

Theravada macroeconomics

Peter Calkins¹ and Anh-Thu Ngo²

ABSTRACT: *Several macroeconomic problems affecting Asian economies today are left only partially solved by State-centered planning, post-Keynesian fiscal policies, or market-based liberal monetary policies. A Third Way based on a combination of the "new traditionalist" economic traditions (Buddhist, Confucian, Gandhian, Catholic, Judaic) could therefore improve practical macroeconomic planning and make religion more relevant to creating the conditions for individual spiritual growth. This paper focuses on Theravada Buddhism, indigenous to SE Asia, which is explored in detail from three complementary perspectives: textual exegesis of the Buddhist suttas, the historical records of the macroeconomic policies of Buddhist Kings throughout Asia; and the formal logic of a mathematical model inspired by, but enriching, standard macroeconomics. The paper ends with policy recommendations for Buddhist and non-Buddhist planners that flow directly from the triangulation of these three approaches.*

INTRODUCTION

Real-world macroeconomic problems

Many macroeconomic problems affecting Asian economies today are left partially unsolved by either State-centered planning, post-Keynesian fiscal policies, or market-based liberal monetary policies. These problems include poverty, inequality in income distribution, vulnerability to macroeconomic volatility, the loss of traditional values and cultures in the face of economic globalization, military tensions within and among countries, secularization of lifestyles, attachment to material possessions, rampant destruction of the world's natural resources and climate, skyrocketing drug use, an increase in the crime rate, prostitution and traffic in human beings, caste and ethnic discrimination, political corruption, and the still unequal economic and spiritual position of women. Such problems have engendered a thirst for a spiritualised world order that injects ethics and spiritual growth into the intellectual and technical disciplines of post-Keynesian and monetarist macroeconomics. A "third way" appealing to generosity, spirituality and other manifestations of man's higher nature could both improve practical macroeconomics and, reciprocally, create the socioeconomic conditions that nurture individual spiritual growth.

Several candidates for the Third Way have appeared as "new traditionalist" returns to the spiritualized economies of the past. Rosser and Rosser [21] include in this set the "familistic groupism" of the Japanese economy; the top-down imposition of ideas as in Islam; the self-sufficient spinning wheels of Gandhian India; the *kibbutzim* communities of Israel; the environmental stewardship and emphasis on helping the poor of Catholicism; and the overriding respect for authority in Confucian Taiwan, post-Deng mainland China, and modern Japan.

Objectives of this paper

This paper focuses on Theravada Buddhism, an indigenous Asian religion that may constitute the most appropriate source of a third way for Asia in this century.³ This paper will explore Theravada macroeconomics in detail from three complementary perspectives: textual

exegesis of the Buddhist *suttas*, the record of macroeconomic policies of historical Buddhist Kings throughout Asia; and the formal logic of a mathematical model inspired by, but also enriching, standard macroeconomics. Our specific objectives are thus to

1. Explore the sources of macroeconomic ideas from the Buddhist writings (an exercise in *deduction*).
2. Recount the historical record of macroeconomic policies implemented by Buddhist Kings (through *induction*).
3. Mathematically formalize and extend earlier models⁴ of happiness maximisation in a Theravada state (through *retroduction*⁵).
4. Construct a synthesis of the results of steps 1 through 3 above as a partial guide to macroeconomic policy in a modern Buddhist state (through *meta-analysis*).

To limit the scope of the paper, we focus on Theravada Buddhism rather than Lamaism or Mahayana because of the former's a) heightened fidelity to the Buddha's original teachings, b) adoption as State religion in a greater number of historical cases, and c) more explicit relationship between individual spiritual growth and the maximization of gross domestic happiness per capita.⁶ Likewise, we focus on the macroeconomic⁷ role of government, because this level has been the least frequently studied as a means to harmonizing the relationships between man and nature and creating an atmosphere where spiritual growth is nurtured.

Buddhist economics as the most appropriate “new tradition” to solve these problems

Why Buddhism rather than the other forms of new traditionalist ethics? First of all, Buddhist macroeconomics already exists in three places: the *suttas*, the historical policies of Buddhist kings, and alternative meso-⁸ and macroeconomic models of development and growth today.

Secondly, Buddhism has the potential to improve the macro-economy of even non-Buddhist countries; and in return, macroeconomics can help Buddhism:

“A Buddhist economics can be seen as answering some of the questions which are being asked both from the East and West. By reintroducing ethical elements into western economics, it provides a broader theoretical discussion of all the economics: supply and demand, monetary, micro and macro economics, credit, rates of interest, modelling and global forecasting. Its theory still can be set out in the terminology standard to economics and business administration. Historically synthesizing socialist (or Marxism) and Buddhism, a Buddhist economics has made a ‘western toolbox’ more available to those responsible for actually creating the socio-economic/political milieu in the “new” twentieth-century countries. Whether allowing socialists to use Buddhism or Buddhists to use socialism, as in Burma, it gave governments a way to build their countries with skilful means. The main use, then, of Buddhist economics at this time is education.”⁹

Third, Buddhist macroeconomics can complete gaps in existing theory. For example, the Buddhist emphasis on freedom from desires, attachment, temptation and illusion would seem a necessary complement to Amartya Sen's freedom to acquire a minimum standard of living. Similarly, Western economics sees an ineluctable conflict among ecological, social and economic dimensions of sustainability, while Buddhist economics leads to an internally consistent model [14]. To incorporate Buddhist economics, the standard theory must also be stretched in a different direction, that of time. While the famous macro-economist J.M. Keynes remarked, “in the long run we are all dead,” the Buddha explained that in the eternal

run we are doomed to unhappy rebirth unless we perform good *kamma*, including in the economic sphere. Happiness in the next life depends upon generosity in terms of charity, giving, and sharing [6, pp. 111].¹⁰

Some might object that Theravada's Smart-car emphasis on the need for each individual to save him/herself is a strange source of macro policy prescriptions. Why not Mahayana's 747 emphasis on the salvation of the many through the attainment of Bodhisattva-hood by the few? The answer lies in both political science and theology. State socialism has shown that only individual freedom applied from the bottom up can create the critical mass of individuals necessary to permeate and transform social values. Theologically as well, Weberian misconceptions of Buddhism have led Western scholars to dismiss the daily devotions of the millions of lay Buddhists as no more than a corrupt form of Buddhism among illiterate peasants [24]. Nothing could be farther from the truth, given the organic symbiosis between the lay and monastic segments of Buddhist society.

“Even though Buddhist Economics is concerned with individual practice at [the] micro level, government policy at [the] macro level is still important, especially for transforming our country folk view to the right view, such as screening wrong or inappropriate information, ... community-based awards to successful communities, launching a campaign about moral conscience and public participation, and re-measurement of development ... such as... Gross National Happiness.” [18]¹¹

Jones [13] agrees: the Buddha's *suttas* and the discourses of early Buddhists were “very much concerned with the creation of social conditions favourable to the individual cultivation of Buddhist values.” Daniels [7] proves with positive statistical trends in Buddhist-influenced nations that “contrary to conventional views, Buddhism has many positive features consistent with processes and change leading to growth in economic welfare, especially under the modern ecologically sustainable development framework.”

REVIEW OF THE LITERATURE

Despite this enormous potential, Theravada Buddhism has not been carefully explored as a source of macroeconomic policy from the scriptural, historical or mathematical points of view. Four streams of thought exist in the literature as separate circles; but they each only gone so far, so that there is no Venn overlap to date.

Utilitarianism

Jeremy Bentham in 1789 [5] expressed the objective of Utilitarian macroeconomic policy as the maximisation of the “greatest happiness for the greatest number.” This statement has been derided as infeasible by modern economists, since one can theoretically only maximize one thing at a time: either a) the greatest number of people who can be made at least weakly happier through a Pareto improvement or b) the greatest happiness of a few individuals, in the extreme equal to one, implying a drastic Pareto decline. Ash [3] therefore questions whether the Benthamite goal is appropriate for a Buddhist state. This paper will demonstrate that it is both desirable and feasible, but that one must be careful to specify the maximum as Gross Domestic Happiness per Capita (GDHC).¹²

New traditionalism

Polanyi as cited in Rosser and Rosser [21] classifies economies into “command, market, and traditional,” of which the last can be further subdivided into household, reciprocal and redistributive. All these economies represent possible forms of a new traditionalist economy. However, Rosser and Rosser [21] feel that the new traditionalism is currently only an “ideal perspective”:

“Although the new traditional economy may not exist as a fully developed system in the full Polanyian sense, it exists as a perspective in the form of an ideal model which has become an ideological movement of significance around the world.... Successful synthesis of the modern and traditional lies at the heart of ... its appeal for many economies seeking a path in a transforming world economy.” (p. 10)

They therefore stop short of integrating Theravada Buddhism with other forms of new traditionalism or of pushing it to the creation of an active policy set.

Religious econometrics

Barro and McCleary [4] combine a large variety of data sources¹³ to econometrically estimate the impact of religious beliefs and practices upon economic growth, and vice versa. The dependent variables included four measures of economic development: real GDP per capita (in logarithm form), average years of schooling, urbanization and life expectancy.¹⁴ The independent variables included national averages of survey answers on the frequency of worship, belief in hell, belief in the after-life, economic and demographic variables, government policies and institutions related to religion (communist regime, primary religion of the country, state religion, regulation of religion), and indices of religious pluralism. The economic growth rate was negatively correlated with the frequency of worship in churches and temples, but significantly influenced by belief in the positive (afterlife) and negative (hell) consequences of actions in this life. The authors interpret the negative signs on out-of-home worship as reflecting the larger use of resources by the religion sector, while the output from this sector had “already been held constant.” State religion increases religiosity presumably because of the subsidies that flow to established religions; but government regulation, especially State communism, significantly reduces it.

It is questionable whether this characterization of the macroeconomic policy of religion would apply to Myanmar and other Theravadin economies. Regrettably and inexplicably in Barro’s model, Buddhism -- unlike Catholicism, Protestantism, Orthodox, Hinduism, Judaism, and Islam -- was not considered as a separate dummy variable, but lumped in with Taoism, Shinto, and Confucianism in the omnibus category “eastern religions.” Furthermore, the only Theravada economy included in the sample was Thailand; but even then it was grouped with China, Japan, South Korea, Singapore, and Taiwan, making it impossible to isolate the impact of Theravada macroeconomics on the pursuit of happiness. Durlauf *et al.* [8] also question the robustness of the albeit statistically significant results of the research.

Mathematical economics

A fourth and final line of research is a mathematical model of Theravada state policy that seeks to maximize the “monk share” of the population, i.e. the percentage of people directly pursuing *nibbana* in a monastery at a given time [19]. Only if the State can create a

functioning environment where the greatest number of individuals can seek *nibbana* in monasteries may we speak of a truly Theravada macro-economy. The remaining lay sector seeks to improve their chances for a better future live by doing good works (*kamma*). These two segments of society are connected through the giving of alms by lay society to the monastery. But it is important to note that the percentage of the alms that is consumed by the monks should, for their own enlightenment, be minimized. The remainder is then passed on through the monastery to the poor, the ill and the aged of society.

Pryor [20] goes on to explain that the ideal State policy to ensure distributive justice would be to encourage “radiation”: in order to give more in charity, people must work longer and harder to harness the energy of their souls to their every act.¹⁵ In traditional Buddhism this is called “right effort.” Percolating up to the macroeconomic level, the summation of the fruits of this energy should dramatically increase material prosperity and economic growth. Equity and efficiency become complements. Pryor [20] argues that Schumpeterian entrepreneurship and hence technical changes through innovations should be fostered by Buddhist macroeconomic policy if the goal is to provide gifts to the monks and the poor with greater productive efficiency, and to feed the population at a lower cost so that they too can give alms.

Daniels [7] helps to refine Pryor’s distinction between lay society and the monastic sector by subdividing the former into two broad groups, as the Buddha Himself had done. The 80-90% at the bottom (farmers, labourers, shop keepers, traders, clerks and low ranking civil servants) were truly poor in the material sense of not having enough food, clothing, monetary wages and/or freedom from debt because they lacked adequate knowledge. Meanwhile, even the 10-20% at the top (politicians, senior civil servants, academics, major business and bankers) felt poor psychologically even if they have a thousand billion rupees because of their insatiable *tanha*.

Not all scholars agree with Pryor’s views, however. Zadek [26] notes the limits of relying solely upon inductions from the *suttas* with little reference to case studies from the modern world. He also believes there will be an inevitable temporal trade-off between “some enlightenment now” and “more enlightenment in the future,” casting doubt on the realization of the Benthamite ideal. (We do not agree with Zadek because the lay people pursuing *kamma* may reasonably assume to have achieved lower levels of reincarnation than those monks directly pursuing *nibbana*,¹⁶ but all are progressing normally.)

SOURCES OF MACROECONOMIC IDEAS FROM THE BUDDHIST CANON

The wheel-turning monarch

Before the Buddha’s time, government made concessions to those at the top, and everyone continued to feel poor. The Buddha instead taught each King to become a wheel-turning monarch (*raja cakkavatti*) ... a “benevolent ruler who governs his kingdom in accordance with the highest ethical norms (*dhammiko dhammaraja*) and thereby peacefully unites the world under a reign of universal justice and prosperity ... for the welfare and happiness of his subjects and extends protection to all within his realm, even to the birds and beasts.”¹⁷ The Buddha laid out the duties and policies of a wheel-turning monarch in some detail:

“Yourself depending on the Dhamma, honouring it, revering it, cherishing it, doing homage to I, ... venerating it, having the Dhamma as your badge and banner,

acknowledging the Dhamma as your master, you should establish righteous guard, ward and protection of your own household, your troops, your khattiyas and vassals, for brahmins and households, town and country folk, ascetics and Brahmins, for beasts and birds. Let no crime prevail in our kingdom, and to those who are in need, give wealth. And whatever ascetics and Brahmins in your kingdom have renounced the life of sensual infatuation and are devoted to forbearance and gentleness, each one taming himself, each one calming himself, and each one striving for the end of craving, from time to time you should approach them and ask, 'What, venerable sirs, is wholesome and what is unwholesome, what is blameworthy and what is blameless, what is to be followed and what is not to be followed? What action will in the long run lead to harm and sorrow, and what to welfare and happiness?' (Digha Nikaya 26: Cakkavatti-Sihanbada Sutta; I III 59-63.)¹⁸

Good governance

Furthermore (Anguttara Nikaya 3:14; I 109-10, p.115),¹⁹ the wheel-turning monarch must take the *Dhamma* as his necessary co-regent. The *Dhamma* is the objective, impersonal, ever-existent principle of order that serves as the source and standard for ... policies and promulgations. He must pursue openness, democratic decision-making, consistency, popular consultation and morality in government. Of the seven keys to social stability, four reflect good governance: hold frequent and regular assemblies; meet, breakup and carry out business in harmony; maintain policies; and avoid greed and corruption (Digha Nikaya 16: Mahaparinibbana Sutta; II 72-77).²⁰

Law and order

The Buddha also addressed how the State can help to create criminal justice. To prevent crime, the King must help the poor, not impose harsher punishments.²¹ Meeting the minimum basic needs for all is thus the basis of peace and tranquility.²²

"With this plan you can completely eliminate that plague [of thieves and brigands]. To those in the kingdom who are engaged in cultivating crops and raising cattle, let Your Majesty distribute grain and fodder; to those in trade, give capital; to those in government service assign proper living wages. Then those people, being intent on their own occupations, will not harm the kingdom. Your Majesty's revenues will be great; the land will be tranquil and not beset by thieves, and the people, with joy in their hearts, playing with their children, will dwell in open houses." (Digha Nikaya: Kutadanta Sutta: I 134-36.)²³

Social and economic justice

The Buddha also taught that there should be spiritual equality across caste.

"No Brahman is such by birth. No outcaste is such by birth. An outcaste is such by his deeds. A Brahman is such by his deeds." (Sutta Nipata, verse 136).

Swearer [24] notes that after some debate, the Buddha reluctantly allowed women to undertake the monastic life. As a result,

"Buddhism arose in India as a spiritual force against social injustices, against degrading superstitious rites, ceremonies and sacrifices; it denounced the tyranny of

the caste system and advocated the equality of all men; it emancipated woman and give her complete spiritual freedom.”

Jobs and wages

In terms of job and wage policies, “the Buddha acutely realized that when people are mired in poverty and oppressed by hunger and want, they will find it hard to hold to a path of moral rectitude.” In His words, teaching a man distracted by hunger will give no results. The monarch should therefore provide the poor employment and fair wages for their services.²⁴ “Economic justice is integral to social harmony and political stability.”[6, pp. 111]²⁵ Although teaching 2500 years ago, the Buddha’s teachings on income distribution uncannily foreshadow Galbraith.

“An affluent society, that is both compassionate and rational, would, no doubt, secure to all who needed it the minimum income essential for decency and comfort. The misfortunes of parents, deserved or otherwise, [would not be] visited on their children. It would help insure that poverty was not self-perpetuated.” – J.K. Galbraith 1958, cited in O’Hara [15, p. 37].

To enhance the positive impacts of employment, the Buddha further banned certain professions outright. Wealth must be “acquired by energetic striving ... righteous wealth righteously gained.” – Text IV, 3.²⁶ But “these five trades, O monks, should not be taken up by a lay follower: trading in weapons, trading in living beings, trading in meat, trading in intoxicants.”

Other policies

The Buddhist *suttas* contain other surprisingly modern and pertinent economic policies. These include giving seed corn and food to farmers, capital to businessmen to promote entry and economies of scale, and promoting spiritual entrepreneurship [19, p. 9] In addition to preventing crime, these policies form a package designed to feed the population at minimal cost so that everyone can give alms. The Buddha asked his lay followers to use the wealth they obtained not only to gratify themselves but also to benefit their dependents and others who live on charity, particularly virtuous ascetics and Brahmins.²⁷ Indeed, the proper use of wealth is to make oneself, one’s family, workers, and friends happy and pleased; to protect oneself against losses; to make offerings; and to give alms to ascetics and Brahmins. Any other use of wealth is waste (Anguttara Nikaya 4:61; II 65-68).²⁸

With this governmental structure in place, the goal of macro policies as expressed in the *suttas* is to create an environment where laypeople can accomplish persistent effort, protection of wealth, good friendship and balanced living. This latter implies that “a family man knows his income and expenditures and leads a balanced life, neither extravagant nor miserly.” The surplus should not be spent on womanizing, drinking, gambling, and evil friendship. Rather he needs to be generous, “delighting in relinquishment, devoted to charity, delighting in giving and sharing.” (Anguttara Nikaya 8:54; IV 281-285, p. 126) In this context, happiness notably includes freedom from debt (Anguttara Nikaya 4:62; II 69-70.).

HISTORICAL RECORD OF MACROECONOMIC POLICIES IMPLEMENTED BY BUDDHIST KINGS

The first “Buddhist” king is reported to have been the Buddha himself in his penultimate incarnation before that of Siddharta Gautama. This gives relevance and credence to the teachings of the Buddha on Statecraft. During Buddha’s own time two distinct forms of government co-existed in Northern India: tribal republics and monarchical kingdoms [6, p.112]. Since the eventual triumph of monarchy seemed inevitable, Buddha outlined a model of kingship that could curb arbitrary power and subordinate the king to a higher authority, the wheel-turning monarch [6, p. 114]. But he also used the structure and operation of democratic tribes as the model for the Samgha; so it now seems perfectly fair in turn to use the Samgha as a basis for equitable community development models today, like Sri Lanka’s *sarvodaya shramdana* movement.

India’s King Asoka

The first great Buddhist King, Asoka, added to these macroeconomic policies by reducing the severity of torture (i.e., respect of human rights) and eliminating capital punishment. He adopted and activated fiscal policy in both current and capital expenditures. For example, he provided for the aged, the indigent and the Samgha, cut back on wasteful national holidays, created employment through infrastructural public work projects and invested in free public education about *dhamma*. To finance these measures, he set taxes at about 25% of agricultural output [19], which is not far from the tax rates in modern economies these days.

Asoka also pursued the information economy in an age before television, internet, and even most books. He had 33 edicts carved on stone (the “Pillars of Ashoka”), as well as on boulders and on cave walls. They focused on social and moral precepts rather than religious practices as such. To maximize outreach, they were written in at least four languages: Magadhi, Kharoshthi, Greek and Aramaic and erected well beyond the frontiers of Ashoka’s kingdom. The themes include Asoka’s conversion, the moral precepts of right behaviour, benevolence, kindness to prisoners, and respect for animal life; the religious precepts of Buddhism, belief in the next world, religious exchange; social and animal welfare in terms of medicinal treatments, roadside facilities, and officers of the faith. They promoted piety, forbade huntsman and fishermen from taking animals, and intemperance in drink. Asoka granted a three-day stay to those condemned to death to go and see their loved ones; and even granted total amnesty to someone once per year.

Asoka also foreshadowed the type of ecumenism among religions that will be necessary today if the new traditionalist paradigms are to be joined. *“One should listen to and respect the doctrines professed by others. [Asoka] desires that all should be well-learned in the good doctrines of other religions.”*²⁹ He also spread³⁰ Theravada Dhamma to other peoples:

“In the past there were no Dhamma Mahamatras but such officers were appointed by me thirteen years after my coronation. Now they work among all religions for the establishment of Dhamma, for the promotion of Dhamma, and for the welfare and happiness of all who are devoted to Dhamma. They work among the Greeks, the Kambojas, the Gandharas, the Rastrikas, the Pitinikas and other peoples on the western borders. They work among soldiers, chiefs, Brahmans, householders, the poor, the aged and those devoted to Dhamma – for their welfare and happiness – so that they may be free from harassment.” Rock Edict N. 5

The Thai Kings Ruang and Mongkut

Another great Buddhist King is King Ruang of 14th century Thailand. His macroeconomic policies included tax exemption on commercial profits and interest-free loans to promote entry into commerce. He maintained a more abstemious court than Asoka, which allowed him to lower taxes; these taxes were further reduced in a drought, giving people the continued ability to give alms and to benefit from building *kamma* [19]. By the 19th century, Thailand's King Mongkut made the monastic Samgha a part of the Thai Civil Service after living himself for 27 years in a monastery.

Myanmar's U Nu

Alexandrin [1] advances the interesting idea that Buddhist economics has been created "on demand" with the post-World War II independences of Buddhist economies. Power³¹ explains that post-independence Burma saw Buddhism as "an ideal accompaniment to socialism, reinforcing the moral and ethical dimension of a materialist political philosophy." U Nu therefore instituted Buddhist-based policies for education, health, rice pricing, and nationalization of transport. U Nu saw himself in the tradition of the classical Buddhist kings, and like other Buddhist nationalists often evoked Asoka's name [24]. He tried to create a Buddhist socialism under which the basic material needs of all citizens would be met by the state, freeing them to pursue higher spiritual ends.

"U Nu, the eminent Burmese Buddhist statesman, argued that socialism follows naturally from the ethical and social teachings of the Buddha, and another Burmese leader, U Ba Swe, held that Marxism is relative truth, Buddhism absolute truth." [13]

Thailand's King Bhumibol

The 1997 Asian financial crisis led King Bhumibol of Thailand to amplify his philosophy of "sufficiency economics," which was based in part on the *sutta* concepts of knowledge and compassion,

"He who has understanding and great wisdom ... thinks of his own welfare, of that of others, of that of both, and of the welfare of the whole world." – Anguttara Nikaya IV, no. 186.

and on self-immunization:

"By protecting oneself (e.g. morally), one protects others; by protecting others, one protects oneself." – Samyutta Nikaya.

The King's sufficiency economy has led to State policies favouring research in improved meteorological and conservation technology, a 30 baht maximum charge for health care, the promotion of positive globalization through the investment of 1 million baht in each township for specialization in one export commodity, and bottom-up planning from the township to the central government. Currently, social accounting matrix models of the King's philosophy include separate accounts for the monk and lay sectors that are interconnected through alms giving and teaching. Empirical research is now ongoing to see whether the multiplier effect from investing in the building of monasteries might be one of the best ways to promote GDHC.

A MATHEMATICAL MODEL OF HAPPINESS MAXIMISATION IN A THERAVADA STATE

As noted, Pryor [19] has broadly outlined a novel idea: that the goal of macroeconomics should be to optimize the monk-share of the population. Reminiscent of the dependency ratio of non-workers to workers in standard household microeconomics, Pryor recommends the maximisation of the number of monks seeking *nibbana* directly per lay citizen pursuing *kamma*. But how will we know when Gross Domestic Happiness per Capita is achieved? This section will extend Pryor's pioneering idea and re-express it in the mathematical language of Western macro-economics. Our model will directly seek to maximize the cardinal indicator GDHC because:

- One of the connotations of *nibbana*, in addition to perfect detachment is "happiness."
- The society must realise its maximum carrying capacity of those advanced souls directly seeking *nibbana*.
- To do so, lay persons must also become maximally happy through *kamma* growth. This implies right livelihood in the choice of profession, right effort in the motivation to work as hard as possible to support as many monks as possible and right action in giving alms to the monks.

Of course, if we could ask the Buddha himself to define the goal of macro economic policy in society, he might express it as the following minimization problem:

$$\text{Min } \Delta = \text{Dukkha} \quad [1]$$

However, political leaders shy away from seeking election on the principal platform of making something as small as possible.³² We may therefore trivially re-express [1] as:

$$\text{Min } (- \Delta) = - \text{Dukkha} \quad [2]$$

Or more simply,

$$\text{Max } H = \text{Happiness}, \quad [3]$$

where H = Gross Domestic Happiness per Capita.

The right hand side may be decomposed into at least three components of the population as specified in the Buddhist writings:

$$\text{Max } H = \Sigma [\mu H_1 (\text{Monks}) + \omega H_2 (\text{Wealthier lay persons}^{33}) + (1-\mu-\omega) H_3 (\text{Poorer lay persons})] \quad [4]$$

where

μ = the monk share in the population, including μ_1 those who spend their whole lives in the monastery and μ_2 those who spend between a few days and several years in withdrawal from lay life.

ω = the share of wealthy lay persons in the population

$1-\mu-\omega$ = the share of poorer lay persons in the population.

The model follows the Buddhist scriptures in assuming that monks are more spiritually advanced within a given life, and more advanced in the 33 ascending stages of existence, than their lay counterparts. Therefore, the percentage monk share μ should be driven to the highest

point possible consistent with the need for lay society to exist. The percentage of poor lay persons should be driven to zero, consistent with the need for all lay persons to give alms to the monks.

We further assume that lay people will be happiest when they work with the greatest X-efficiency (radiation) to feed and clothe those around them (right livelihood), and then to give the remaining above-subsistence output in alms to maximise *kamma* in this life and the chances for a happy rebirth. Assuming that rich people have approximately five times as much income as poor people, and that poor people are five times as numerous as rich people in the initial state of model, then $1-\mu-\omega \rightarrow 0$. Since rich people are busy maximizing their productive output and do not know or are too distant from poor people to feed them directly, the transaction and opportunity costs of direct charity are high. Instead, they give alms to the monastery or nunnery, which then pass it on to the neediest people with the greatest social efficiency (in order of need). This will happen because the goal of the monks is to maximize the throughput³⁴ of the monastery as opposed to the accumulation of wealth or consumption beyond near subsistence. A portion of the amount received in alms by the monks, who are forbidden from working, stays in the monastery to take care of non-monks: orphans, the sick and elderly. However, with successive iterations of the model and the successive reincarnation of individuals, the health status of people will trend upwards, reducing the rate of sickness and death among parents and the elderly. Therefore, the percentage throughput is expected to increase over time, as is the rate of convergence on the steady state optimum of the “greatest happiness for the greatest number people” [5].

As this happens, the percentage of people who are both spiritually ready and economically able to spend all or part of their lives in the monastery grows. The monk share asymptotically approaches 100% as technology improves, and spiritual entrepreneurs achieve high employment and economies of scale. When the steady state of the economy is achieved, μ will be at its stable optimum, endogenously determined as an indirect result of the optimisation of H.

The full model might be expressed as follows:

$$\mathbf{Max H} = \Sigma [\mu \mathbf{H}_1 \text{ (Monks)} + \omega \mathbf{H}_2 \text{ (Wealthier lay persons)} + (1-\mu-\omega) \mathbf{H}_3 \text{ (Poorer lay persons)}] \quad [4]$$

Subject to

$$\mathbf{H}_1 \text{ (Happiness of monks)} = f[\delta, 1-\omega, \varpi, \delta, \mathbf{o}] \quad [5]$$

$$\mathbf{H}_2 \text{ (Happiness of wealthier lay persons)} = f[\iota, \omega, \varpi, \delta, \rho, \mathbf{o}] \quad [6]$$

$$\mathbf{H}_3 \text{ (Happiness of poorer lay persons)} = f[\varpi, \delta, \rho, \mathbf{o}] \quad [7]$$

$$\mu \text{ (Monk share in the population)} = f[\eta, \omega, \chi - \mathbf{o}, \pi, \tau] \quad [8]$$

$$\pi \text{ (Average output/capita)} = f[\alpha, \varepsilon, \kappa, (1-\mu), \phi, \varpi] \quad [9]$$

$$\sigma \text{ (Disposable output/capita)} = f[\chi + \mathbf{o}] \quad [10]$$

$$\mathbf{o} \text{ (Nonessential consumption)} = \sigma - \chi = f[\rho, \iota] \quad [11]$$

$$\rho \text{ (Radiation)} = f[\delta, \tau, 1 - \kappa, \text{all other macro policies}] \quad [12]$$

$$\iota \text{ (Right effort)} = f[\delta] \quad [13]$$

$$\varepsilon \text{ (Economies of scale)} = f[\kappa, \alpha] \quad [14]$$

$$\omega \text{ (Time spent in income earning work)} = f[\phi, \alpha] \quad [15]$$

$$1 - \omega \text{ (Time spent in good works, meditation)} = f[\delta] \quad [16]$$

$$\delta \text{ (Dhammic education)} = f[1 - \kappa] \quad [17]$$

$$\varpi \text{ (Environmental capital)} = f[1 - \omega, \chi - \mathbf{o}, \delta, \eta] \quad [18]$$

where

β = Birth rate

η = Reincarnation rate (average years between death and rebirth)

π = Product/capita

χ = Caloric subsistence consumption per capita

\circ = Above-subsistence consumption per capita

τ = Tax rate

α = Technical change

ε = Economies of scale

κ = Capital investment in business

$1 - \kappa$ = Capital investment in religion and public services

λ = Investment in health care

ρ = Radiation

ι = Industry (right effort).

ω = Time spent in income earning work

$1 - \omega$ = Time spent in good works, meditation

δ = Dhammic education

ϕ = Non-Dhammic education and training

ϖ = Environmental capital

The question becomes “what policies, if any, could a Theravada Buddhist government potentially put into place to a) accelerate the approach to the steady state and b) further increase the percentage monk-share?” The model reveals several variables that may be operated upon through macro economic policies. The first is the tax rate τ , which should be reduced as much as consistent with financing other government programs so as to increase the remainder of the social surplus which will be freely given to the poor either directly or through the monastery. The second is education of two types: ϕ which builds human capital for maximum X efficiency, and δ the spiritual capital for maximum radiation ρ . The third is investment in technological research ι and start-up capital transfer κ to archive maximum productive efficiency and economies of scale. Agricultural production should favour sustainable environmentally-friendly technologies, and there should be an outright ban on the consumption of tobacco and drugs. Government-administered poverty reduction programs should be totally eliminated, but universal health care λ should be provided to all for free. Birth rate policy β must, however, achieve a middle way between zero population growth (two children per couple) and no births at all. This is because

- the system needs lay people to provide food and robes for the increasing percentage of monks in the society, whose number will increase with successive incarnations
- a necessary condition for such incarnations is new births.

Like the percentage of monk share, the optimum steady state birth rate β^* will remain unknown until endogenously determined within the model. Government policy in this regard should merely encourage people to limit births to a maximum of two while maximising the quality of care they can give to each child.

SYNTHESIS OF RESULTS FOR MACROECONOMIC POLICY IN A MODERN BUDDHIST STATE

A modern Buddhist macro economy has replaced all-powerful Kings by democratic bodies at all levels of society. But the principles of Theravada macroeconomics remain unchanged. We end by deriving policy recommendations for Buddhist and non-Buddhist planners that flow directly from the triangulation of the three foregoing approaches (Table 1). The table bears note as much for what it does not contain³⁵ as for what it contains. The blank spaces show areas where Buddhist macroeconomics has not yet achieved its full potential in identifying policies to solve the recurrent problems of world order.

Military tensions

The first blank space refers to the untapped potential to solve military conflict. Military regimes in Asia today are causing tensions between the two Koreas, the two parts of China, and within Myanmar. One must remember that the Indian King Asoka successfully brought lasting peace to huge areas of Asia by applying the Buddha's "Discourse on the Lion's Roar of a Universal Monarch." Sumanatissa [24, p. 126] argues that

"If among the problems of today, the arms race and wasteful military expenditures constitute the biggest stumbling block to a more liberal sharing of financial and material resources globally, it is interesting to note that this sutta envisions a universal monarch who wins over a kingdom and expands his domain by righteous means without recourse to the force of arms or intrigue."

In this spirit, armies were abolished by Buddhist Kings for 400 years in Japan and in 17th century Tibet.

Secularization and materialism

The Buddha saw the middle way as being a meeting point between the materialism of the lay population and denial of the world by the monks. Inoue, as cited in Weeraratna [25] calls attention to an inscription in the Ryoanji Temple in Kyoto: *"Know what one really needs."* This Buddhist view of consumption is an ideal attitude for the 21st century. In the Sigalovada Sutta, the layman's code of discipline, the Buddha says, "One should work like a bee to earn one's livelihood. Do not wait for others to help, nor depend on others foolishly."

Drug addiction, crime, and prostitution

These problems are rife in South East Asia today, and socioeconomic policy is not effectively dealing with them. According to Spiker [16], "elective affinity" posits a dynamic and reciprocal relationship between religion and socio-economic conditions leading to two-way selectivity and creativity, in other words Theravada can be induced by social conditions to become more socially relevant.

Tableau 1: Policy synthesis for a Theravada macro-economy

| Policy challenge | Suttas | Historical kings | Mathematical logic |
|---|--|--|---|
| Poverty | Give wealth to needy | Aid aged and indigent; 30 baht medical ceiling | Population growth rate |
| Unequal income distribution | Balanced living | Socialist rice pricing | Caloric subsistence + minimum over-consumption per capita; Time spent in income earning work |
| Social & political disharmony | Job creation Ban 5 bad professions | Reduce severity of torture; Learn other religions Compassionate visits; Amnesty to prisoners | Gross domestic happiness per capita; Radiation; Reincarnation rate |
| Lack of information or education | Encourage sharing of wealth | Carved edicts | <i>Dhammic</i> education |
| Macroeconomic volatility | No debt | Responsible current and K fiscal policy; Cut wasteful holidays; Taxes at 25% of output; Tax reductions in drought; Tax exempt commercial profit; Interest-free entry loans; Lower taxes to promote alms; Nationalized transport; Weather/ agricultural technology | Tax rate; Technological investment; Economies of scale; K investment in business |
| Loss of values to outside culture | Dhamma as co-regent | Pillars in 4 languages; OTOP | Monk share in population; Capital investment in religion and public services; Fluid monastic population; Output per hour of labour; X-efficiency; Time spent in good works; meditation |
| Military tensions | Universal peace | Spread of pillars & toleration to neighboring countries; Doctors without borders | |
| Secularization and materialism | Middle way | Support Samgha; Public Dhammic education; Samgha = civil service; Dhammic Extension | |
| Environmental degradation | Protect birds & beasts | Ban hunting and fishing | Environmental capital; Net national product adjusted for environmental & spiritual capital |
| Drug addiction | Ban 5 professions | Pillars vs. intemperance | |
| Crime rate | Give crops; K; adequate salaries | | |
| Prostitution & human trafficking | Ban 5 professions | | |
| Caste and ethnic discrimination | Denounce caste system; Protect all in one's entourage | | |
| Gender discrimination | Admit nuns to monastic life | | Women's share in monastic population |
| Political corruption | <i>Raja cakkavat</i> ; Democracy; Consultation; Transparency; Bottom-up planning | | |

Caste and ethnic discrimination

Inoue as cited in Weeraratna [25] notes that Asoka's Buddhist social policies promoted the respect of the religion of others a full 1800 years before similar ideas re-emerged in John Locke's writing. Buddhist economics could therefore overcome the double standard of non-respect of the rights of non-European people that characterised the "Vasco Da Gama epoch of Asian History" (1498-1945), a double standard in the application of the rule of law.

Convergence of new traditionalist paradigms

Kitson [12] in "Economics for the Future," argues in favour of a combination of models into a new paradigm for the Third Way in social policy. Since about 1960, the Thai Theravadin Sulak Sivaraksa, the Vietnamese Mahayanan Zen master Thich Nhat Hanh, and the Lamaist Dalai lama of Tibet have helped an international, ecumenical Buddhist to emerge. "This very heterodoxy and diversity – so extreme that not all Buddhists bow to the same Buddha -- ... have proved to be the faith's great strength over the centuries." [24]

Not only is there convergence within Buddhism, there is increasing *entente* between new traditionalist Buddhism and the other great world religions. Alexandrin and Zech [2] show that neoclassical economics can be spiritualized through either Buddhism or Catholicism. Most of what the authors ascribe to Catholicism's approach to the poor, human dignity, voluntarism, and universalism is equally true of Buddhism. For instance, Catholic social policies must give specific preference to non-negative impacts on the poor in taxation and spending, and emphasize the common use of public goods. They protect lower level communities from interference from higher level communities, except in the case of assistance. Pope John Paul is clearly against the idea of a welfare state as such. Christianity can simultaneously support something very close to this-worldly good works (~ *kamma*) and an other-worldly concern with the afterlife (~ *nibbana*). Given the similarities between these two paradigms of neo-traditionalism, a strong argument can be made for combining them and other new traditional ethics into an ecumenical movement on the scale of the planet.

Further research

This paper suggests paths of further research in three directions:

1. Further empirical work must be done to expand and fine tune the mathematical model presented in this paper and to test it against empirical data.
2. Analyzing, deepening, and promoting the potential role of Theravada Buddhism as a recipe for Asian macroeconomic policy and a positive ingredient in Western macroeconomic policy would have an enormous impact on collective happiness at the world level.
3. Much more theological work is needed on the integration of Buddhist, Confucian, Gandhian, Catholic, and Judaic forms of new traditionalism.

REFERENCES

- [1] Alexandrin, G. (1993), "Elements of Buddhist Economics", *International Journal of Social Economics*, Vol. 20, No. 2, pp. 3-11.
- [2] Alexandrin, G. and Zech, C.E. (1999), "Ancient futures: papal and Buddhist economics", *International Journal of Social Economics*, Vol. 26, No.10/11, pp. 1344-1353.
- [3] Ash, C. (2007), "Happiness and economics: a Buddhist perspective", *Journal Society and Economy*, Vol. 29, No.2, pp. 201-222.
- [4] Barro, R.J. and McCleary, R. M. (2003), *Religion and economic growth*, Harvard University Press, Boston, MA.
- [5] Bentham, J. 1996 (1789), *An Introduction to the Principles of Morals and legislation*, J.H. Burns and H.L.A. Hart Edition, Oxford, Clarendon.
- [6] Bhikkhu, B. (2005), *In the Buddha's Words: an anthology of the discourses from the Pali canon*, Wisdom Publication, Boston, MA.
- [7] Daniels, P.L. (1998), "Economic change, the environment and Buddhism in Asia", *International Journal of Social Economics*, Vol. 25, No. 678, pp. 968-1004.
- [8] Durlauf, S., Kourtellos, A. and Tan, C.M. (2008), *Is God in the details? A re-examination of the role of religion in economic growth*, available online at <http://ssrn.com/abstract=933989>.
- [9] Thai's Government Public Relations Department (2007), *Sufficiency Economy in Government Policies*, Foreign Office, Bangkok, Thailand.
- [10] Hession, C. H. (1986), E.F. "Schumacher as heir to Keynes' mantle", *Review of Social Economy*, Vol. 44, No.1, pp. 1-12.
- [11] Kitagawa, J. M. (1984), "Paradigm change in Japanese Buddhism", *Japanese Journal of Religious Studies*, Vol. 11, No. 2-3, pp. 115-142.
- [12] Kitson, M. (2005), "Economics for the Future", *Cambridge Journal of Economics*, Vol. 29, pp. 827-835.
- [13] Jones, K. (1981), "Buddhism and Social Action", *Kandy: Buddhism Publication Society*, Wheels no. 285-286.
- [14] Lamberton, G. (2003) "Sustainable Sufficiency – an Internally Consistent Version of Sustainability", *Sustainable Development*, Vol. 13, No. 1, pp.53-78.
- [15] O'Hara, S. (1995), "Valuing socio-diversity", *International Journal of Social Economics*, Vol.22, No. 5, pp. 131- 149.
- [16] Piker, S. (1993), "Theravada Buddhism and Catholicism: A social historical perspective on religious change, with special reference to Centesium Annus", *Journal of Business Ethics*, Vol. 12, No.12, pp. 965-973.
- [17] Phrabhavanaviriyakhun P. D. (2002), "Principles of Buddhist Macroeconomics", in *Buddhist Economics*, available online at www.urbandharma.org/udharma5.
- [18] Prayukvong, W. (2005), "A Buddhist economic approach to the development of community enterprises: a case study from Southern Thailand", *Cambridge Journal of Economics*, Vol. 29, 1171-1185.
- [19] Pryor, F. L. (1990), *A Buddhist Economic System – In Principle: Non-attachment to worldly things is dominant but the way of the law is held profitable*. *American Journal of Economics and Sociology*, Vol. 49, No.3, pp. 339-349.
- [20] Pryor, F. L. (1991), "A Buddhist Economic System – In Practice: The rules of state policymaking of the ideal kings sought a "middle way" between right and left", *American Journal of Economics and Sociology*, Vol. 50, No.1, pp. 17-32.
- [21] Rosser, J.B. and Rosser, M.V. (1999), "The New Traditional Economy: A New Perspective for Comparative Economics?", *International Journal of Social Economics*, Vol. 26, No. 6, pp. 763-778.

- [22] Schmahl, W. (2002), "Old-age security in Bhutan: from lump-sum payments towards a pension scheme", *International Social Security Review*, Vol. 55, pp.107-126.
- [23] Sumanatissa, M. (1989) "Buddhism and Global Economic Justice", in *Buddhism and Non-violent Global Problem-solving*. Available online at www.globalnonviolence.org/docs/buddhism/chapter12.pdf
- [24] Swearer, D. K. (1999), "The worldliness of Buddhism", *Woodrow Wilson International Center for Scholars*, Vol. 21, No. 2, pp. 81-93.
- [25] Weeraratna, S. (1997), Book review of Shinichi Inoue, *Putting Buddhism to work: a new approach to Management and Business*, Kodansha International Ltd., Tokyo.
- [26] Zadek, S. (1993), "The Practice of Buddhist Economics? Another view", *American Journal of Economics and Sociology*, Vol. 52, No. 4, pp. 433-445.

¹ Professor of Economics and Associate Director, Institute for Sufficiency Economy and Promotion, Chiang Mai University, Thailand 50020.

² Doctoral Candidate, Law and Economics, Laval University, Quebec G1K 7P4, Canada.

³ For example, Sumanatissa p. 125 relates poverty in the world today to an excess of *tanha* (craving), such that material and spiritual growth must go hand in hand.

⁴ Notably, that of Pryor 1990 and 1991.

⁵ Retrodution is the process of discovering unexpected information and even new hypotheses during the course of a research project.

⁶ *Theravada* Buddhism requires each person in society to make his or her own spiritual progress; while *Mahayana* allows some to save others who merely need to call the name of the Boddhisattva at the hour of death. Any policies that will work in the more individual based *Theravada* societies of Sri Lanka, Myanmar, Thailand, Lao and Cambodia would therefore seem to operate *a fortiori* in the *mahayana* cultures of Japan, South Korea, Taiwan, Vietnam and India.

⁷ We are conscious that there are at least four other levels of economic analysis and policy prescription: *nano-*, *micro-*, *meso-*, and *pan-*. While *micro-* and *macro-*economics are terms familiar to anyone who has taken a course in Western economics, Buddhist economics cannot be completely understood without reference to the other three. On the *nano-*economic level of the individual soul and its progress, we find the need for economy in fasting, breathing, and meditation, as well as efficient use of time in this life to maximize one's *kamma* for the next. At the *meso-*economic level of the community, represented by both the Samgha and the spiritualised villages of the *sarvodaya shramdana* movement in Sri Lanka and elsewhere; we find the voluntary contribution of labour, capital, and self-interest for the good of the community as one way to avoid the tragedy of the commons. And at the *pan-*economic level of the planet, Buddhism as a world religion is both open to all, and a means to achieving universal peace with the natural world, the unnatural world of humans, and the supernatural world of the gods. Full exploration of these rich themes is beyond the scope of the present paper.

⁸ Several western communities have attempted to live out the prescriptions of E. F. Schumacher's mesoeconomic **Small is Beautiful**, and the *sarvodaya shramdana* ('voluntary gift of labor') model of community harmony in Sri Lanka has been imported by neighbouring Hindu communities as well.

⁹ Alexandrin, p. 10.

¹⁰ Bhikkhu Bodhi, p. 111

¹¹ Prayukvong, p. 1184.

¹² This is distinct from the King of Bhutan's pioneering but looser term Gross National Happiness, because *Theravada* is supremely concerned with each individual on a per capita basis; and because it would only be feasible for Bhutan's government to maximize the happiness of those within its domestic borders, be they Bhutanese or not, rather than the happiness of Bhutanese emigrants living in, say, New York!

¹³ Four waves of the World Values Survey, two International Social Survey Programme reports, and the Gallup Millennium Survey.

¹⁴ It is noteworthy that these are essentially the separate components of the United Nations' Human Development Index used to measure well-being cross countries.

¹⁵ He likens radiation to Leibenstein's concept of X-efficiency.

¹⁶ This said, Zadek did enrich Pryor's theory by showing that the monk sector consumes little on its own and invests much in social welfare. He reports that in the 1970's some communities in Thailand give up to 55% of their total income in alms. In contrast, Pryor's discussion on radiation leaves the use of alms ambiguous.

¹⁷ Bhikkhu Bodhi page 114

¹⁸ *Ibid*, page 140.

¹⁹ *Ibid*., page 10

²⁰ *Ibid*, pages 138-9.

²¹ Ibid, page 107.

²² Ibid., p. 114

²³ Ibid, page 142.

²⁴ Quoting Schumacher: “*The very start of Buddhist economic planning would be planning for full employment ... for everyone who needs an ‘outside’ job. It would not be the maximization of employment, nor the maximization of production.*” [23, p. 130]

²⁵ Bhikkhu Bodhi, p. 111

²⁶ Idem.

²⁷ Idem. – text IV, 4(2)

²⁸ Ibid., pages 126-7.

²⁹ Rock Edit Nb 12.

³⁰ According to Swearer, two of Asoka’s children personally took Buddhism to Sri Lanka, and another to Central Asia. Mahayana Buddhism, which arose out of disagreements over rules of conduct and the nature of self and the Buddha, blurs the distinction between monks and the laity.

³¹ Cited in Alexandrin (1993)

³² This is also consistent with the Anguttara Nikaya (1:xiii, 1,5,6;122-23): “*A Buddha arises in the world for the welfare of the multitude, for the happiness of the multitude... out of compassion for the world, for the good, welfare, and happiness of devas and humans.*”

³³ We follow the Buddha in including both men and women in the Monastic population. Therefore, men and women are treated equally as lay people. Indeed, in the eternal run, there may even be an upside to being born a woman in this life. Because 95% of monastic dwellers are men, the proportion of women living in lay society and performing *kamma* will reach a maximum. This will give a) increased business power and control to women, as is already the case in Thailand, b) the opportunity for women to distribute their earnings to their workers and to the monastery, c) the path for women to improve their chances for spiritual progress, and to be reborn a monkable male in the next life.

³⁴ O’Hara [15] points out that Buddhist moderation minimizes throughput (Boulding) or costs per unit of need rather than maximizing the total value of output. Flows are more important than stock and that throughput is a more efficient way managing sustainable production.

³⁵ The authors recognize that there also may be omissions due to their own limited knowledge, and warmly welcome additions from colleagues.