

Analyses of the GNP Formula: The Islamic Perspective

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Abstract

The knowledge of modern economics has evolved over centuries with its roots dependent on usury. The modern literature witnesses the hazards of usury that world economies are facing. As Islam is a complete code of life with guidance for mankind in all spheres of life, this study integrated the directives of Islam with the basic knowledge of Gross National Product (GNP) that is a fundamental economical percept. The study utilized the primary and secondary sources of Islamic knowledge and also of Christianity. The study found that the existing formula of GNP is an amalgamation of both legal and illegal determinants as per Islam. It contributed the both the alternate Islamic formula for GNP tested in the ancient Islamic regimes and an optimized version of the existing formula of GNP purified from usury and forbidden concept as per Islam.

Keywords: Economics, Islamic Economics, GNP, Alternate GNP

Definition of Non-Trivial Terms

1. **Holy Quran:** The last book of God (Allah) on last Prophet Hazrat Muhammad (SAAW).
2. **Sunnah:** Actions, affairs, matters and/or intentions that the Holy Prophet Hazrat Muhammad (SAAW) performed/adopted himself or advised his followers to perform/adopt or did not object or forbid.
3. **Hadith:** Saying of prophet Muhammad (SAAW) defining/describing/explaining Islamic orders.
4. **Shariah:** Set of Islamic principles about sentiments, worships and matters.
5. **Ijtehad:** Psychological efforts in conformance with the Holy Quran and authentic Hadith for interpreting Shariah orders about new affairs, matters, events etc. Like

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thought process for understanding Shariah ruling for viewing porn sites on Internet and reaching a conclusion declaring it Haram.

6. **Ijma:** Consensus of Islamic scholars of pious repute on matters related to Shariah ruling.
7. **Halal:** Any matter or action or intention tangible/intangible permitted in Islam with promised accountability in the eternal life.
8. **Haram:** A matter or action or intention tangible/intangible forbidden in Islam with promised punishment in eternal life.
9. **Islamic financial system:** System to manage economy of country without interest, enriching poor and masses by ensuring guaranteed welfare.
10. **Interest (Riba):** Usury, mark up, surcharge, penalty or exaction demanded over debt or in price during sale.
11. **Ahl-e-Bait (AS):** Refers to the specific family members of Prophet Muhammad (SAAW) who were declared leaders and guides for the Muslims of all ages.
12. **Imam:** Shariah scholar at the status of leader and guide for Muslims in all sorts of religious and world's affairs being the predecessor of Prophet Muhammad (SAAW) authenticated by Divine.
13. **Caliph:** The governor of an Islamic State.

Introduction

A religion is considered to be the only set of theology and theories meant for the spiritual reform and peace of mind for a human (Joseph, 2005 and Ronald and James, 1980). Routine life affairs in business, governance and politics etc. are recommended to be segregated from religions by the seculars (Kosmin and Keysar, 2007; Poddar et al, 1995 and Ira 1975). However, Islam, that is the final Divine religion does not provide room for separating religion from routine life affairs. Unlike other religions which are usually set of spiritual concepts, Islam guides mankind in all daily life matters as well. Islam claims that it intends guiding mankind towards betterment in this world and hereafter by providing guidance in all spheres as it is a complete code of life (Al-Quran, 5:3). Islam not only encompasses the alpha and omega of worshipping one God (Allah), but it also distinguishes the right ways of all practical affairs in business, governance, economics, social justice etc. All the rules set by Islam are the practical and golden laws which are beneficial for the community, and is pure from losses to an individual (Kayed & Hassan, 2011). Therefore, Islam and secularism are two opposite concepts.

This study is interested in exploring and comparing the Islamic directives and the existing economic creed, as economics plays a vital role in determining the life style and growth of both the individuals and societies. As major part of the modern applied knowledge of economics is not in line with the Islamic teachings. Islamic intervention

in the field of economics should lead to optimization. Blind imitation of the economic principles is a custom even in the Muslim countries without validating and synchronizing the economic affairs with Islamic directives. Such secular approach for managing the world economies is an extreme.

Economic strength of a country is a determinant of its stability and prosperity as it measures the production, distribution and consumption of both goods and services (Iannaccone, 1998). Economic strength of any country has various indicators (Mohammad, 1999). Gross National Product (GNP) is one of the most important indicators of economic development of a country and it also determines the potential of economic growth of any country (Ozgur, Karatekin and Dogan, 2004). Gross National Product (GNP) combines various factors to depict the both economic development and growth of a country (Blaug, 2007; Heilbroner and Peter, 2007). Shabri and Majid (2008) endorsed the importance of GNP by finding out the strong impact of GNP on economic development in Malaysia. According to Choi (2004) green GNP gives sustainability to the economy by pollution control and makes conventional GNP bigger and broader. However, this study focuses on conventional GNP. GNP therefore plays a vital role in the management of the fiscal affairs of a country. Traditionally, statistical offices or central banks of countries calculate GNP on an annual basis.

The formula to calculate GNP is a well established and tested approach that this study presents as Equation I in the next section (McAllister 2011; Christian, 1987). However, the world economists including those in the Islamic countries adopt it without religious considerations. As a result, economies rely on usury based creed. While Islam forbids usury, the study identified significant contributions of non-Muslim researchers in the literature admitting hazards of usury. For instance Temin (2004), despite being an advocate of usury reported that the economy of historic Rome faced severe crisis due to interest based loans that led it to chaos. Indeed, today's economies are facing challenges to serve mankind effectively. FDIC (1998) acknowledged that unrestricted usury had adverse effects on consumer credits and restricted the credit card business in USA. The worldwide liquidity crisis after 2008 was an irrefutable evidence of the incapacity of interest based economic systems to serve mankind effectively (Caballero and Arvind, 2008). Russell (2011), despite being non-Muslim declared usury as the root of all evils. This proven incapacity of the current usury seeking economic system and its conceptual difference with fundamental Islamic teachings reinforce the need to supplement the relevant literature with Islamic perspectives on economic affairs. This includes the measuring of GNP.

The religious and spiritual roots must be included in the process of policy making regarding economic development of a country (Raimi and Mobolaji, 2008). Islam is a code of life with guidelines for all affairs in life, including economic concerns and

challenges (Makdisi, 1989; Alatas, 2006). Islam endorses the view of economic progress and deems it essential for the well being of humankind (Kayed and Hassan, 2011). Quran offers correct solution to the problems related to economy and following Islamic rules leads to prosperous lives for the humankind (Zaman, n.d.). According to Quran and Sunnah, interest or usury (Riba, 2011) is prohibited in Islam (Al-Quran 2:275, 276, 278 and 279; 3:130; 4:161; 30:39). Like Islam, Christianity also forbids usury (Riba) under all sort of circumstances (Bible, Exodus 22:25; Leviticus 25:36 and Deuteronomy 23:19). As Islam strongly forbids usury (Riba), the amalgamation of a prohibited (Haram) determinant usury/interest with others that are permitted (Halal) in a single formula of GNP, thus is not permissible (Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007; Kolaini, 1999b and Ismail and Tohirin, 2010). Therefore, it is needed to ensure the compliance of the Islamic directives in managing GNP - at least in the Islamic countries.

Problem Statement

The literature neither provides a critical analysis of violation from the Islamic economic model while measuring GNP nor it contributes any alternative solution which leads to compliance of Islamic principles. From an Islamic perspective, the existing formula of GNP is an amalgamation of both permitted (Halal) and prohibited (Haram) determinants. Rammal and Zurbruegg (2007) while contributing on Islamic banking asserted that indeed Islamic principles of economics have the capacity to replace an economic system immune from the curse of usury.

Objectives

The study aims at the following objectives:

1. To assess the GNP formula with the teachings of Prophet Muhammad (SAAW) to confirm where it violates Islam;
2. to interpret GNP from the practices of Prophet Muhammad (SAAW) and his predecessors;
3. to supplement the field of economics with an alternate formula for GNP in line with Islamic orders;
4. to assess the advantages of an Islamic GNP model.

Methodology

This study is focused on the existing formula of Gross National Product (GNP) including all its parameters, and analyzes each determinant in the light of Islamic knowledge and teaching.

The Holy Quran and practices (Sunnah) of Prophet Muhammad (SAAW) are the primary sources of Islamic teachings. These sources do provide guidance on all possible affairs related to spiritual and material life that individuals and societies

need. However, for the latest inventions or matters direct or indirect guidance may not be found in these primary sources. For such cases, this study relies on the secondary sources of Islamic teachings that are the consensus among Islamic Scholars (Ijma) on new matters or challenges, mainly using the contributions of Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007 and Kolaini, 1999b. The study remains neutral in entertaining the reports by and views of both Sunni and Shia sources to ensure fair and unbiased analyses.

The study also employs the fourth source of knowledge in Islam, that is the wisdom of human beings (Aqal) which enables mankind to distinguish and perceive right and wrong by performing rational reasoning and research called Ijtehad in the light of the Holy Quran and Sunnah. In this context, this study utilizes the deduction method to reach the conclusion on the status of each parameter and derive the Islamic order of it. In order to collect relevant facts from Islamic history, the study selected contributions of Tabari, 2000; Bukhari, 1984; Muslim, 2000; Majlisi, 1966a and Ibn-e-Khuldoon (1990). To further ensure inter-religion harmony and no biasness, the study selected relevant knowledge from the Bible as well.

Rationale of the Study

The literature survey and the analysis of the existing formula of GNP from an Islamic perspective highlights and signifies that the formula violates the fundamental order of Islam on interest/usury. Further, it does not restrict certain determinants as per Islamic standards like tax (T), investments, rental income etc. to comply with Islamic spirits. Although the world's economies have adopted the same formula, economies are unable to immunize themselves from the hazards of interest (Riba) that Islam declares a curse despite acknowledging them. The irony of fate is that modern economics has not benefited from the universal guidelines of Islam. Therefore, an analytical and conceptual study was needed to update the science of economics with the alternate solutions that Islam contributes.

The GNP Formula

The generally adopted McAllister (2011) explanation states that the Gross National Product (GNP) is the value of goods and services (goods) in terms of exchangeable currency produced in a given year at market prices (current price). This concept is further categorized for interpretation as under:

Real GNP - A calculation that eliminates price increases (inflation) to arrive at a truer valuation of what actually is being produced within the country. This calculation mostly uses constant dollar values.

Nominal GNP - The value of GNP at current prices but used to differentiate between current and constant prices.

Per-Capita GNP - The average value of production per person in a country in a given year is determined by dividing the total value of production in currency by the total population of the country.

In routine practices, GNP is calculated in two major components, as Gross National Expenditures (GNE) and Gross National Income (GNI). In principle, economics endorses that every dollar spent (GNE) should equal to every dollar earned (GNI). Therefore, the following formula of GNP is used.

Equation I:

$$\begin{aligned} \text{GNE} &= \text{GNI} \\ C + I + G + (E - M) &= W + R + i + P + D + T \end{aligned}$$

Other exceptions when deciding what is counted and what is not in measuring the GNP are also probable in real practices. The study describes each determinant in the analysis.

Analysis of the GNP Formula with an Islamic Perspective

To analyze the concept with an Islamic perspective, this study treats each part of the GNP separately. Equation I – A depicts the formula used to determine GNE.

$$\text{Equation I – A} \quad \text{GNE} = C + I + G + (E - M)$$

According to McAllister (2011), Gross National Expenditures (GNE) is the value in currency spent on current goods and services during a twelve-month period. GNE has five determinants included in its calculation:

1. Consumption (C) is the value of all goods and services purchased by consumers.
 - a. Islamic Perspective on Consumption (C): Islam accepts the right of a human being as well as the state to spend his/its earnings for fulfilling the rational needs by buying or selling only tangible goods or intangible services that Islam permits (renders Halal). All consumptions that are either extravagant expenditures or made for selling/purchasing Haram (prohibited) tangible goods (like narcotics) or intangible service (like hiring a killer to murder someone etc.) are strictly prohibited (Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007 and Kolaini, 1999b).

In compliance with the Islamic directives on consumption, this study substantiates the determinant Consumption (C) of GNE as Islamic only for expenditures made for the purposes that Islam renders permitted (Halal), rendering it as (Conclusion of Analysis) CoA#1. The study however did not find any evidence that the

Islamic governments in the early age of Islam used to forecast and/or estimate the total national consumption (C) of goods and services required by masses on annual basis in the Bait-ul- Mal (national treasury) that was the hub of all economic control. However, expenditures from the Bait-ul-Mal were properly recorded, accounted and controlled (Numani, 1898 b; Majlisi, 1966a; Majlisi, 1987b; Sayooti, 1980).

2. Investment (I) is the value of all spending by business.
 - a. Islam not only declares the Investment (I) Halal, rather it stresses to promote investments into Halal entrepreneurial ventures in an Islamic society to ensure continuous economic activities with no concentration of wealth into few hands only. For example, Islam does not permit an investment for establishing a factory of alcoholic drinks as use of alcoholic drinks is forbidden. Simultaneously, Islam encourages investments in Halal businesses like establishing hospitals, educational institutions etc. for development of societies that lead society to prosperity and betterment (Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007 and Kolaini, 1999b).

In compliance with the directives of Islam on investments, this study substantiates the determinant Investment (I) of GNE only for businesses that Islam declares Halal and renders its Conclusion of Analysis as CoA#2. The study states the list and details of all Halal business/affairs and investments in Islam out of its scope. The study further did not find any trace of estimating and controlling the investments made by the masses in the Halal businesses in the Bait-ul-Mal. Further, the Islamic governments of the past reserved the right to intervene in private business established by anyone in the Islamic regime as the state affairs required. For example for monitoring the usage of gold into ornament development to ensure that the then currency could not be mould into ornaments. Moreover, the investments made by the ancient Islamic governments for the betterment of masses were recorded and properly accounted in the Bait-ul-Mal (Numani, 1999 a; Majlisi, 1966a; Majlisi, 1987b; Sayooti, 1980).

3. Government (G) is the value of all spending by the government.
 - a. The existing formula of GNP does entertain government spending as a determinant of GNE. However, the governments in the world are usually witnessed spending either for rewarding or promoting real tangible services or products contributed by masses or coping natural disasters. Government spending for the benefits of society and masses is the determinant that Islam stresses with extreme vigor and consistency.

In order to substantiate the determinant of Government spending for GNP calculation, the study quotes certain reports from the age of Prophet Hazrat

Muhammad (SAAW), his predecessors and that of Prophet Yusuf (Joseph) (AS).

- i. It is reported that the Holy Prophet Hazrat Muhammad (SAAW) used to ensure that there remained no penny by the day end in the Bait-ul-Mal on daily basis so that the right of masses reached the needful before the sunset. One evening few Dirhams were left in the Bait-ul-Mal as no needy person approached the Bait-ul-Mal with need due to justified and regular distribution of wealth in the society on daily basis. It is reported that the Holy Prophet Hazrat Muhammad (SAAW) could not sleep the whole night with anxiety for having right of poor masses in the Bait-ul-Mal (Majlisi, 1966a; Kolaini, 1999a). The study notes that to ensure effective government spending the mentioned governor of the first Islamic state in the city of Madina (Hazrat Muhammad (SAAW)) valued the intangible advantages of ensuring Bait-ul-Mal free of treasures instead of keeping them filled or even at least with contingency reserves.
- ii. It is reported that the second Caliph Hazrat Omer bin Khatab (RA) awarded stipend from Bait-ul-Mal to all the new born Muslim infants for the entire period of their mother feed that was minimum two years for most children (Numani, 1898b; Sayooti, 1980). The study noted that second Caliph of Islam valued the intangible services invested by the Muslim mothers in feeding their children as it was necessary for national health and development.
- iii. It is reported that the fourth Caliph Hazrat Ali Abu Talib (AS) was informed that a retired old senior citizen had lost his eye sight due to age factor and had no mean for earning living. The fourth Caliph awarded lifetime stipend for the blind retired servant to ensure his honorable living (Ghurawi, 2010). This action of the fourth Islamic caliph of lifelong scholarship from Bait-ul-Mal to a needy former servant is an evidence of valuing the intangible services invested by a human over hoarding tangible contingencies in the Bait-ul-Mal.
- iv. It is reported that during the worst stages of famine and starvation that had adversely affected the entire Egypt and its neighboring states, masses had exhausted all their savings and had become too poor to purchase grain from the reservoirs of Prophet Hazrat Yusuf (Joseph) (AS) who was the then ruler of Egypt. At that worst stage, Hazrat Yusuf (AS) invited masses to collect needful grains by indemnifying their sincerities for his governance and obedience by accepting slavery at will (Al-Quran 12; Najfi, 1984b). This decision of Hazrat Yusuf (Joseph) (AS) is evidence of an government spending where the government valued the intangible sincerity and commitment of masses over the hoards of tangible grains that could have been sold to foreign countries facing famine simultaneously for earning profit.

These examples in the ancient age guide that an Islamic government state should prefer the intangible factor or benefits over tangible treasures accumulated in treasuries. Islamic history is saturated with such examples of government spending by Muslim rulers while this study selected only few authentic reports to interpret the Islamic perspective on government spending (G).

Based on Islamic interpretation, this study substantiates the determinant government spending (G) of GNE to be Islamic rendering it as (Conclusion of Analysis) CoA#3. Contrariwise, modern economics principles do not encourage the governments to prefer intangibles services and sincerities of masses over tangible treasures.

The study further explored that in the mentioned Islamic regimes government spending (G) was the only factor on which the entire economy of the Islamic estate depended for running the affairs of national treasury (Bait-ul-Mal) (Numani, 1898b; Majlisi, 1966a; Tabari, 1990; Ibn-e-Khuldoon, 1990; Kolaini, 1999a and Sayooti, 1980). The study therefore perceived that the formula of GNE in the Islamic regimes was as provided in Equation II - A:

$$\text{GNE} = \text{Government Spending (G)}$$

Where $G = \text{Wages} + \text{Stipends of value of intangibles} + \text{Investments in constructive works} + \text{Rewards for the value of the intangible contributions of masses (like sincerity with Islam)}$

The study acknowledged that consumption (C), investment (I) and trade (Exports and Imports) all existed in the practices of the Islamic society. However, the study did not find evidence that the Islamic government used to trace these centrally for keeping record of the overall economic activity. The Islamic governments were only concerned with their obligation to run the state as a welfare Islamic estate in all aspects with benefits and facilitation for the masses (Numani, 1898b; Majlisi, 1966a; Majlisi, 1987b; Tabari, 1990; Ibn-e-Khuldoon, 1990 and Sayooti, 1980). The then Islamic governments accomplished successfully maintained welfare states only through factor G as perceived in Equation II. The major source of income of the Islamic government behind G was the Islamic taxes that this study discusses next under Equation I – B.

4. Export (E) is the value of all that is produced in a country but sold abroad.
 - a. During the best perceived Islamic reigns of Prophet Muhammad (SAAW), his predecessors and that of Hazrat Yusuf (Joseph) (AS), trade was reported to be a common business of masses as well as that of rulers (Al-Quran 12; Najfi, 1984b;

Numani, 1898b). The study has learnt from Islamic history that the Holy Prophet Hazrat Muhammad (SAAW) started his professional career being a trader (Numani, 1999a; Majlisi, 1966a; Tabari, 1990; Ibn-e-Khuldoon, 1990 and Majlisi, 1987b). Islam permits Export and Import of all Halal goods or services. For example, trade of narcotics is prohibited while trade of cloth is permitted (Halal) (Kolaini, 1999b; Najfi, 2000a; Bukhari, 1984; Muslim, 2000).

In compliance with the interpretation of Islamic teachings on trade, the study substantiates the determinant Export (E) for GNE rendering it as (Conclusion of Analysis) CoA#4. The study did not find that the estimates of overall annual trade by entrepreneurs among masses were tracked and recorded centrally in the Bait-ul-Mal (Numani, 1898b; Tabari, 2000 and Sayooti, 1980).

5. Import (M) is the value of all that is produced abroad but sold in the country.
 - a. Based on the same reasoning as this study has discussed under 4 (a), it substantiates the determinant Import (M) for GNE as conclusion of analysis CoA#5.

Having made the analyses from Islamic perspective of all the determinants of GNE as deducted in COA # 1 to 5, this study substantiates that the formula of GNE given in Equation I – A is in line with the fundamental directives of Islam provided the following precautions are ensured in its implementation/application by governments and individuals:

1. Consumption (C), Investments (I) and Trade (Import (M) and Export (E)) are ensured for businesses or transactions declared permitted (Halal) in Islam.
2. It is ensured that in addition to catering the tangibles (like required schools, hospitals and/or aid due to natural disasters etc.), Government spending (G) is also made by entertaining the value of the total intangibles services and commitment contributed in the society like:
 - a. Sincerity and honesty of forces, bureaucracy and institutions
 - b. Corruption free justice provided in the courts
 - c. Quality of teaching imparted for human resource development at all levels of studies in the society
 - d. Other intangibles contributions by masses for strengthening the Islamic state, like avoidance of corruption and crimes etc.

As conclusion of analysis (CoA#6) the study substantiated the Equation I – A of GNE in line with Islam. Next, the study analyzed the Equation I – B of McAllister (2011), that is the formula to calculate GNI.

Equation I – B:

$$\text{GNI} = W + R + i + P + D + T$$

Gross National Income (GNI) is the total value in currency earned by producing, distributing and selling the goods and services produced, including profits (McAllister, 2011). The study shares its analysis of each determinant of GNI with Islamic perspective.

1. Wages & Salaries (W) is the value of all income in terms of currency earned in the country.
 - a. The study learnt that the Holy Prophet Muhammad (SAAW) advised with immense emphasis that the wages or remuneration of a laborer or worker must be paid before his perspiration dries (Bukhari, 1984; Muslim, 2000 and Majlisi, 1966a). This Islamic standard reinforces not only the significance of wages and salaries but further clarifies that payment of wages/salaries in time is extremely important for the betterment of both individuals and societies. Numani (1898b) and Sayooti (1980) reported that although wages and salaries structures existed since the reign of Holy Prophet Muhammad (SAAW), however its structure was formally optimized during the reign of second caliph Hazrat Omer (RA). In addition to tangible compensation in form of currency, the study witnessed in the explanation of the Holy Bible that Hazrat Moosa (Moses) (AS) compensated the slaves of Bani-Israel nation with intangible incentives in the form of a leave per week despite immense pressure from the cruel Pharaoh of Egypt (Bible, Exodus 2:15). Based on the Islamic emphasis on fair and timely wages, this study substantiated the determinant W of GNI as an Islamic factor rendering it as (Conclusion of Analysis) CoA#7.
2. Rent (R) is the value of income earned through rentals.
 - a. The study learnt from the Holy Quran that rent for any Halal business or service or property is permitted in Islam based on the report that Hazrat Khizar (AS) and Hazrat Moosa (Moses) (AS) together rented the services of a boat man for crossing a river (Al-Quran 18: 65 – 82; Najfi, 1984c). Therefore, Islam declares renting a property or any service legal (Halal), provided it is confirmed that the lessee shall utilize the property or benefit from the leased services only for the purpose or business which Islam declares permitted (Halal). However, during the reign of Prophet Muhammad (SAAW) and his predecessors this study has not witnessed any report in the Islamic history on practices (Sunnah) where the Islamic state had considered the rent/s existed in the then Islamic societies as a source of revenue for Bait-ul-Mal (Sayooti, 1980; Majlisi, 1966a; Majlisi, 1987b; Tabari, 2000 and Numani, 1999a). It indicates that during the reigns of Prophet Muhammad (SAAW) and his

predecessors that are considered best Islamic models of governance and societies among all Muslims, the Muslim governments did not charge any tax on rents for collecting share in Bait-ul-Mal despite it was Halal. Rent indeed causes exchange of money in the society which is the basis for economic activity. Rent as a determinant of GNI is rational if it is taxed and centrally traced or recorded, although the Islamic estates in the past did not tax the rents earned by individuals or businesses. Rather they considered it a Halal business and taxed the profit earned through rents. The study explains Islamic tax in the next section. The study thereby substantiates the determinant R of GNI as an Islamic factor rendering it as conclusion of analysis CoA#8.

3. Interest (i) is the amount of interest earned in the country in a given year.
 - a. In Islam, the Holy Quran directly and strictly forbids (Haram) all sorts of interest (i), whether it is committed among individuals or businesses or estates (Al-Quran 2:275, 276, 278 and 279; 3:130; 4:161; 30:39). Hadith also forbids and condemns interest (Riba, 2011). Islam defines interest (i) in three forms:
 - i. Interest (i) as result of debt services where mark up/surcharge/overdue/late fee etc. are charged (Kolaini, 1999b; Muslim, 2000; Sadooq, 1996 and Bukhari, 1984).
 - ii. Interest (i) earned by committing willful fraud by wrong calculation in the sale transaction of items that are sold either by measuring or weighing (Kolaini, 1999b and Sadooq, 1996).
 - iii. Interest (i) earned through unethical and illegal exploitation in any financial deal. For example, unjust inflation in rents, undue advantage of buyers needs by selling the items more than its market price due to shortage etc. (Al-Quran 3:130)

The study declares the details of the interest (i) in Islamic teachings out of its scope. From Sunnah of Prophet Muhammad (SAAW) the study learnt that earning even a single penny of interest (i) is a felony sin equivalent to committing illegal copulation with woman in blood relation with whom marriage is prohibited, like mother, sister, niece (Sadooq, 1996; Bukhari, 1984; and Muslim, 2000). Islam imposes an immediate death sentence by sharp sword only after the verdict of Islamic court for the culprits who willfully engages in interest (i) deals despite formal advice and adequate time given to abandon this sin (Sadooq, 1996). Based on the Islamic orders, this study does not substantiate the parameter Interest (i) as an Islamic factor for GNI under conclusion of analysis CoA#9. The study therefore declares the factor Interest (i) as being against the teachings of the final Divine religion Islam.

4. Profit (P) is the profit realized at all stages of production throughout the country by all sectors of the economy.
 - a. Islam permits all sorts of profits (P) earned through legal (Halal) businesses or works Halal (Ref). But Islam does not permit earning profit through any illegal business or activity like illegal selling of human organs, ransom charged for abduction, profit made through factory of wine, profit made through supply of prostitutes, money earned through any sort of gambling etc. Islam allows to seek and be contented on profit earned through Halal sources of income only (Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007 and Kolaini, 1999b). The study learnt that the fourth caliph Hazrat Ali (AS) witnessed a trader charging profit more than the average market rate despite no qualitative edge in his products. After due investigation and advice to that trade, for consistent violation of the average profit rate Hazrat Ali (AS) banished that trader out of the city (Sadooq, 1996; Majlisi, 1987b). Similar reports on the practices (Sunnah) of Islamic leaders guide that profit is Halal in Halal businesses up to a reasonable limit. However, this study did not find any quantitative threshold prefixed for profit on Halal businesses, which guides that the rate of profit should be determined by the buyers and sellers in the market based on legal factors like demand and supply etc. The study therefore substantiates the determinant profit (P) of the GNI as Islamic provided Islamic guidelines for earning profit are abided by as its conclusion of analysis CoA#10.
5. Depreciation Allowance (D) is the decrease in value of old inventory of both business & the government. This is usually just called depreciation. Depreciation occurs on the books of business and allows business to decrease the value of old or unsold inventory, i.e. used cars, old computers etc.
 - a. The study explored that during the perceived best Islamic reigns the concept of depreciation of both the assets and currency existed. The The youngest daughter of Prophet Hazrat Muhammad (SAAW) Hazrat Fatima (AS) with his husband and sons called upon Hazrat Abu Bakar (RA) immediately his reign started to discuss the nationalization of the fertile agricultural land called Fadak. Then Hazrat Fatima (AS) contributed when rights of deserving are denied, bloodshed overwhelms peace and currency depreciates (Bukhari, 1984; Paryanawa, 1920). This lesson in Islamic history is evidence of depreciation of currency in the ancient ages. The study witnessed that Hazrat Imam Hussain (AS), the grandson of the last Prophet Hazrat Muhammad (SAAW) in the battle of Karbala, stated in his last sermon/advice to the opponent armies of Yazid that all the tangible assets of the world for the lust of which men even kill each other definitely lose their value depreciating to the level where no advantage could be gained from them (Paryanawa, 1920). Such reports in the

Islamic Sunnah of the predecessors of the Prophet Muhammad (SAAW) are evidence of the fact that depreciation of the tangible assets existed in the Islamic regimes of the past and were considered as rational. Although not desired by human nature, depreciation of tangible assets is a phenomenon. This study however did not witness any report confirming the effect of depreciation in the value of assets in the national treasury (Bait-ul-Mal) during the Islamic reigns of Prophet Muhammad (SAAW) and his predecessors. The study did not restrict its analyses to reports relevant to depreciation of tangible assets as it witnessed a report on the appreciation of tangible assets in the Holy Quran and Sunnah. In the explanation of Chapter 1 of the Holy Quran where the story of the cow in the nation of Bani – Israel is explained, it is reported the price of the cow that was to be slaughtered to revive the murdered man sky rocketed due to the resistance of Bani – Israel nation to the Divine directives (Al-Quran 2:67 - 73). The study further learnt that once the Holy Prophet Muhammad (SAAW) visited a poor fellow to test his hospitality. The poor fellow had only few goats. He hosted the Holy Prophet Muhammad (SAAW) with all the milk that was kept for his own children. The Holy Prophet Muhammad (SAAW) declared him a true Muslim and bestowed him with guarantee of high ranks in Heaven in exchange of the low value of his tangible assets in the world. In another occasion, the Holy Prophet visited a rich man who had camels to test his truthfulness of faith. He hosted the Prophet Muhammad (SAAW) with salutation and begged excuse from serving with camel's milk as that milk was kept for his business and family. As a result, the Holy Prophet Muhammad blessed that rich man with high value of his assets in the world but did not promise high ranks in Heavens (Kolaini, 1999a). The study learnt that appreciation and depreciation in the value of tangible assets and currency are economic norms that are acceptable in the Islamic orders. Therefore, it substantiated the determinant D of GNI in line with Islamic orders as its conclusion of analysis CoA#11. However, it further acknowledges that during the reigns of Prophet Muhammad (SAAW) and that of his predecessors, parameter D had no consideration in the management of the affairs of national treasury (Bait-ul-Mal).

6. Taxes (T) include indirect taxes (IT), the hidden taxes embedded in the prices of goods such as the old Federal sales tax, excise taxes, etc. These are usually found in cigarettes, alcohol, gasoline and clothing. All other forms of taxation are direct taxes (DT) (GST, HST, income tax) and are included under taxes (T) which is a significant part of the GNP calculation.
 - a. The study learnt from the primary sources of Islamic teachings that the tax (T) was the only source of revenue for managing affairs of the estate treasury (Bait-ul-Mal) during the reigns of Prophet Muhammad (SAAW), his

predecessors and that of the early prophets, including Hazrat Musa (Moses), Hazrat Yusuf (Joseph), Hazrat Dawood (David) and Hazrat Suleman (Solomon) (Majlisi, 1966c). The study discovered that other than tax (T), none of the determinants were utilized as a source of revenue for the Bait-ul-Mal, and that was the hub of managing all economic affairs of the Islamic estate during the early Islamic regimes. The study first presents its findings on taxes that it identified in the Islamic regime of second caliph Hazrat Omer (RA) (Numani, 1998b):

- i. **Khums** was a 20 % or 1/5 of profit, savings or war booty (Al-Quran, 8:41) that all individual Muslims were obliged to deposit to the Bait-ul-Mal without failure. There was no check of the government on the income of any individual Muslim as paying Khums to the Bait-ul-Mal was the faith of all Muslims. The entire Khums collection was solely trust based as it was firm belief of the Muslims that their rituals, supplications and virtues shall not be acceptable to God if they did not pay their due tax (Khums) in the Bait-ul-Mal in time and in full amount. The study discovered Muslims during the Islamic regimes were so honest and regular in depositing Khums into the Bait-ul-Mal that various Muslim governors usually had surplus in the Bait-ul-Mal and remained worried to distribute and utilize that wealth for the development and betterment of society. Khums was usually paid on annual basis by most Muslims, while there was no restriction to deposit any due Khums any time in the Bait-ul-Mal when applicable. Further, Khums was not limited to war booty as all sorts of savings or profits of Muslims were required to be taxed as per Khumas (Numani, 1898b, Kolaini, 1999b and Sadooq, 1996).
- ii. **Ushr** was the relaxed Khums awarded by the second caliph Hazrat Umar (RA) to the poor peasants who depended on rain for cultivation of crops for not having facility of wells or regular water stream from a river. It was reported to be 10 % or 1/10 of the saving or profit earned by the peasants from the crops produced in the farms requiring rain. Other than difference in ration, the study explored the same trust based mechanism of payment of Ushr as applicable for Khums (Numani, 1898b).
- iii. **Zikat** was the 2.5 % tax charged on the savings of stipulated commodities and currency falling in custody of individual Muslims as their annual savings. Like Khums and Ushr, Zikat was also believed to be a purifying mechanism to immunize the wealth or commodities in the use of individual Muslims from concentration of wealth into certain hands, what is declared a curse in Islam. Unlike Khums and Ushr, Zikat could be utilized by its payers for the benefits of the poor in their own families, excluding immediate dependents. That is, it was essential to pay Zikat but not necessary to deposit Zikat only in the Bait-

ul-Mal, while Khums and Ushr were required to be deposited in the Bait-ul-Mal (Numani, 1898b).

- iv. **Khiraaj** was a tax in the Islamic regimes only for the non-Muslims who were living in the Islamic estate benefiting from its peace, stability and other facilities bestowed by the Islamic government. Khiraaj was a large source of revenue during the Islamic regimes, especially that of Hazrat Omer (Numani, 1898b). The ratio or rate of Khiraaj was as per the discretion of the Muslim caliph. It was reported to be higher than the Khums so that people were motivated to embrace Islam and pay Khums instead of Khiraaj.
- v. **Jazya** was the tax imposed after wars on the prisoners of wars for earning their freedom or liberation from the Muslim army. Its amount varied from person to person and was determined as per the discretion of the Muslim ruler. The study explored that in certain occasions where an infidel prisoner of war was unable to pay the prescribed amount of Jazya to earn his salvation, he was asked to enable at least one Muslim to read and write for getting his freedom. That means, the mode of Jazya could be intangible service as well (Numani, 1898b).

Based on the analyses, the study perceived that in the Islamic regimes of the past the formula of GNI for the Islamic governments was as under the Equation II – B:

$$\text{GNI} = \text{Islamic Taxes (IsT)}$$

Where IsT = Khums + Ushr + Zikat + Khiraaj + Jazya + Others as Islamic Ruler (Caliph (Sunni Interpretation) or Imam (Shia Interpretation) decided)

Having described the Islamic taxes, the study analyzed that the indirect and direct taxes implemented in the modern eras are close to the concept of Islam relevant to tax. However, taxation on which the GNI is based in most countries is more complex than the Islamic taxes in ratios and requirements. Furthermore, the taxes charged in various formats (direct and indirect) are not limited to the savings or profits of individuals or businesses. The study acknowledges that the ruler of an Islamic estate reserves the right to impose a tax on any activity or affair as required for the benefit of the state, including consumption of goods (Najfi, 2000a; Araki, 1994; Sadooq, 1996; Seestani, 2000; Bukhari, 1984; Muslim, 2007 and Kolaini, 1999b). Moreover, the historic Islamic taxes were based on a trust based mechanism while modern taxes do not inherit such Islamic features.

Although the modern modes and calculations of taxation are not purely Islamic in the mechanism for not being restricted to saving and profits only, the purpose of tax happens to be same, that is to the benefit of the masses of society and running the state affairs. Nevertheless, the modern tax systems in

different Islamic states are required to be optimized in order to be truly Islamic. Corruption in the utilization of taxes is a separate issue that this study declares out of its scope.

Based on these findings, the study substantiates the determinant tax (T) of the GNI as Islamic under the condition that in an Islamic estate the system of taxation must be trust based, and that the tax is charged on the savings and profits of Muslims, and the ratios of the taxes for the Muslims must not exceed the ratio for Khums. The study renders its conclusion as CoA#12.

Conclusion

Having analyzed the Equation 1 – B from an Islamic perspective, this study finds the formula of GNI an amalgamation of Islamic and non-Islamic factors. The major non-Islamic determinant of GNI is interest (i). As the Islam does not permit an amalgamation of right with wrong (Sadooq, 1996), this study therefore does not substantiate the formula of GNI in the Equation 1 – B as Islamic. Earlier the study has substantiated the Equation 1 – A to be Islamic as per CoA6. However, as both sides of Equation I are not substantiated in line with Islamic directives, the study does not substantiate the whole Equation I as Islamic.

An Alternate Islamic Formula of Calculating GNP

Based on the analyses and historical facts in the historic Islamic regimes of Prophet Muhammad (SAAW) and his predecessors, this study perceived that in the eras that are considered pure and the best Islamic models of governance, and although the concept of GNP did not exist in the same form, the concept of gross national productivity was a reality - on the basis of the determinants as depicted in Equation II.

Equation II

- => Equation II – A = Equation II – B
- => GNE = GNI
- => Government Spending (G) = Islamic Taxes (IsT)
- => Wages + Stipends for value of intangibles + Investments in Constructive Works + Rewards for the value of the intangible contributions of the masses (like sincerity with Islam) = Khums + Ushr + Zikat + Khiraj + Jazya + other taxes as Islamic rulers decided

The study learnt that Hazrat Omar, the second caliph among Khulfa-e-Rashedin, successfully managed and led the Islamic empire spread from Africa, Europe and South Asia based on the same formula as derived from the Islamic history on Sunnah

by this study (Numani, 1898b and Tabari, 2000). Later the Islamic caliphs continued successful welfare states, using the formula as given in Equation II.

The study estimated that the perceived Islamic formula of GNP as given in Equation II served the Islamic regimes effectively over centuries, even after the 31 years long regime of the four Islamic caliphs (Tabari, 2000). These findings indicate that this formula of managing the economy of an Islamic estate has been well tested. Nevertheless, the Equation II formula of GNP is a challenge for modern economists even in the Islamic countries. Considering the demands of the new era and the flexibility of Islam to accept and absorb the latest knowledge, technologies and procedures, this study found it pragmatic to optimize the formula for GNP given in Equation I by eliminating the factor interest (Riba) from it and adopting only the Halal measures in the rest of the parameters.

Utilizing the conclusions of analyses from COA # 1 to 12, this study derived the Islamic version of the existing formula of GNP given in Equation I by purifying it from interest/usury (Riba) and optimizing the rest of the determinants in conformance with Islamic requirements as in Equation III.

Equation III

$$\text{GNP} \Leftrightarrow \text{GNE}_h = \text{GNI}_h + \text{h reinforces adoption of Halal}$$

$$\text{Where } \text{GNE}_h = \text{Ch} + \text{I}_h + \text{G}_h + \text{Net Trade (E - M)}_h$$

Ch = Estimates of required consumption of all Halal consumables in the Islamic state,

I_h = Net investment within an Islamic state in Halal businesses by the masses and government with surety that earning interest is not the objective from any investment,

Net Trade (Exports – Imports) $_h$ in the country during one year only for Halal purposes,

G_h = Government spending to reward intangible and tangible contributions invested by the masses with quantitative estimates of the following intangible services contributed for the country per annum:

1. Justice provided in the courts as per Islamic laws,
2. quality teaching by teachers for human development at all levels,
3. law abidance by society and individuals,
4. contributions of service sectors for the benefits of the masses (like services in hospitals, police stations etc.),
5. other intangible valuables as valued by the Islamic government.

The study asserts that in an Islamic state the government must reward or compensate the aforementioned intangible contributions in society. It further recommends that these intangibles must be priced higher than the values of gold, silver and other

tangibles to ensure imitation and compliance of the Sunnah of prophets and Islamic caliphs.

$GNI_h = Wh + Rh + Ph + DA + \text{Islamic Tax}$ reinforces adoption of Halal

Wh = total value of all the income in terms of currency earned in the country + the value of intangibles to be rewarded in currency under G_h

R_h = the value of income earned through rentals from Halal sources

Ph = the profit realized at all stages of production throughout the country by all sectors of the economy + the value of benefits ensured by intangibles to be rewarded as G_h

DA = the difference of increase in the value of assets and decrease in value of old assets of both business & the government. Islamic government may consider intangible assets as well if required

Islamic Tax = the Shariah compliant taxation with following features:

1. Tax is mainly charged on the savings and profits of the masses instead of their earnings,
2. Tax should be such that the masses consider it their religious obligation to pay tax to the Islamic government with pride,
3. Tax is collected through a trust based mechanism (means, let a Muslim calculate and pay his tax instead of deducting tax from earning at source).

The study contributes that in an Islamic state, the accumulative value of the intangibles added under Wh and/or Ph must be equal to the spending of government in G_h .

Generation and Distribution of Money and the Islam

Having derived the Islamic formula of the GNP, it is now necessary to address the process of generation and distribution of currency in a society in the light of Islam. For this, it's worthwhile to review how money was generated and distributed in society during the historic Islamic regimes.

Karavi (1959) reported that from the reign of Prophet Muhammad (SAAW) till that of Ummayid Caliph Abdul Malik bin Marwaan, a period of 80 to 82 years, there was no Islamic coin or currency circulating. The main sources of exchange were Dinar and Dirhams from Rome and Iran that the masses used to earn through their labour and pay to the Bait-ul-Mal in form of different taxes. During the reign of Abdul Malak bin Marwan, the international relations with Rome were not in a good shape. As per the advice of Imam Muhammad Baqir (AS) grandson of Imam Hussain (AS) who was further grandson of the last Prophet Muhammad (SAAW), the caliph Abdul Malak bin Marwan introduced the Islamic coin in form of Dirhams and Dinars. It is reported that the first Islamic Dirham was made of 10 grams of gold while an Islamic

Dinar was of 3.5 grams of silver (Tabari, 2000 and Karavi, 1959, Seestani, 2000). The caliph set a reasonable time to replace the coins of Iran and Rome with the Islamic coins. Question arises on what formula these Islamic coins were generated and circulated in society.

Literature on Islamic history indicates that the Islamic currency was produced based on the availability of gold and silver the Islamic government earned or availed through gold mines, war booty and taxes of different types. The mechanism of distribution of the coins is already explained in Equation II – A earlier, in which valuing the intangibles contributed in society were given prime importance (Ibn-Khuldoon, 1990; Tabari, 2000 and Karavi, 1959). Despite the limited sources to generate tangible gold and silver coins, the Islamic governments upheld the noble practice of maintaining the reward and stipend incentives for the intangible services and contributions of the masses.

In this era, the process of money generation and circulation was delegated to central banks. In principle, central banks are bound to generate and distribute the currency in line with the GNP of the countries per annum. Short-fall countries may require loans from international financial institutions. As per Equation I – A, the currency should be generated equivalent to the sum of its all parameters. However, this rule is commonly compromised as demand and supply principles overwhelm the currency generation and circulation which results in unleashed inflation.

The central banks in various countries following the non-Islamic Equation I of GNP face the challenge of its compliance as all parameters in Equation I rely on measures of the tangibles only. Having contributed the Equation III in compliance with the principles of Islam, this study asserts that inclusion of the measures of intangibles under Wh and Gh shall enable the central banks to resolve the mentioned problem. However, extensive research shall be required before the implementation of the Islamic version of Equation III is to ensure productive and positive change.

Implications

It's an encouraging fact that usury is increasingly being recognized as a curse. And so, the availability of an alternate Islamic economic model could in the near future to find alternative solutions. Still, many of the world economies are not yet ready and willing to abandon usury in a true sense. Even in Islamic countries, the central banks face the allegation that they are trying to find excuses to mould and map the pro-usury conventional banking creed and practices under the pretext of Islamic banking.

Therefore, it is anticipated that in the near future the GNP models suggested in this study (as Equations II and III) may not be readily accepted. The existing mindsets of governments seem not to be mature to value and quantify the intangibles more than

the tangibles (like gold, silver, usury). Although, measuring the intangible performances of teachers, judges, physicians, laborers or workers etc. is a common HR exercise in this era for which different reliable instruments like score cards are also available (Dessler, 2005). Therefore, valuing, measuring and including estimates of intangible services for GNP calculation should be pragmatic. More research may be necessary to define and mature the operating procedures for measuring the intangibles.

Future Research Opportunities

Valuing and measuring the intangibles mentioned under Gh should trigger the operationalization of these abstract concepts. This will require additional research and development as predicted earlier. Measuring the intangibles is a norm in the field of social sciences. New tools and techniques may help in quantizing the concepts. Moreover, performance appraisal and management systems are evolving that could be applied in the sectors of education, judiciary and services to gauge and numerically estimate the intangibles contributed and produced in society. Especially, further research in these domains should lead Islamic governments to support an Islamic GNP model in the future.

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