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CHAPTER 2

HEALTH EXPENDITURE AND ECONOMIC DEVELOPMENT: A THEORETICAL FRAMEWORK

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2.1. Introduction

Health is a high valued asset and a prerequisite for other activities. Good health is a precondition for success in other activities. Health production can be viewed as an investment that makes for the capital consumption connected with illness, possibly even resulting in a net increase of the capital stock health (Grossman, 1972; Muurinen, 1982; Wagstaff, 1986). Health and health care act as a determinant and consequence of socioeconomic development. Health is a complex adaptive system. Individual inherit an initial amount of health capital stock that depreciates with age and can be increased by investment. Grossman (1972) was the first person to construct a model of the demand for health capital itself and relating a higher preference for health to more educated individuals.

Health occurs when individuals use their biologically given and personally acquired potentials to manage the demands of life in a way that promotes well-being. Health is a dynamic state of well-being emergent from conductive interactions between an individual's potentials, life's demands, and social and environmental determinants (Bircher, 2014). For an individual, health has a double function. On the one hand, perfect health represent a value of its own, a target that needs to be attained as closely as possible. On the other hand, there are other aims in life. In the micro economic approach health serves as an input in the generation of income, which in turn necessary to buy consumer goods (Zweifel, 2009).

2.2. Human Capital and Health

The notion of that health contributes to human capital of an individual and the importance of human capital to productivity has been widely recognized for decades. Health, adequate education, training, migration, and information play a pivotal role in enhancing human capital formation (Schultz, 1961). Among these sources of human capital formation health of the people occupies a major role in molding human capital formation of the country. Improved health has direct and indirect effect on productivity. Healthier populations are more productive (Becker 1980; Bhargava et al., 2001; Bloom, 2003; Jamison, 2005). In addition to the direct effects of improved health there are several indirect channels through which health can affect national income. Increased longevity leads to higher saving rates (Bloom, 2003). Healthy people are more efficient in creating new ideas. Knowledge capital plays a key role in generating technological change, which in turn increases productivity for the economy as a whole.

Health as human capital is a fundamental requirement for economic development. Good health has a positive, sizable, and statistically significant effect on aggregate output. Spending on health has not only for its direct welfare effects but also to boost economic growth (Becker, 1980; Bloom, 2004; Alvi and Ahmed, 2014). There is strong evidence that the educated and healthier workforce contributed the development of a country. In the human capital approach the value of life determined by the contribution the individual could make to the social product (Zweifel, 2009). Health is a choice variable because it is a source of utility and because it determines income or wealth levels.

The human capabilities emphasized the role of human well-being in the process of development of a country. According to Amartya Sen, “the standard of living of a society should not be judged by GNP per-capita and the supply of particular goods but by people’s capabilities. The core of human well-being is freedom of choice by enhancing people’s capabilities for attaining higher standards of health, knowledge, self-respect the ability to participate actively in community life” (Sen, 1989). Human capital is one of the important factors of economic growth in the modern world. Investment in human capital is inputs in education, health care, skills and other activities which allow people to be more economically efficient. Health as a component of human capital has created an interest in the theoretical and empirical

point of view. The quality of human capital is an important input in the production process along with physical capital and labour. Human capital accumulation could be improved by investing in the population's health (Schultz, 1961; Mushkin 1962; Grossman 1972; Becker 1980).

The causal link from good health to high levels of economic activity is questioned on several grounds (Pritchett and Summers, 1996; Deaton, 2006) because health is multidimensional; and intertemporal and intercountry comparisons are difficult to make. They argued that the relationship between health and income is not positive and linear but positive and concave; indicating diminishing returns and this relationship is not causal but rather is just a correlation.

2.3. Health and Economic Growth

The economic effects of health can be seen both at the individual and macroeconomic levels. There are different difficulties to estimate the magnitude of the health impact. The first and foremost constraint is the measurement of health. Health is measured differently in different studies. There are a wide variety of health measures in microeconomic and macroeconomic studies. The second constraint is causality. Given that income affects health and health affects income, we have to disentangle the two directions of causality. The third constraint deals with timing. There is growing evidence of long-term effects of early childhood health on cognitive and physical development, which affect productivity as an adult. This implies that health effects in the macro economy may have long time lags, making the macroeconomic relationship difficult to estimate. The fourth constraint is the effect of health on the economy i.e. the partial equilibrium and general equilibrium effect (Bloom, 2003).

2.4. Health and National Income

Generally the relationship between health and GDP can be grouped into four categories. The first is the health-led growth hypothesis where an increase in health infrastructure spending promotes the economy. This view is consistent with the Keynesian perspective. The Keynesian frame-work claims that public expenditure is an exogenous factor that influences growth, or public expenditure can be used as a policy measure to generate employment, and boost growth and economic activity. The second view is the growth-led health expenditure which argues that if the economy is doing well, people and the government will have more financial resources to invest in

health infrastructure. This view supports Wagner's law. When the per-capita income of a country increased, the Government would raise public spending. This is popularly known as Wagner's law in which unidirectional causality runs from GDP growth to public expenditure. Wagner's law of "increasing public and state activities" asserts that the role of public expenditure is an endogenous variable in the process of economic growth. The third dominant view is the feedback effect in which both health expenditure and the economic prospects affect each other. This view is sometimes known as the bi-directional perspective. The fourth mentions that there is no causality at all between the two variables (Tsurai, 2014).

Economic assessment is about choosing between alternative uses of resources. In doing so, both of the costs and the outcomes of investments are considered. The importance of health economics in a world of proportionally increasing scarce resources can be conceived in 3 dimensions. Each dimension describes an important aspect of the analysis: Firstly the design of the analysis which may be of 4 types: cost-minimization, cost-benefit, cost-effectiveness or cost-utility. Secondly different points of view may be taken in the analysis, those of society, the payer, the provider, or the patient. Thirdly different types of costs and benefits may be included: direct, indirect and intangible (Ferraz, 1995).

2.5. Health and Demand analysis

Both demand and supply of health are uncertain and irregular by nature (Arrow, 1963). The demand for medical care is derived demand because it depends on the demand for good health. The demand for medical care can be categorised as patient factors and physician factors (Staniszewska, 2005). Patient factors consist of health status, demographic features and economic condition.

Engel's Law has a great implication on population's health because there is a close connection between food and health of the population. The Engel curve shows the relationship between a household expenditure on a particular good and total household expenditure on income. As a household's income increases, the percentage of income spent on food decreases while the proportion spent on other goods increases (Engel, 1857).

Generally goods are classified into luxury and necessary goods depending on the elasticity of demand with respect to income. Goods with income elasticity of demand between zero and one, and above one are called necessary goods, and luxury

goods respectively (Hicks, 1939). Is health care a necessary or luxury commodity? There are contradictory views regarding this question. Some of the studies argued that health is a necessary good (Newhouse, 1977; Gbesemete & Gerdtham, 1992; Hitiris & Posnett, 1992; Wilson, 1995; Kiyamaz, 2006), while other studies reported that health is a necessary good (Font and Novell, 2007; Xu and Sakesena, 2011). A good that is a necessary for the rich can be a luxury for the poor. The concept of necessary or luxury goods can be applicable to individual or household level and not to nations as a whole.

Fundamentally the quantity of health demanded should be negatively correlated with its shadow price. The shadow price of health rises with age if the rate of depreciation on the stock of health rises over the life cycle and falls with education if more educated people are more efficient producers of health. Under certain conditions, an increase in the shadow price may simultaneously reduce the quantity of health demanded and increase the quantities of health inputs demanded (Grossman, 1972).

2.6. Health and Externalities

The goods which are non-excludable and non-rival in consumption are termed as public goods. Generally public goods are provided by the governments which have positive and negative externalities (Cornes and Sandler, 1986). It is a question whether health care a public good? Some characteristics of healthcare make it as a public good. Healthcare also has externalities based on marginal social benefit and marginal private benefit. In the health care sector the effect may be positive in the case of immunisation and medical research which provides improved health and reduces absenteeism and creates high standard of living. The effect may be negative in the case of pollution of environment from hospital waste and also of medical research. The positive externalities are often associated with the free rider problem. For example through vaccination the risk of concerned diseases can be reduced for whole of the society and this lead to the welfare of the society. This phenomenon is a free-rider problem, in which one party benefits from an activity paid by others.

2.7. Information Asymmetry Problem

The concept of quality and uncertainty leads to information asymmetry in the market (Stigler, 1961; Akerlof, 1970; Spense, 1973). Information asymmetry exists in almost all markets. There is a higher level of information asymmetry in health care.

Patients don't know the service to be demanded. The service to be provided is decided by the provider of medical care. The complexity of market boosts the enormity of principal-agent problem (Ross, 1973; Stiglitz, 1989). There can be a lot of cheating if health care is provided solely by profit-oriented service providers (Gardner and Gardner, 2001).

2.8. Health and Environment

Social well-being is an important aspect in the concept of health as per WHO definition on health. Among the factors of social well-being the role of environment is highly influential (Assadzadeh et al., 2014; Chaabouni and Saidi, 2017). The nexus between health and environment is crucial nowadays. The environment impacts human health in reflective ways. The environmental determinant of health and expenditure on health is highly associated (Hao et al., 2018; Chen and Chen, 2020). Pollution raises diseases severity and causes a hike in expenditure on health. Environment pollution affects expenditure on health positively (Jerrett et al., 2003; Narayan and Narayan, 2008).

2.9. Equity and Health

Healthy individuals are expected to contribute to production more than a sick person and increase productivity. The burden of diseases and poor state of human capital is a major challenge to economic growth and development. The health status of a country's population is considered to be a crucial factor in the economic development of any country today. The poor are often caught in a vicious circle with poverty leading to ill-health. The causality between poverty and ill-health runs in both directions. Poverty exacerbates ill-health and ill-health diminishes labour productivity which results in diminishing opportunities. This relationship paves the proposition as "a country is poor because it is poor" (Nurkse, 1966). Health is not only a consumption good that adds to wellbeing, but also an investment good that increases the future productive power of individuals and the economy (Bloom, 2003). Health has a direct effect on the productivity of workers. Health is a key component of an individual's welfare and standard of living. Sickness and ill health, and the risk of death, are central issues in shaping human capabilities and behaviour.

2.10. Saving and Health

There is a close connection between health and saving. Poor health affects the ability to save and the impetus to save. Sickness can aggravate the burden of

individual due to large out-of-pocket medical expenses that reduce current and accumulated household savings. Absence of insurance throws families into poverty. Healthier individuals are more productive in relative to those who are ill, thus enabling them to generate more output (Bloom, 2000). Higher savings lead to higher investment, which in turn leads to higher economic growth (Solow, 1956; Romer, 1989). Household savings can take the form of investments in assets that directly affect productivity. Health can affect economic growth through its impact on human and physical capital accumulation. In this way, health plays an important role in the process of economic growth through its impact on physical capital accumulation (Jack and Lewis, 2009).

Health and spending on healthcare are highly associated with economic growth. Macro economic variables such as GDP, per-capita income and population growth are highly influential on the spending on health care. Health and expenditure on health is also associated with micro economic variables. Economic analysis of health and expenditure on health has implications to the individual and the economy.