for themselves rather than from the work ethic per se [Becker and Woessmann (2009)]. Arrunada (2009) has provided some evidence to suggest that the differences in the economic effects between Catholicism and Protestantism come not from the work ethic but from the "social ethic" or social capital the latter engenders. But even if the Protestant work ethic did play a role, Weber's proposed mechanism is vastly different from that of karma yoga. Working hard so as to receive a signal that one has been granted salvation is still an egoistic motive; it hinges on the idea that I am a separate human being who desires to be selected among the many who are called.²⁷ The motivation in karma yoga, by contrast, is the expunging of the notion of a separate self in order to manifest the Divine will in the field of actions.

Closer in spirit to karma yoga is an epistle of St. James in the New Testament, in which he insists that faith has to be accompanied by works: "Faith without works is dead... Show me your faith without your works, and I will show you my faith by my works." [James 2: 17-18]. In Christian literature, the doctrine that comes closest to that of karma yoga was spelled out by the 17th -18th Century Jesuit priest, Jean Pierre Caussade (1959). He urges that Christians should live out their lives by continuously attending to "the duty of the present moment" as manifesting the will of God [Caussade (1959)]. This entails performing, without forethought

²⁵ I believe that it is karma yoga being alluded in Sikhism in the saying, "Of all the religions, the best is to chant the name of the Lord and to engage in pure actions" [Guru Granth Sahib, Ang 266]. The following verse seems more direct: "The person who continually works and performs duties for God, O Nanak, has a radiant face." [Guru Granth Sahib, Ang 1245] One could interpret a "radiant face" as indicating being Self-Realized.

²⁶ Historically, the Biblical emphasis on all of work as being sacred gave way to the sacred/secular divide in the Middle Ages. It was partly reinstated in the Protestant Reformation and then the Enlightenment seems to have made an increasing divide between the sacred and the secular. See Whelchel (2016) for a brief discussion of this.

²⁷ "Many are called but few are chosen." [Matthew 22:14]

or afterthought, the action that presents itself in the moment as what is to be done. This approach, if pursued seriously, puts work outside the realm of personal desire and cultivates detachment to outcomes. In other words, one becomes equanimous under all circumstances, satisfied that the will of God has been done in either event.²⁸ In its prescription, life becomes a continuous act of prayer. An exemplar of this idea being put into practice is the 17th Century lay brother in a Carmelite monastery, Nicholas Herman, better known as Brother Lawrence. His smallest actions were said to have been imbued with, and motivated by, the love of God—to the extent that, by consciously living in God’s presence, it obliterated the distinction between his menial work and prayer [Herman (1977)]. Here one witnesses how works blend into the love of God to the point prescribed by Christ [Matthew 22:37] and also by Sri Krishna [Gita 18:65].

The Rule of St. Benedict, meant for the Catholic Benedictine order, spoke of balancing prayer and work in the monastic life—“Ora et Labora” (Prayer and Work) was the phrase in Latin that has been the motto attributed to the order. Some decades ago, St. Escrivá initiated the organization Opus Dei within the Church on the principle “Labora est Ora”, that is, work *is* prayer, including secular work [Murphy (2013)].²⁹ This philosophy exactly parallels the Hindu concept of karma yoga and the framework of this paper would certainly apply to this Catholic organization.

Teilhard de Chardin was a rare Christian theologian who saw life as evolving to manifest Divinity. In his classic book, *The Divine Milieu*, he argued that work embraced and done in the right spirit is a means for one’s fulfilment in a world of becoming, in conformity with the designs of God: “God is inexhaustibly attainable in the totality of our action.” [de Chardin (1968, p. 63)]

The framework presented in this paper is also relevant to Islam, which is a religion that does not tend to draw a distinction between secular work and religious work.³⁰ Work is seen as a duty and an act of worship [Richardson et al (2014)]. An important concept in Islam is that of

²⁸ The epitome of this attitude is perhaps found in the book of Habakuk: Though the fig tree may not blossom, nor fruit be on its vines; though the labour of the olive may fail, and the fields yield no food; though the flock may be cut off from the fold, and there be no herd in the stalls--yet will I joy in the Lord, I will joy in the God of my salvation [Habakuk 3:17-18]

²⁹ I believe this practice need not contradict the advice of Christ in which he said that prayer should be a private affair, not done openly for public display [Matthew 6:5-6]. The offering of one’s secular work is an entirely internal matter that need not be noticeable to anyone else.

³⁰ “The unitary perspective of Islam, which refuses to distinguish between the sacred and the profane, goes even further in refusing to distinguish between religious acts and secular ones, or between prayer and work.” [Nasr (1987, p. 37)]

Tawhid. It refers to the claim that Allah is One and is unique, and requires no intercessors.³¹ All work is to be done in reference to achieving knowledge of Tawhid. As Al Akroubi (2013 , p. 110) puts it, “[T]rue worship of Allah implies an absolute absence of intercession and a full remembrance of and trust in God in every moment of life”

Work is especially emphasized in Sufism, which is the mystical side of Islam. There is a persistent emphasis on the importance of incorporating work into the religious life. Dhikr (remembrance of God) is encouraged at all times, and when it accompanies work, work is essentially worship. Even the work of seeking God, however, has to be done without any ulterior motive. In his translation of the Sufi mystic Ansari, Chittick (2013, p. 394) writes, “If you want to reap the fruit of this work, do whatever you do so as not to remember yourself.” Forgetfulness of self is the one thing that is required.

Not only is it necessary to use daily living as a means to approaching God, it is even required that those who have achieved enlightenment should return to everyday life and engage in worldly activities. Exactly in agreement with Sri Krishna in the Gita who insisted that even those who are Self-Realized must engage in works, Jalaluddin Rumi urged the same. As Nicholson (1914, pp. 163-164), in interpreting Rumi, puts it: “To abide in God (*baqa*) after having passed-away from selfhood (*fana*) is the mark of the Perfect Man, who not only journeys to God, i.e. passes from plurality to unity, but in and with God, i.e. continuing in the unitive state, he returns with God to the phenomenal world from which he set out, and manifests unity in plurality.”

Ibn Arabi (12th-13th Centuries), one of the great Islamic philosophers, espoused making work a means to drawing closer to God. In fact, he urges that the actions of aspirants at every moment must align themselves with the will of God, as if it were their last action before death. In a manner similar to Caussade’s view in Christianity alluded to above—but preceding Caussade by several centuries—Ibn Arabi recommends that aspirants attend to the received inspiration on what should be done at each moment and then do that [Morris (2007)]. The Sufi Al Ghazali was so absorbed by his dedication that he could not discern what is done by him and what is done by God: “I do not move of myself but am moved by Him, I do not work of myself but am used by Him.” [Watt (1952, p. 35)]³²

³¹ Tawhid is analogous to the Hindu concept of Brahman and the Christian concept of the Trinity (three-in-One), but differs from them in forbidding intercessors.

³² St. Paul made a similar statement of himself: “I have been crucified with Christ; and it is no longer I that live, but Christ living in me.” [Galatians 2:20]

To make sense of this remark, it must be pointed out that, according to those who have achieved Tawhid or are Self-Realized, our sense of being the performer of an action (the “doer”) is said to be an *assumed* position and, therefore, imaginary. The human sense of agency or “doership”—the feeling that “I am the doer”—is fictitious, in this view.³³ There is compelling recent neuroscientific evidence confirming that the sense of agency is an illusion constructed by the brain [e.g. Gazzaniga (2012), Reddy (2022)]. Mystics like Al Ghazali, St. Paul, and myriad others, seem to have seen through this illusion in their direct experience. This is presumably why most mystics claim that, ultimately, everything is done by God. But this is a realization that usually comes to most mystics at the end of their spiritual search, after karma yoga presumably has accomplished the goal of largely erasing the ego.

Even this very brief treatment shows that the stalwarts of Christianity and Islam see the importance of incorporating work into religious or spiritual life. They, as Sri Krishna, are not referring to some specific actions done as routine rituals; rather, they are insisting that *all* the actions required in life have to be performed as acts of worship. Even if that degree of perfection is not achieved by believers, the model of this paper shows that there still can be significant increases in economic productivity and in wellbeing as by-products of even modest applications of the practice of work-as-worship.

VII. Concluding Thoughts

Faith generates a worldview and so it cannot be compartmentalized; it inevitably informs all of life [Kim et al (2012)]. If we pretend that faith is personal and so can be left out of the workplace, perhaps we are doing ourselves a disservice by tacitly opting for reasoning based on a worldview that is overtly or tacitly egoistic. This paper has sought to examine, within the context of Hinduism, some of the economic consequences of approaching work as prayer. The paper demonstrates how karma yoga relaxes the time constraint and enhances labor productivity—an outcome that does not rely on moral changes in attitudes towards others. In organizations, the positive effect of performing work as worship counters the effects of diminishing returns to labor and of moral hazard in team production. When the plausible emergence of altruism towards coworkers engendered by karma yoga is included, the paper demonstrates that the practice attenuates the endemic problem of moral hazard in teams and

³³ Sri Ramana Maharshi, a revered 20th Century sage of India, compared this assumption to the imaginary strain of an image carved into the stone at the bottom of a huge temple pretending to carry the load of the entire edifice. See Talk 63 in *Talks with Sri Ramana Maharshi* (2006).

brings about a superior equilibrium outcome. The paper then argues that work as worship can be expected to confer substantive health benefits and, generally, improvements in wellbeing. Many other religions have recognized the importance of work in the spiritual life, so the model can be suitably adapted to them, too.

Work forces spiritually-minded people to participate in the world in a manner that cannot be matched by an other-worldly orientation of some religions or by the “World is an illusion” stance prevalent in certain branches of Hinduism. Fully incorporating work into spiritual activities, in addition to setting aside times for prayer and money for donations, surely renders the spiritual life more comprehensive. In the discipline of karma yoga, even secular work is performed as an offering to Deity and, therefore, displaces material motives for engaging in work. The work still gets done but with a different motivation.

The model in this paper demonstrates that *believing alone* can generate productivity increases in the economy—belonging is not necessary. In fact, Hinduism has been modeled here as an individualistic religion; belonging has been left out because it doesn’t ring true.³⁴ The predictions on the positive effects of believing are consistent with the empirical findings of Barro and McCleary (2003) and McCleary and Barro (2006). However, it is interesting that in my paper it is not necessarily by influencing the character traits of believers that the beneficial economic effects arise. Here, it arises by a relaxation of the time constraint; the productivity improvement due to induced altruism (which may be deemed a character trait) is an added benefit.³⁵ This paper may be seen as offering a theory of how believing positively impinges on income.

It is worth pointing out that karma yoga is inadvertently a form of commitment. Since the work is being done as worship, moral hazard would be reduced even in the absence of team work—for believers would not wish to taint their offering to Deity by shirking or cutting corners. I have not explicitly included this aspect in the model, but it is not hard to see. Contracts are more likely to be written between people practicing even a rudimentary form of karma yoga. This is for a reason different from the standard ones that cheating is mitigated by

³⁴ But religion as a club good can be readily incorporated into the model in order to accommodate the Abrahamic religions—to which the club good aspect would be relevant.

³⁵ To the extent that, across the world, work is done even to a small extent in the form of “work as worship,” secularization in the sense of declining religiosity would result in lower GDP, *all else constant*. The *ceteris paribus* qualification here is important. Herzer and Strulik (2016) found that total factor productivity in the world increased between 1950 – 1990 in response to secularization and, they theorized, that this was because of an increase in R&D. Likewise, Cantoni et al (2018), have shown that a massive reallocation of resources following the Reformation’s political ramifications increased Germany’s per capita GDP.

concern for one's reputation [e.g. Smith (1759/2010)] or by belief in an all-seeing God who punishes cheating [e.g. Norenzayan (2013)]. The former argument relies on the potential future loss of status by being seen in the community as untrustworthy. In the latter, the motive for not cheating is the fear of punishment by God. Both these motives are fundamentally egoistic—they are both based as concern for future damage to one's sense of self. By contrast, in work truly done as worship—whether performed in Hinduism or Christianity or Islam or any other religion—cheating is tempered due to an altogether different motive. For ultimately, the practice in its prescribed form is rooted in the love of God, and there is probably no emotion compared to love that so effectively obliterates the distinction between self and 'other', especially between lover and beloved. Moral hazard, then, becomes a non-issue.³⁶

But in the imperfect forms we are likely to see, one difficulty is that, in interactions with the world, those who practice work as worship are likely to be exploited by people who are entirely egoistic. This is because there is little cost to a free rider if others unconditionally continue their contributions because they are dedicating their work to Deity regardless of the outcome. Thus, if organizations are to be viable, it becomes essential that there be suitable matching: practitioners in the workplace have to team up with those with a similar spiritual orientation.

Precisely how the practice of work-as-worship affects productivity in secular work has not been previously modeled in economics, to my knowledge.³⁷ This paper explicitly does this for the Hindu rendition in the practice of karma yoga, and examines some of its unintended effects in economics—effects that turn out to be beneficial. Since similar motivations with regard to work also exist in other religions like Christianity and Islam, my hope is that the framework provided here may prove useful in future research on the economic consequences of religion.

The differential impact of religion by gender when work is done as worship is an issue worth exploring in future research. When labor is supplied to the market, it gets paid the market wage whether the motivation is secular or spiritual. Therefore, the enhanced labor supply

³⁶ This kind of love is seen in its most pristine form in the 8th Century Sufi mystic, Rabia of Basra, who prayed: "O God! if I worship Thee in fear of Hell, burn me in Hell; and if I worship Thee in hope of Paradise, exclude me from Paradise; but if I worship Thee for Thine own sake, withhold not Thine everlasting beauty!" Quoted in Nicholson (1914, p. 116)

³⁷ The ideas presented here are anticipated to some extent in Eswaran (2025), and the model borrows somewhat from Eswaran (2023a) and is adapted to the context.

enabled by the attitude that work is worship is remunerated at the market wage. To the extent that women still do the bulk of the housework across the world, the increased productivity engendered by work done as worship is not similarly remunerated. This implies that the undervalued non-market contribution of women may be even higher than otherwise estimated. The extent of this would vary across cultures and religions because they might put different degrees of restrictions on women working outside the home.³⁸

³⁸ See e.g. Lehrer (1995) on the role of religion in women's labor supply and Alesina, Giuliano, and Nunn (2013) on the effect of culture.

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APPENDIX

The Labor Supply Function When Work is Done as Worship

In this appendix, I examine the labor supply function of a person practicing karma yoga with preferences used in the main text. Suppose the individual has non-labor income R and faces a labor market that pays a wage w that is secular. By analogy with (5) in the main text, the optimization problem of the person is

$$(A.1) \quad \max_{e,x} \quad (R + w(e + \sigma x))^\alpha x^\beta (1 - e - x)^\gamma,$$

which may be recast as

$$(A.2) \quad \max_{e,x} \quad \alpha \ln(R + w(e + \sigma x)) + \beta \ln x + \gamma \ln(1 - e - x).$$

The interior solution $(\hat{e}, \hat{x}, \hat{\ell})$ can be easily seen to be given by

$$(A.3) \quad \hat{e} = \frac{w\alpha(1-\sigma) - w\beta\sigma - R(\beta + \gamma(1-\sigma))}{w(1-\sigma)}; \quad \hat{x} = \frac{\beta(R+w)}{w(1-\sigma)}; \quad \hat{\ell} = \frac{\gamma(R+w)}{w}.$$

The labor supplied to the market, $\hat{t} = \hat{e} + \sigma\hat{x}$, is given by

$$(A.4) \quad \hat{t} = \frac{w\alpha - R(\beta + \gamma)}{w},$$

which is independent of σ . Secular effort e is dissuaded by two concerns here. First, since the spiritual good is essential in this model, \hat{x} is necessarily positive in the solution. The component $\sigma\hat{x}$ will necessarily be applied to the labor market, dissuading secular effort. Second, the rental income reduces e because consumption of the material good can come partly (or wholly) without the application of secular effort or even from the spiritual effort.

The solution for the regime with a corner solution entails the solving of a quadratic function that obtains from the first order for x after setting $e = 0$. The solution is given by

$$(A.5) \quad \hat{x} = (-N + \sqrt{N^2 - 4LM}) / (2L),$$

where $N = R(\beta + \gamma) - w(\alpha + \beta)\sigma$, $L = w\sigma$, $M = -\beta R$.

Clearly, $\hat{t} = \hat{x}$ because $\hat{e}=0$ in the corner solution. One can verify that for $w \gg R$, $\hat{x} \cong \alpha + \beta$.

The individual's supply of labor to the market is given by \hat{t} . Instead of working with cumbersome expressions, I make the important points below with two figures.

Figure 1A displays the effect of the scope of work as worship, σ , on an individual's labor supply. The wage rate here is fixed at two values: $w = 0.25$ (red) and $w = 0.5$ (blue), respectively. Each of the two schedules has an initial flat segment, for reasons elaborated on before (secular effort and spiritual effort applied to secular work are substitutes). When the solution becomes a corner one, entailing no secular effort, the labor supply increases linearly in both cases. This is simply because \hat{x} is independent of σ in this regime and the time devoted to the labor market is $\sigma\hat{x}$. Note that the schedule for the higher wage is shifted up relative to that for the lower wage. In either case, the labor supply is nondecreasing in σ .

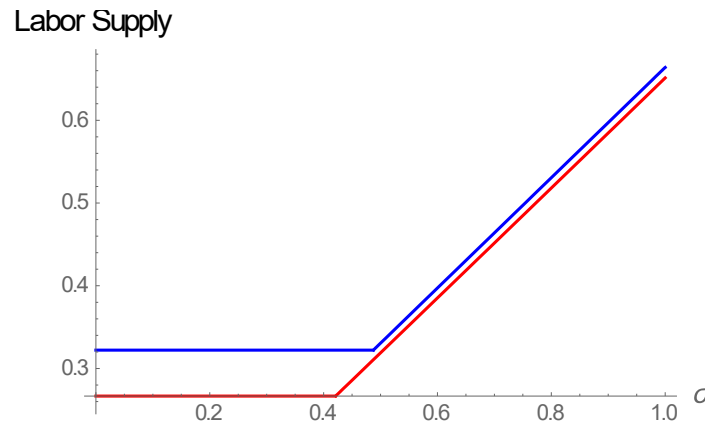


Figure 1A: Shows the labor supply of individual as a function of σ for two different wage rates, $w = 0.1$ (red) and $w = 0.6$ (blue). Parameter values: $\alpha = 1/3$; $\beta = 1/3$; $\gamma = 1/3$; $R = 0.01$.

Figure 2A displays the labor supply as a function of the wage rate. This function is shown for two different levels of karma yoga, $\sigma = 0.2$ (red) and $\sigma = 0.3$ (blue). Notice that, for a given wage rate, the labor supply schedule is higher when the scope of karma yoga is larger. Work done as worship increases an individual's supply of labor.

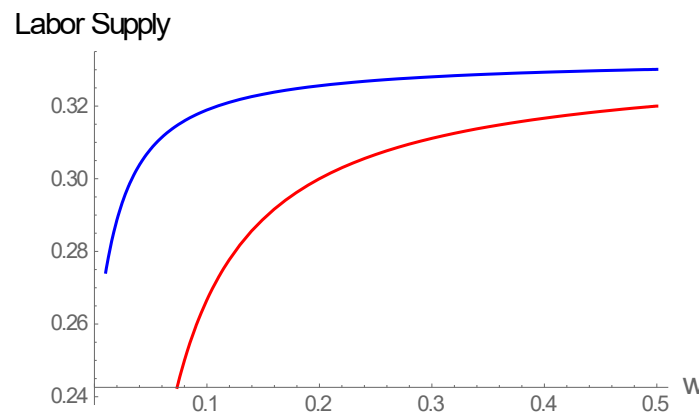


Figure 2A: Shows the labor supply of individual as a function of the wage rate for two different levels of karma yoga, $\sigma = 0.01$ (red) and $\sigma = 0.5$ (blue). Parameter values: $\alpha = 1/3$; $\beta = 1/3$; $\gamma = 1/3$; $R = 0.01$.