AN IMPLEMENTATION OF BUDDHIST ECONOMIC ELEMENTS TO SRI LANKAN ECONOMY: WHAT, HOW AND EFFECT

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Abstract - This study attempts to incorporate the income management principles suggested by the Buddhist economics for an economic unit into the modern economic growth models and apply it in the Sri Lankan economy where majorities are Buddhists. Sri Lanka is currently a prominent example to the small open economy in the globe as the economic liberalization policies has been continued by the country over a past four decades since 1977. However, both the micro and macro level economic indicators in the country evident to suggest that failure of economic liberalization policies in the case of Sri Lanka. For example both the internal balance (by means of economic growth, employment, budget deficit and poverty level) and external balance (the Balance of Payments) in the country are far from the desired level. With this background, a necessity arises an adaptation of alternative policy package or introducing the evolutionary amendment or ethics to the ongoing liberalization policies for reawakening the economy. In methodology, data and information were collected from major three sources: Buddhist literature, theoretical literature in modern economics and empirical data gathered by the Central Bank of Sri Lanka to get clear answers to the three research questions: what are the rules of income management policies put forward in the Buddhist economics; how these policies practice in a real economy; and what would be the impact of these policies on the happiness of communities? One of the more significant findings to emerge from this study is that Buddhist economics has effective power to enhance happiness of the community in terms of all macroeconomic variables: consumption, investment, savings and growth of production and building social capital. It was also shown that in the long run, modern liberalization together with elements of the Buddhist economics results the external and internal balance simultaneously and in turn sustainable development. The empirical findings in this study provide a new understanding of how to link the philosophers (ethics) and economists (modern economic theories mostly based on competitive markets). Despite its exploratory nature, this study offers some insight into the idea that how to doing business better in a socioeconomic and political crisis situation in a country. Finally, further experimental investigations on ethics and economics as well as econometrics modeling are needed to forecasting the outcome of economic planning with the elements of Buddhist economics.

I. INTRODUCTION

This study attempts to incorporate the income management principles suggested by the Buddhist economics for an economic unit into the modern economic growth models and apply it in the Sri Lankan economy where majorities are Buddhists. Sri Lanka is currently a prominent example to the small open economy in the globe as the economic liberalization policies has been continued by the country over a past four decades since 1977. However, both the micro and macro level economic indicators in the country evident to suggest that failure of economic liberalization policies in the case of Sri Lanka. In micro level for example, over a one fourth of households of the country are living with support of the government poverty elevation programme (Samurdhi) and most of them are encumbered in the microfinance debt trap. In macro level on the other hand, the government sector is running with a huge external debt trap means that outstanding government debt ratio is higher. Slower economic growth, higher educated-youth unemployment rate, lover level of investment and savings ratios, higher income disparity and regional disparities are the unresolved issues in the economy of Sri Lanka today. Although, government highly emphasizes the "private sector as an engine of growth" to overcome these economic issues under its liberalization economic policy package, the private sector in the economy is hindered by the contraction fiscal policies of the government (higher tax rate). In brief, economy is largely inclined to the consumption oriented dynamic rather than productive. With this background, a necessity arise an adaptation of alternative policy package or introducing revolutionary amendment or economic ethics to the ongoing liberalization policies for reawakening the economy. This study is therefore aimed at filling the gap introducing Buddhist economic elements into the modern economic growth model to link the philosophers (ethics) and economists (modern economic theories mostly based on competitive markets).

II. METHODOLOGY

Major research tool used in the study is the Buddhist investment/saving function that derived from the income management principles explained in the Singala suththa in Deega Nikaya[1].According to the Buddhist economic literature, current income of an economic unit should have to be divided in to four parts and allocated as one parts (one fourth of income) for consumption expenditure, two parts (half of income) for investment/savings and remaining one

[1]As in Pali Language "Ekena Boge Bunjeyya – Dveehi Kamman Payojaye, Chathuthancha Nidapeyya- Apudasu Bavissathee" Sigala suththa, Deega Nikaya, (Sinhala version) PP

forth for precautionary purpose. Accordingly, as like as in Keynesian economics, Buddhist consumption expenditure and savings are also positive functions of current disposable income. For example, if the consumption expenditure denotes by C and income by Y, we get C=f (Y). Average propensity to income in the Buddhist economics is 0.25 (consumption ratio to income = APC = $\frac{C}{Y}$). Other similarity found between modern economics and Buddhist economics is the belief of the saving equal investment (I=S). However, saving function of the Buddhist economics is rather defer from the Keynesian explanation. For an example, in Keynesian saving function is a counterpart of the consumption function however saving ratio (Average Propensity to Savings=APS = $\frac{s}{Y}$) in the Buddhist economics is given as one second (=0.5) and investment ratio also 0.5 with the identity of I=S.

Second analytical tool is the Harrod-Dormar equation for development. It named after two famous economists: Sir Roy Harrod of England and Professor Evesey Domar of the US who independently formulated the model in the early 1950s. The basic model assumes that it is a closed economy and that there is no government, no depreciation of existing capital so that all investment is net investment, and just like as Buddhist Economics in Harrod –Domar equation all investment (I) comes from savings (S). It is further assumes that there is a relationship between the total capital stock, **K**, and total Gross Domestic Product (GDP), **Y**. One important variable in the model is **capital-output ratio,** defines as the necessary amount of dollars to produce $1 of GDP.It follows that any net additions to the capital stock in the form of **new investment** will bring about a corresponding increase in national output, GDP.

Now suppose that this ratio, known as the **capital-output ratio**, is 3 to 1, and we define this as,**k**.Assume that the national saving ratio, **s**, is a fixed proportion of national output as in Buddhist Economics. The model further assume that total new investment is determined by the level of total savings. Therefore: Savings, **S**, is some proportion, **s**, of national income, **Y**, such that, **S = s (Y)**
Investment, **I**, is defined as the change in capital stock, **K**, such that: **I = ΔK**
Total capital stock, **K**, bears a direct relationship to total national output (or income), **Y**, as expressed by the capital-output ratio, **k**, (new investment as a percentage of GDP) then:

K = kY or**K/Y = k** or **ΔK/ΔY = k** or **ΔK = k (ΔY)**
Since total national saving, **S**, must equal total investment, **I**, then: **S = I**
From above we know that: **S = s (Y)---------- [1]** and
That **I = ΔK** and **ΔK = k (ΔY)**, so, **I = k (ΔY) ----- [2]**
Equating equations [1] and [2] we get**s (Y) = k (ΔY)**
Now, divide both sides of the equation above first by **Y** and then by **k**, we obtain the following equation:

s/k= ΔY/Y

Note that **ΔY/Y** is equal to the rate of growth of GDP (the percentage change in GDP)This gives us the Harrod-Domar Equation of economic development that states that: The rate of growth of GDP (**ΔY/Y=g**) is determined jointly by the national saving ratio (usually expressed as a percentage), **s**, and the national capital-output ratio (expressed as an integer), **k**.

The research question attempted to be answered in this study is that "what growth target Sri Lanka could be achieved in 1915if the country adopted the Elements of Buddhist economist (with a saving rate of 0.5 percent) since it second liberalization wave initiated in 1989?"

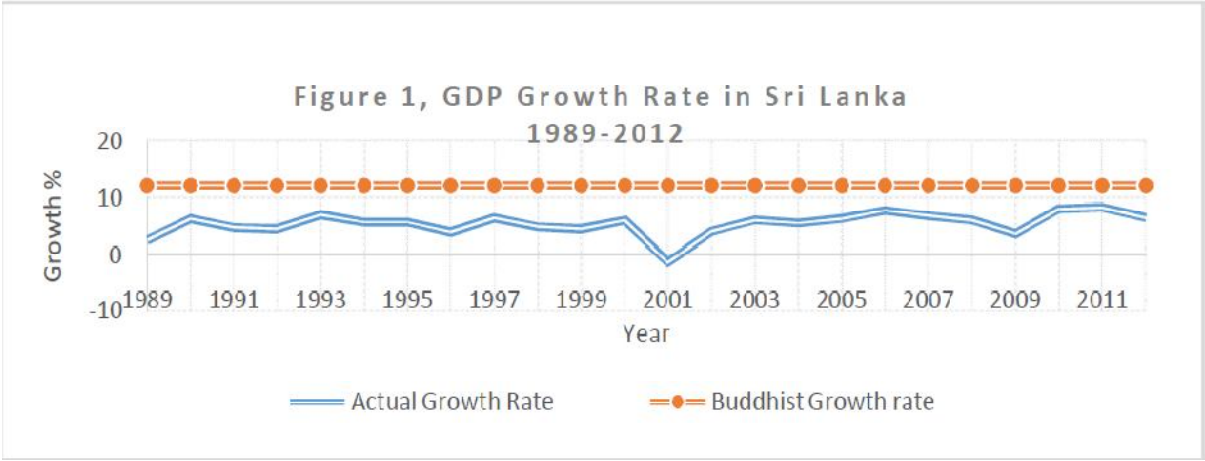
A saving rate of 0.5% which given by the Buddhist economics and data gathered by the Central Bank of Sri Lanka are used to estimate the Harrod –Domar equation (g =s/k) for Sri Lanka. In calculation, Capital Output Ratio defined ask = s/g and average of the annual real GDP growth rate for 1978 -1987 is used for 'g' in the equation. Finally, macro variables: real GDP, GDP growth rate, growth of per Capita income, private consumption level, investment/ savings and finally happiness consumption level are estimated to compare the two situations of actual and with the Buddhist elements. Finally we use the Two-gap development model which is more relevant to explain the current economic behavior in Sri Lanka (Chandradasa, 2015)to get clear answer to the question of "How to incorporate or adopt the Buddhist elements at once in the open economic policy package"?

III. ANALYSIS

Calculating the Growth rate of GDP

The growth rate of GDP can be calculated very simply with help of Harrod-domar equation in which inclusive the investment/saving ratio in the Buddhist economics (50%).In Harrod –Domar growth model, the growth rate of GDP will equal the Average propensity to save by incremental capital output ratio (g = s/k). Where, g is growth rate, s is the saving ratio and k is incremental capital output ratio (ICOR). The current study calculates the ICOR for Sri Lanka as ten years average of investment ratio to GDP from 1978 to 1988 valued as 4. The estimated growth rate is 12% (=g =50%/4). It means that if Sri Lanka has adopted the Buddhist income management policy package as a development approach with its second wave of liberalization policies initiated in 1989, country could be achieved12 percent steady state

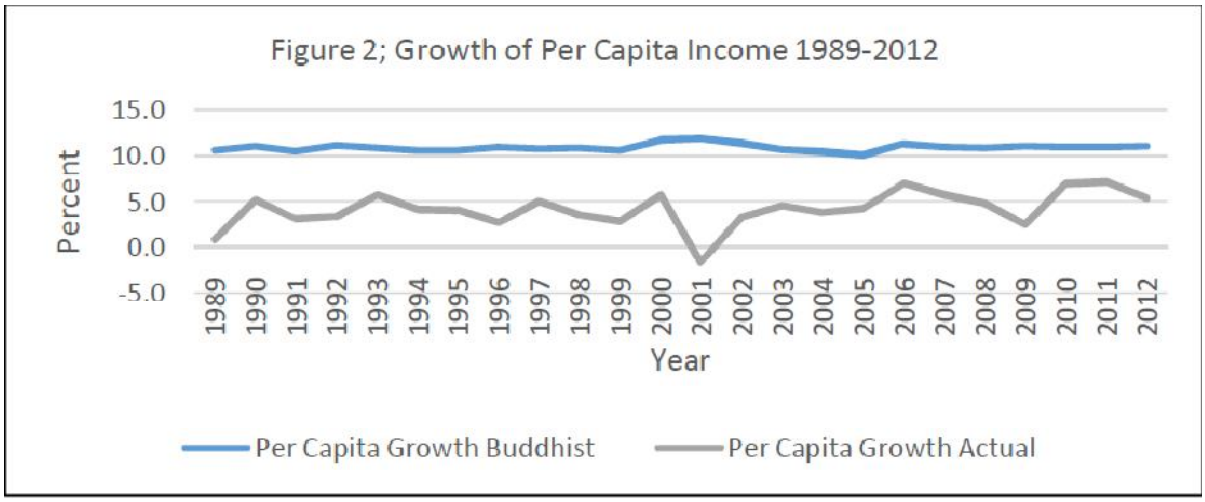
growth rate that is considerably higher rate compare with the annual average of actual growth rate (5.4%) in the period from 1989 to 2015 (figure 1).



Source: Data in Table 01 in Annex 01

Calculating the Growth Rate of GDP Per Capita

In theory, GDP Per Capita is referred to the value of GDP to mid-year population ratio (Y/P). The growth rate of any ratio is equal to the growth rate of numerator minus the growth rate of the denominator. In this case, we must subtract the growth rate of Population (GP) from the growth rate of GDP (GY). The growth rate of GDP, G(Y) is equal to the APS/ICOR. Therefore the growth rate of GDP per capita, G(Y/P) is equal to ASP/ICOR - G(P).

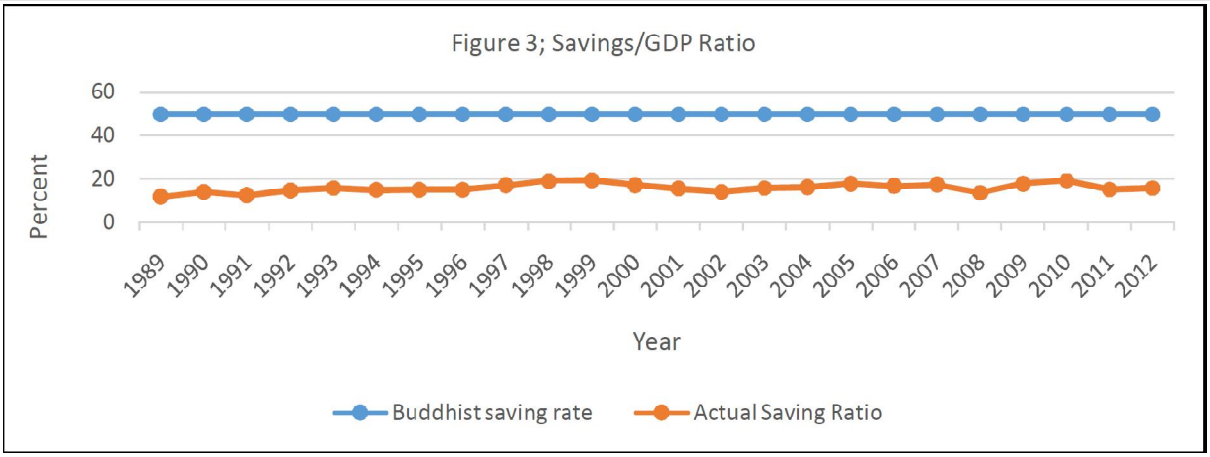


Source: Data in Table 01 in Annex 01

It is clear from the figure 2 that estimated per capita growth rate with Buddhist economics is averaged at 11.2 percent for the period of 1989-2012 and it is considerably higher rate than that of the average in actual Per Capita growth rate for the same period. The figure 2 further shows that actual per capita growth rate of Sri Lanka in the study period is average around 4.4 percent with a remarkable fluctuation between -1.6 percent in 2001 and 7 percent in 2010. The situation evident to suggest that if Sri Lanka has adopted the Buddhist economic principles since 1989 with its liberalization policies, households in the country could relatively be achieved to higher level of Per capita income and in turn satisfactory livelihood.

Investment and Savings

Theoretical aspect of investment and savings in both the models of Harrod-Domar and Buddhist economics is absolutely similar to each other. In both cases for example, level of savings is defined as APS (Y) and saving equal investment. Further savings is positive function of income while the APS is constant. According to the Harrod and Domar, I = ICOR (Δ**Y)** and S = APS (Y). Since the Buddhist economics APS = 50% level of savings can be calculated very simply. In the text, savings (S) define to the value of income(Y) minus consumption(C) or (S =Y-C).

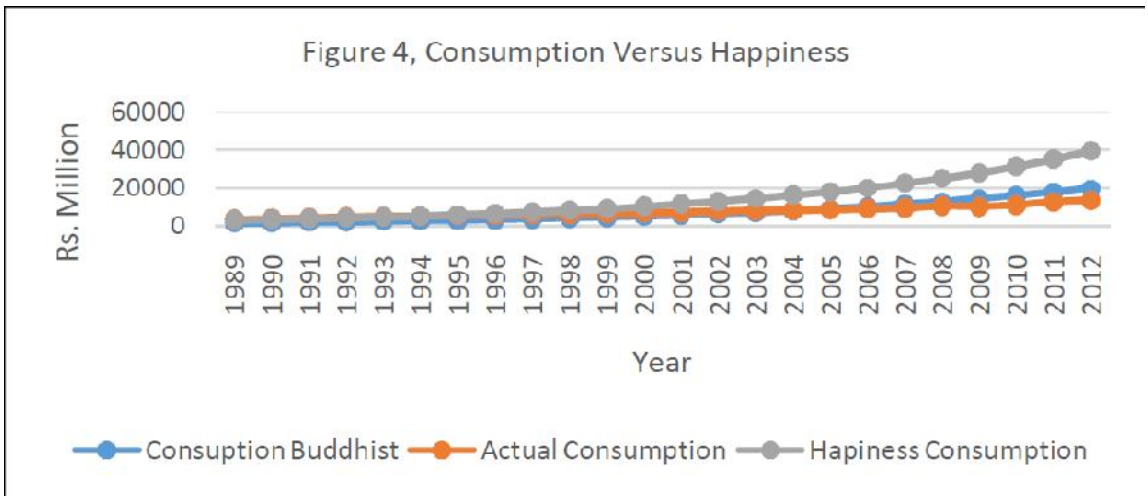


Source: Data in Table 01 in Annex 01

As it is shown in figure 3, the Buddhist savings to GDP ratio is constant at 50%. However actual savingratio averages at 16 percent in the period 1989-2012 ranging between a peak (19.5%)in 1999 and a trough (12.2%). It means that annual average basis, nearly a 9% of savings/investment due with the Buddhist economics had been spend by the people on the consumption under the liberalization policy package. In other words, if Sri Lanka did use the Buddhist economics against economic liberalization policies in 1989, country has had capabilities to reduce it external debt burden by 9% as a direct effect of savings.

Consumption versus Happiness

The theory of consumption function has been gained more attention by the modern economists in determination of income and employment in a country and level of consumption of an individual or households considered as an effective indicator to measure the level of welfare in. While modern economists have recognized that many subjective and objective factors including interest rate and wealthin determination of consumption expenditure of an individual, they unanimously accepted that the income as the key determinant of consumption level. However, there is not consensual conclusion in respect of the average propensity to consume (consumption to income ratio or C/Y). In his consumption theory for example, Keynes (1936) propounded an idea that fundamental psychological law of consumption. Explaining this law, Keynes suggested that although consumption expenditure depends mainly on absolute income of the current period, as a rule or on an average, propensity to consume falls as income increases. In other extreme, Duesenberry in theoretically and Kuznets in empirically suggest that in the long run community would continue to consume the same proportion of income as its income increases as a result of two effects: demonstration or Duesenberry effect and Ratchet effect. Middle to these theoretical two extremes by Keynes and Dusenberry respectively, in its middle way in Buddhist economics suggests that a sealing or mandatory average propensity to consume ratio at 25 percent of relative income as say “Ekena boge bunjeyya” in Singala suththa of Deega Nikaya.



Source: Data in Table 01 in Annex 01

Figure 4 indicates a three types of consumption level in the Sri Lankan economy for the period from 1989 to 2012. First is actual consumption curve under the existing trade liberalization policy package. Statistical data published by the Central Bank of Sri Lanka

evident that actual consumption to GDP ratio for the country averaged at 84 percent for the study period. It means that Sri Lanka has become a consumption-oriented economy with the trade liberalization policies than productive base economy. This is the one major causes to failure of the trade liberalization policies in the country. Second is the estimated Buddhist economics related consumption curve. When compare these two consumption curve figure 4 very clearly shows that in the short-run, estimated Buddhist consumption curve is considerably lower than that the actual or liberalization curve. By contrast, in the long run Buddhist Consumption curve surpasses the liberalization consumption level. This finding evident to suggest that at the initial stage of the Buddhist economics peoples in a country have to be sacrificed their welfare some extent for expecting the future success. The third curve: labeled the happiness consumption curveis the most important concept propounded in the Buddhas' teaching but it has been paid less attention by the western types of economists. For example, happiness consumption curve represents the ethical aspect of the economics. It is well known that liberalized economic policies largely based on the concepts such as rationale, competition, money- illusion, profit maximization and selfishness etc. and all these result the suppress the ethical aspect of economics. In contrast, Buddhist literature consists fully with the concepts related to the others' welfare of the society where individuals live. In brief, others, welfare means that doing business to build social capital.

In previous analysis in this paper we discussed only a three quarters (3/4) of income. There remains a one fourth share of income to spend to a household as say "chatuthantha nidapeyya" in Pali language in Sigala suththa. Where the term,'nidapeyya' in pali language means that's tore money or valued thing for what purposes that to use (apadasu Bvissathee) unexpected incidence would be happen in the life. In Buddhism, the term "store' is not a simply word as defines in any language but a collection of words and works and there for Buddha suggest to spend the fourth quarter of income to generate social capital or to spend others' welfare because social capital has high power to restrain the disaster incidence than money stock. According to the Buddhist economics, happiness is the ultimate outcome of the spending done in building the social capital. The Anana suththa in Buddhist literature explains four types of elements to maximize the happiness of an individual. These include a) "aththi sukan"(satisfaction accumulate in owning the monetary and non-monetary wealth, b) "bhoga sukan" (satisfaction gained by consuming goods and services for purpose of selfish and devoting wealth and labour to enhance the welfare of communities in the nearest society (social capital),c) "anana sukan" (satisfaction gained by freeing from owe to others in the society) and d) anavajja sukan (satisfaction generate with obtaining praise from other communities for his/her good character and meritorious work towards society).

In general, consumption function in sense of economics evolves only with the element b) above (Bhoga sukan) and in particular, consumption function in modern economics evolve only the partially with the element b) above as it consider only the satisfaction gained by consuming goods and services for selfish. Accordingly, actual consumption curve in the figure 4 represent only the happiness gain by consumingthe goods and services for selfish with the open economy policy package in Sri Lanka. Estimated Buddhist consumption curve also represents only the satisfaction gains by consuming goods and services for selfish, spending mandated average propensity to consume (25%) of Buddhist economics as say "Ekena boge bunjeyya". Most importantly, the happiness consumption curve in figure 4 derived adding both the last income portion of Buddhist economics (25%) which allocated to spend for purpose of building the social capital or enhance the others' welfareof the community living in the nearest small economy and consumption expenditure on goods and services (25%). According to the Buddhas teaching, individual can automatically acquire the satisfaction generated from elements c) and d) above from b).It is very clear from the figure 4 that peoples in the Buddhist society can live with higher and higher happiness in the long run which is the final goal of the macroeconomic policies adopted any of the economy in the globe.

Then one of key issues one can questioned with this conclusion is that how to initiate at once income management policies suggests in the Buddhist economics in the context of existing open economic policies. For example, in the case of Sri Lanka, investment (=saving / GDP ratio stood only at 15%. Buddhist economic suggests a 50% investment ratio. It means that there is a huge financial gap of 35% (50%-15% =35%). In solving the problem, Sri Lanka has one of strength is that its' existing liberalization policy package and ongoing globalization process in the global economy. There are number of economic development models can be available in economic literature to initiate a rocket and revolutionary economic growth with the condition of Pareto Optimum. One of popular approach is the Rostow's five stages of development put forward by Rostow (1960). As it explained by the Rostow, foreign finance in any of the ways such as aids, loan or foreign direct investment can be used to achieve a rocket or revolutionary economic growth at the take off stage in his five stages development model. Such kind of foreign assistance should have to be obtained only for accelerating the economic growth in the economy with effective economic planning but not for life long depended as in Sri Lanka today. Increase

the foreign debt burden and deficit of the balance of payments are the immediate outcomes of the usage of foreign finance to financial gap. Policy makers in the country should be given their priority to use two-gap model for development in their economic planning to effectively used foreign financing and in turn remedy the newly arise two problems: foreign debt burden and huge deficit of the Balance of payments.

CONCLUSION

This assignment has explained the central importance of Buddhist economics as an effective way to link the ethics and economics for achieving the community friendly sustainable development. The purpose of the current study was to determine what are the income management policies introduced by the Buddhist economics, how it incorporate into modern economics and empirically compare the impact in the usage of ethical economics and per market economics emphasizing the Sri Lankan country context. In analysis, data and information were collected from major three sources: Buddhist literature, theoretical literature in modern economics and empirical data gathered by the Central Bank of Sri Lanka to get clear answer to the three research questions: what are the rules of income management policies put forward in Buddhist economics; how these policies practice in a real economy; and what would be the impact of these policies on the happiness of communities? One of the more significant findings to emerge from this study is that Buddhist economics has effective power to enhance happiness of the community in terms of all macroeconomic variables: consumption, investment, savings and growth of production and building social capital. It was also shown that in the long run, modern liberalization together with elements of the Buddhist economics results the external and internal balance simultaneously and in turn sustainable development. The empirical findings in this study provide a new understanding of how to link the philosophers (ethics) and economists (modern economic theories mostly based on competitive markets). Despite its exploratory nature, this study offers some insight into the idea that how to doing business better in socioeconomic and political crisis situation. Finally, further experimental investigations on ethics and economicsas well as econometrics modeling are needed to forecasting the outcome of economic planning with the Buddhist economics.

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