National Research Journal of Business Economics
Volume No: 8, Issue No: 2, Year: 2021 (July-December)
PP: 1-7
ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

COMPREHENSIVE HUMAN- CAPITAL MODEL: DEMAND FOR HEALTH ONTHE BASIS OF ECONOMIC AND SOCIAL POSITION

Palvinder Kaur Bakshi

Associate Professor, PGDAV College evening, University of Delhi, India

Abstract:

Variation in health among different economic groups and different social groups is rising and is very significant. This variation finds other indicators than health like in education and wealth assets and starting of chronic diseases and mortality. Variation in health significantly persists within all countries, while social security is also varied there.

Introduction

Globalisation, urbanisation, inequality divide the expensive, unequal health care facilities, shockingly rise the death rates in many countries, inordinate in poor rural sections. The health system exceptionally inculpates the alarming rise in death rates. It is extraordinary here to note that poverty is not the provenance of the upsurge of death, and rich regions and states remarkably seriously influence. Unequal accessibility and availability of hospitals, medicines, medical staff like doctors, nurses and housekeeping staff, medical equipment like ventilators and oxygen and insurancecompanies are the main cause of deaths. Variation in health among different economic groups and different social groups is rising and is very significant (Case andDeaton, 2005). This variation finds other indicators than health like in education and wealth assets and starting of chronic diseases and mortality(Adler et al., 1994). Variation in health significantly persists within all countries, while social security is also varied there.

The association between health, education, income, wealth and status of labour is tough to acknowledge without any theoretical model (Case and Deaton, 2005). It will help in designing efficient policies to reduce disparities. An effort is made to develop a contextual "*Comprehension Human Capital Model*" for the demand for health and variation in Individual's economic and social position. It will be based upon decreasingreturns to scale in health investment in the health production process. The decision to make more health investment regarding healthy or unhealthy lifestyles, hazardous or safe working conditions, labour force participation and high life expectancy are the reasons for variation in health during a middle-age. People experience a reduction in the utility of their life due to health loss while engaging in hazardous jobs and unhealthy lifestyle for short term advantages. Simultaneously, comparative dynamic study on health behaviour due to the variation in wealth assets, earning and educationhelps to make better forecasts.

The Rationale of Dynamic Comparative study:

The current study will pertain to understanding the other studies related to human capital, health deficits, habit development, investment by the firms, and exploitation of resources that affect productivity and production. Having huge wealth assets, more earnings and good education influenced health practices by enhancing marginal value to health. Health can increase the life expectancy and dispense more leisure time to enjoy and more invest in health (Becker,2007). Unhealthy practices of low economic groups force them to leave the labour market early, and low earnings further deteriorate their health. An increase in health investment and better healthy consumption and practices improve their mortality rate.

The health cost of health loss is the marginal value of health due to unhealthy practices, which has future consequences. Riches have less unhealthy consumption and practices and hard work in an unhealthy environment for monetary advantages. Hence they enjoy and have more willingness

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

health benefits. If life extends according to desire, there will be a positive correlation between health and the different economic groups. Higher returns due to the health investment can increase life expectancy. Hence it is hard for a wealthy individual who is educated and earning more but have job stress, facing competition and having disease, can not get returns of health investment.

Empirical Literature Review:

A remarkable research structure in economics, demography, sociology, psychology, epidemiology, and biology explains variation in health among rich and poor. Tracks, 'that genesis health and genesis by health' relate to numerous economic groups in terms of health. Accessibility and affordability of medical services elucidate the low association between different economic groups and health (Alder et al., 1993).

Unhealthy consumption or lifestyle, more calorie-rich food, drinking, smoking, fewer exercise habits, physical and stressful family, social and working environment underline in epidemiological research (Lynch 1997), and health deterioration (Brog and Kristensen 2000). Poor usually carry out risky and manual labour, and apparently, their health deteriorates than those who perform the executive job. Specific habit behaviour gives noticeable changes in health in rich countries.

Education is another aspect to explain the difference in the economic group because it influences health (Van Kippersluis, 2010). Education enables them to get higher wages, secure health investment, and increase medical facilities. Good educationalso guide to manage the diseases through better knowledge and technology (Lleras-Muney, 2008).

Financial indicators, the impact of income or wealth, have an insubstantial impressionon health (Smith,2007; Cutler, 2011). Contrary, economic deprivation causes health deterioration too. Richness enables them to avail better medical facilities, and they prefer to work in a healthy working environment. However, higher wages have higher opportunity cost as there will be less time for health maintenance. A healthy human being is more productive and obtains higher wages. Indestructible relation between different economic and social groups with healthdepends on their time management and education and health investment decisions.

Hence, divergence in health is more in middle age than in the behind time of the life on account of economic and health benefits gained by riches. Poor as a deprived population from health and health facilities die early who otherwise can contribute more in economic growth. On the other hand, health is very closely related to agethan other measures, by even health risks.

Comprehensive Human Capital Model

Maximisation of utility during a lifetime depends on the relationship between one's health and economic and social position. Grossman mathematical model of the demand for health helps to frame the model to studythe relationship between health, the difference between economic and social positions, demand for medical facilities, the demand for time investment in health ,Visits to hospitals, and consumption demand. A healthy lifestyle, habits improves health, yield utility and enables prolific. This objective accomplishes through coherent constrained distinct health habits.

Healthy consumption habits impart more health advantages and utility, and it decreases the chances of being sick. Healthy consumption habits influence ourdecisions regarding our social environment. Unhealthy consumption habits also yield utility, but it increases deterioration in health. Individuals can enhance their life expectancy through timely and good health investment and healthy consumption habits. A sick person devotes maximum of his time to health investment and healthy habits increase the time into work and their participation in economic growth.

An individual has a utility function from health H and the consumption of goods and services Nat

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

given time t; Ut is utility at year t.

$$Ut = U(Ht , Nt)$$

Precisely, marginal utility is positive

$$\Delta U/\Delta N>0 \text{ and } \Delta U/\Delta H >0$$

Individual prefer more health, not health facilities (visiting hospitals).

N is a dynamic variable as goods and services are produced and consumed every year t. Health is a stock variable because it is estimated at a particular time accumulated and depreciated gradually. This model suggests that as health is a stockvariable in year t depends upon past health, year t-1. Dynamic variables change the stock of the second variable. This model assumes that health is a stock dropped down(being tired) and freshens up (relaxing after a tiring day).

Suppose Ht = compounded health status index, which depends upon an individual's present and past behaviour (making exercise, vaccinations and habits of drinking and smoking). N is anomalous where an individual is more concerned about consuming new types of goods and services (going to restaurants, water parks, watching movies). Some goods and services improve health, replenish it, but some others do not. Care for better health is not dealing directly with this utility function. If individual care about health, then H is also good. The comprehensive Human capital model suggests here that both H and N produces and obtained by people. Nevertheless,how to obtain and produce health stock H?

Its production function produces h.

Ht = H(Ht-1, Tht, Mt) .....(1)

Ht-1= preceding stock of health

Tht= time spent to improve our health (exercise, brushing teeth, washing our hands, improving relations, having a positive mind, relaxing the body)

Mt= products and services available in the market to improve health (vaccinations, buying running shoes, treadmill, going to the gym, surgeries-if required).

Every individual is born with a stock of health, and it is called health endowment at (t=0). Now, we will study this model at a time 'to, and then Ht-1 is given. An individual can increase their satisfaction and utility and make himself happier by producing and consuming more goods and services.

The production function for N is

Nt = N(Tnt, Lt)..... (2)

Where Tnt = time spend on

recreationLt = Market goods.

Earlier individuals purchased goods and services that increase non-health goods and services and can produce in recreation time. By looking (1) and (2), individuals have a variety of goods and services (M or L) that improve health and N.

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

Constraints (A)

Every individual countenance constraints, so unlimited want can not be accomplishedand can not dwell with pleasure forever. Individual born with limited resources or with a stock of health H0. Poor who face income inequality do not have the accessibility tonutritious food. Besides income inequality, an individual also countenances timeconstraint.

Φt= Twt+Tnt+Tht+Tst

Tst = Sick time, which is unproductive

Twt = working time which is productive.

More time an individual invest in working, less time he can invest in improving the health. Contrary, if many of us are just busy maintaining health or preparing meals to be healthy and will not manage the time for work, then we will not be able to purchase even health care other than necessity good (M).

Constraints (B)

There is no free lunch in this world, so everyone has to work and earn it. Individually do not borrow in this model.

Annually Income Yt= W x Twt

Where W= wages which are exogenous (given). In simple words, an educated and healthy individual is more productive and earn more. Good health improves our skills, efficiency and health too. According to the Grossman model, good health allows earning more.

Constraints (C)

Prices play a significant role in making a budget and in estimating cost. There are two goods M and L with their prices Pm and Pl respectively.

Yt=Lt x Pl + Mt x Pm

In simple words, the income an individual earns is equal to the number of goods and services required. Income rest on the working time, and working time limits our consumption. Thus again, from the scratch, Utility functionUt = U(Ht , Nt)

$$U(Ht-1, That , Mt,Tnt , Lt)$$

Production functions of health :

$$Ht = H(Ht-1, Tht , Mt) ;$$

$$Nt = N(Tn t , Lt)$$

Subject to:

Φt = TWt+ TNt + THt + TSt and Ltx Pl + Mt x Pm

= W x TWt

An effort will be made to predict results from this imaginary model where maximum variables are endogenous, and only Ht-1, W, Φ, Pm, Pl are exogenous.

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

Understanding the Model

The comparative dynamic model will be framed based on Grossman's dynamic model to discuss the unanimity and constraints individual generally counters to get a good health.

a) There is a Trade-off related to time into health, work and leisure, and time is scarce. An Individual allocates the time for improving health into work and enjoying at the water park. This time can be productive one or sick time.

$\Phi t = TW\ t + T\ N\ t + T\ H\ t + T\ S\ t$

b) Productive time $TPt = \Phi - TS\ t = T\ W\ t + T\ N\ t + T\ H\ t$. So productive time depends on health; present actions affect our future health and what we did in thepast. How do people decide their time to allocate after taking sick time into account? Our preferences, which depends upon utility function, is its answer. Sound health is like an investment that helps achieve more output and consumption of more goods N and good Health H shortly.

a) The trade-Off between Health H and Goods and services N: Allocation of time on H and N depends on preferences. If an individual decides to spend all the time onhealth activities (TH) and health products and services, less time will be there to work and will not purchase M, but vice versa is not possible. Ht=0 can not make possible here, which means individual just working and earning to obtain N.

Equilibrium: Second Sight

The crossing point of the PPC with the utility functions curve is the model equilibrium. The size of H and N depends on desires, which means that it is contingent on the contours of the indifference curve, which further rely on the tastes for each good. It is just like equilibrium, where the marginal cost of H is equal to its marginal benefit. Marginal cost is the amount of pleasing sacrifice to get additional of other good. Whenprices come into the picture, then prices of (PM) are the opportunity cost of spending more time producing, i.e. TH. In other words, an individual can not get the quantity of N because more time put into producing H; alternatively, it depends on Pl.

Dynamic Utility Function

The human capital model is more thoughtful in flow time. Here utility hangs on consumption and health in one's lifetime.

Dynamic Utility function in lifetime is:

$$T = \sum_{t=0} \frac{1}{(1+\delta)} U(Ht, Nt)$$

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

'r' is the discount rate and 'T' is the maximum time of life. If r>0, then it means the present utility always select ed than the future utility. It also depicts the common human nature and in economics to Rs. 100 now is finer than Rs 100 in the future due to its opportunity cost. Here, inflation matters, or it does not matter. Hence according to the Grossman model, if an individual invests in any object, it carries an opportunity cost. If the investment is in health now, then resources can not be used somewhere else.

Dynamics Health Function

Precisely, health also switches with time:

$H_{t+1} = \epsilon H(M_t, T H_t) + (1 - \delta t)H_t$

'ϵ' represents the efficiency of technology, which helps a person convert M and Th into health.

$$\text{Or, } H_{t+1} = I_t + (1 - \delta t)H_t ,$$

where 'I' is the gross investment in health *and* δ is depreciation, which positively depends upon the age. Ht is low near one's death. Future health depends upon the present investment in health care goods and health activities. Health also depends upon the depreciation, which goes off day by day.

Health is a form of capital in various ways. Present health gains depend upon previous health investment; however, it also deteriorates with time. The meaning of this model is that sound health gives more productive working time, which means more investment in health for the future. In other words, individual enjoy the consumption of health. If an individual is in good health, eats fresh food, does exercise regularly, and visits to doctor for a routine checkup, there will be less need to invest in trade-mill or health investment.

On the other hand, individuals with bad practices have more health-related risks, and slight improvement make more considerable changes; otherwise, increased sick time reduces earnings. At the same time, the net effect is not apparent. Healthier individuals can spend more time at work, as sound health decreases the sick time and demand for health investment. It offsets the indirect effect of health on the leisure time by moderating the wealth restrictions. It is compatible with literature that shows significant health results on labour force participation, and unhealthy individuals retire earlier (Smith, 2007).

In the Grossman model, education is exogenous and play a significant role in the production functions. Education ameliorates productivity; better-educated people can generate more H and N with given resources. So they have larger ϵ , education is assumed like technology. Individual manage time preference with having good education as time preference is endogenous. Education also determines health because education makes individuals allocate resources efficiently, and their knowledge improves health behaviour. Education helps to reduce health depreciation *(*δ) as education turns on health since birth.

Hence, health is a consumption good and production input, and individuals with sound health can work more and enjoy life and health as human capital helps generate more. However, good and sound health is not a choice for which an individual has to choose. A newborn child does not control H0, Mt, consumption and production of goods and services and time preferences. During the life and experience from family, friends and environment teach all these things. Early health condition and opportunity for and quality of education have a significant impact on life.

Thus, individual make choices independently regarding their health and time preferences. However, Corona-virus or any other virus cannot make a choice. It infects a human with its immune system and tries its different mutation until it observes one that can stay prolonged. So, an individual should invest his time better in work and healthy activity and health investment.

ISSN No: 2349-2015
Peer Reviewed & Refereed Journal
National Research Journal

Conclusion

The central concept of the Grossman model is that individual should consider as a durable human capital asset that brings about the outcome of healthy time. Durable human capital can explore many possibility for any economy. The presumption is thatevery individual inborn with an initial stock of health that depreciates over time, and health investment helps restore it. It thus helps to measure wage rates.

We observe that more tremendous economic and social difference, in terms of wealth, earnings, and education, instigates a healthy lifestyle. It stimulates more health investment, motivates healthy consumption, and fortifies individual from physical and psychological health risks. The healthy habits of rich people are due to their healthy approach compared to poor ones. So, they have a robust immune system and live a long life. Our income depends upon our health. The harmful health of poor people forces them to exit the labour market early because of their unsafe working conditions.

Like, digitisation has increased many gig workers in the informal sector who are willing to work in this risky pandemic condition. However, this health deterioration encourages poor people to invest more in health investment and adopt healthy habitsin middle age.

Thus, health is more in environments where a wealthy individual successfully uses their wealth to increase the life. Medical technology is more accessible for richindividuals, and so, the difference in the health of different economic and social groups is widening. Education improves efficiency with more investment in health andthen educated individuals to demand affordable health stock. Thus the current model presents the difference in the health of a different individual based on their economic and social status during the life process.

Limitations: The Grossman model can not predict that health expenditures decline with age or bad health. Health never affects wages. Health affects income due to more sick time, but not the wages directly. People impeccably choose for health investment when they are near to die.

References

1. Becker, G.S. and Mulligan, C.B., 1997. The endogenous determination of timepreference. "The Quarterly Journal of Economics",pp.729-758.
2. Kenkel, D.S., 1991. "Health behaviour, health knowledge, and schooling", Journalof Political Economy,pp.287-305.
3. Muurinen, J.M., 1982. Demand for health: a Generalised Grossman model.Journal of Health Economics, pp.5-28.
4. Sinclair, D.A. and LaPlante, M.D., 2019. Lifespan: Why We Age—and Why WeDo not Have To. Atria Books. Zweifel, P., 2012.
5. The Grossman model after 40 years. The European Journal of Health Economics:HEPAC, 13(6), p.677