

Measurement of Commodity Price Volatility and Terms of Trade Adjusted Economic Well-Being – A Cross Country Analysis

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It is undeniable that almost all the countries in the Globe have been experiencing a rapid transformation in their social, economic and political conditions since the process of Globalization. Obviously, the socio-economic scenario of the post transition economies have revealed tremendous quantitative as well as qualitative changes than what it was before the starting out of the process of liberalization of trade, investment and finance. This has not only been reflected on the macro fundamentals of the economies but it has also affected the socio-economic conditions vis-à-vis the levels of well-being of the people of the globalized economies. As a fall out the quantitative magnitudes of the basic economic and social parameters of the economies like the level and growth rate of per-capita real GDP (PCR GDP), educational attainment, health parameter like life expectancy, parameters pertaining to the financial development and social security of people, stock of wealth or capital (both tangible and intangible), R&D have experienced substantial changes. Obviously, these changes have brought about changes in the levels of well being the people living across countries. So the question crops up, what has been the nature of changes in the well-being of the people across the countries of the globe? So, we need a suitable yardstick of measurement of well-being.

It has long been recognized that the real per-capita GDP cannot be a good index of economic wellbeing and this has been strongly echoed particularly since the development of an alternative measure of economic welfare by correcting GDP for its most evident limitations by Nordhus and Tobin (1972). Interestingly, Osberg and Sharpe (1998, 2002) have addressed this issue and done a pioneering work to develop a composite index of economic well being for select OECD countries. Since then a vast literature on the measurement of well-being has come onto the surface (Osberg, Sharpe et al., 2016; Jones and Klenow, 2016; Wu & Rao et al. 2016, Beaumont and Thomas, 2012; Cribb, Robert and David, 2012; Fleurbaey, M., 2009; Fleurbaey and Gaulier, 2009 , 2007; Krueger and Schkabe , 2007; Matthews, E.,2006; Kahneman and Krueger, 2006; Layard, 2005; Osberg and Sharpe, 2002, 1998; Sharpe an Salzman, 2003: Easterlin, 2001; Diner, Suh, Lucas and Smith, 1999; Osberg, 1985 , Ghosal, 2018 etc). These studies have used different dimensions of economic well-being viz; the flow of real per-capita consumption expenditure, per-capita stock of wealth and capital including the natural resources, human capital, R&D investment , income distribution in terms of inequality and poverty intensity , economic security etc for computing composite well-being index across the countries. It is also obvious that measure of GDP does not take into account the issue of sustainability of well being of the people. The money measure of economic performance and living standard creates a lot of problems regarding the use of prices of goods and services and the related weights. There are also separate studies on the impact of commodity price volatility as well as changing terms of trade on the economic well-being of the people (Osberg et al, 2016; King and Low, 2014). It is true that the volatility of the commodity price and changing

terms of trade produce differential impact on the index of economic well index (IEWB) of the countries across the Globe across time. Surprisingly there is as such no study to develop an economic well being index adjusted with the volatility of commodity price and changing terms of trade across the countries in the globe.

Therefore using the studies of Osberg, Sharpe et al., 2016; Osberg and Sharpe, Thomas and Murray, 2016a; Osberg and Sharpe, 2002,1998 and the study of mine (Ghosal,2018) we will develop a commodity price volatility and changing terms of trade adjusted composite indices of economic well being (IEWB) for 35 developed and developing countries for the period from 1980 to 2018 by considering the following dimensions of well being namely flow of real per-capita consumption, the per-capita real savings, per capita stock of capital (both tangible and intangible), natural resource; accumulations of human capital and R&D; life expectancy at birth as proxy of health, adult literacy rate as proxy of educational development, gini coefficient as measure of inequality in the distribution of income, poverty intensity, CO2 emission and its social cost. To develop the IEWB we will use two approaches: i) the UNDP method of development of HDI and ii) the additive method used by Osberg and Sharpe in 2002.

We will first develop the dimension index of each component of well being by adjusting the relevant components with the volatility of commodity price and changing terms of trade such that the correcting or the adjusting factor will be the changing trading gains (or loss) which is the difference between the growth in real Gross Domestic Income and the growth of real GDP of the countries over the period under consideration. Finally we develop the IEWB by giving suitable weights to each dimensional indices by using additive method. We have collected the data on all the variables/ components from the secondary sources, viz. various issues of World Development Indicators; World Development Reports; PENN World Table; Human Development Report, UNDP; UNESCO etc. and the construction of indices is in progress.

Key words: Economic well-being index; Developed and developing countries; Commodity price volatility; Trading Gains.