

HUMAN CAPITAL FROM THE DEMOGRAPHIC POINT OF VIEW

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Abstract

The human capital has two components: the quantitative and the qualitative ones. The quantitative constituent is equal to the size of labour force and this concept can be found already in the classical political economy. The qualitative one has been derived from the quality of workers and this concept is relatively new. The first one is relatively easy expressed by the number of people, the second one needs quantification of various features of human qualities. Demography concentrates on the development of numbers, eventually completed by sex and age. It analyses the changes in the population growth during the overall societal development, especially before, during and after the process of demographic revolution as a part of global revolution of modern era.

Key words: quality of population, demographic development, demographic revolution

JEL Code: A10, B10, Y10

Introduction

Demography deals with population reproduction or with the population renewal through the processes of mortality and fertility. These processes are basically biological but occurring in the social environment, which creates their second naturalness. This was in the middle of 17th century when John Graunt was interested in the bills of mortality in London. By classifying these bills he created demography and at the same time he became co-founder of statistical method. Statistics was used practically in all scientific disciplines since that time and it creates the second step of quantification, as the invention of numbers and measures was the first one. It initiated the new branch of mathematics, the mathematical statistics and the theory of probability. The importance of this method was not yet fully recognized. Regularities were found which cannot be recognized looking at one phenomenon.

Demography deals with the first component of the human capital. The renewal of population and population development is a basis for the second component of the human capital, for the increase of the quality of population in the process of the whole development. Human capital

is often reduced to the economic quality of population, and even the demographic reproduction was originally considered as an economic process. However, both basic demographic processes, the natality and mortality, create a relatively independent reality of permanent renewal of populations. The biological (natural) and social conditions have impact on the changes of their intensity, but at the same time they influence deeply other processes with people. “The demand for people, as well as demand for any other goods, necessarily regulates also the production of people....” wrote the founder of classical political economy Adam Smith (1776). Similar opinion had also other representatives of classical political economics, e.g. Joseph Townsend and James Stuart (Pavlik, 1986, p. 594). Another Smith’s follower Thomas Robert Malthus wrote: ”Population is necessary limited by the means of subsistence. Population invariable increases, where the means of subsistence increase, unless prevented by some very powerful checks. The checks and the checks, which repress the superior power and keep its effects on a level with the means of subsistence, are all resolvable into moral restraint, vice and misery” (1798, 1803). However Malthus acknowledged also the positive effect of rapid population growth for the societal development. Malthus’s pitiless critic Karl Marx also subordinated the demographic reproduction to the economic one; his population law is purely economic (Pavlik, 1986).

1 The second component of human capital

The second component of human capital is the economic quality of the population, economic potential and quality of individuals, groups and the whole society. Human capital is the sum of knowledge, skills and other abilities of human, formed, accumulated and improved as a result of investment during life activity, required for specific purposeful activity and promoting the growth of productive force of labour (Becker, 1993). Human capital refers to the stock of skills and knowledge embodied in the ability to perform labour so as to produce economic value, formed as a result of investment and accumulated human’s health, knowledge, skills, abilities, motivations which are expediently used during the process of labour, contributing to human’s productivity and wage increase. Some early theories of human capital refer to it simply as “labour”, as one of three factors of production, and consider it to be a fungible resource, homogeneous and easily interchangeable.

The human capital grows with the ability to produce higher amount of goods and services. It has two periods; the first is a preparative period, which looks as the accumulation of capital

(e.g. education) and the second period, when all these preconditions are used for the production of goods and services.

The delimitation of the concept of human capital can be different: on one side it is approaching the population quality per se, this is a very large definition, on the other it has very strict borders of conceptualization, mainly economic interests and determinations. The biggest problem represents the quantification of various features of human capital, which always leads to simplification. The most important contribution to the modern concept of human capital is due to Gary Becker. He was of the opinion that the incentive factor was the realization that in most countries, growth in physical capital account for the relatively small portion of income. Searches for satisfactory explanations had caused an interest for the less tangible entities, such as technological progress. In his works, there are widely used quantitative methods and models for studies of investment relationships in human capital and their returns. He greatly expanded the understanding of investment in human capital. Most of the households decisions about marriage, children, education, changing jobs and costs of medicine, take the form of investment. Not only the cost of education, but also the cost of raising children, health, search for information on professional development and other costs are regarded as investments if they “lead to the growth of the productive capacities of human, therefore his/her income” (Becker, 1993).

In the speech presented at the ceremony awarding an honorary doctorate to Gary S. Becker by the University of Economics in Prague on March 8, 1995, he stressed the importance of human capital. “During this century, education, skills, and other knowledge have become crucial determinants of a person’s and nation’s productivity. One can even call the twentieth century the Age of Human Capital in the sense that the primary determinant of a country’s standard of living is how well it succeeds in **developing** and **utilizing** the skills, knowledge, health, and habits of its population. It has been estimated that human capital - education, on-the-job and other training, and health – comprises about 80 percent of the capital or wealth in the United States and other advanced countries. Even if such estimates are somewhat exaggerated - and I do not believe any exaggeration is large – these estimates clearly indicate that human capital can be neglected at a country’s peril. The importance of human capital to growth is perhaps excessively illustrated by the outstanding records of Japan, Taiwan, Hong Kong, South Korea and other fast growing Asian economies.” (in Pavlík Ján, 1996, p. 23-24). Human capital is a complex, diverse and changing phenomenon. Researches on human capital focus on different aspects which make differences in approaches and assumptions in determining its nature and content. Thus, despite the considerable efforts made to develop the

labour force theory and sophisticated techniques of statistical analysis of income differentials and the factors causing them, all this were unable to complete the creation of a harmonious, well-composed and proved by facts theory.

2 The first component of human capital

The first component of human capital (demographic) is the growth of the population number. The population increase was very small in the far past. The level of mortality was similar to the level of fertility and so the population increase was close to zero. The innovations were rare and their extent limited to individuals or to families. The knowledge is power and it was an object of heritage. The first considerable numerical increase of population occurred during the Neolithic revolution. The division of labour was developing at that time and also the need for labour force in agriculture. However, the second component of human capital developed mainly in qualified population in then emerging cities.

The mortality played the decisive role between two demographic processes in the population growth. It was very unstable due to various epidemics and wars followed often by the famine. The level of fertility was almost stable because of its independence on the social environment. It was affected only by various habits and traditions, which were very stable only with a relatively small influence on the number of births. The death and births were taken as natural events. Such as this was the situation also in middle ages. The second component of the human capital grows very slowly.

The social development continued and it reached gradually momentum in modern ages. A few names could be mentioned, Francis Bacon with his empirical approach to reality and with the creation of natural philosophy. The founder of demography John Graunt considered himself as his follower. August Comte, the founder of sociology with his secularization, Adams Smith, the founder of classical political economy, Charles Darwin with his theory of evolution and many others. In all processes with people started revolutionary movement, so called modernization or global revolution of modern era. The technical inventions and new technologies created industrial revolution, the concentration of people in cities or the intensive urbanization could be considered also as revolution, the scientific revolution affected many other processes, as e.g. advancement in the medical care, which affected the decrease of the level of mortality, the obligatory education, the emancipation of women, the increase in the standard of living is increasing etc.

An important component of this process was the demographic revolution, which characterizes the revolutionary changes in the demographic reproduction. It could be shortly expressed as the change from extensive type of this process, when many people are born but only a small part of achieve the adult age to intensive type of demographic reproduction, when the number of births are low, but almost all children survived to adulthood and life expectancy doubled. Three types of this process could be distinguished: The French type with almost parallel decrease in the level of mortality and fertility, the English type with the first phase of the decrease of the level of mortality and only in the second phase the decrease of fertility and with a consequence of rapid population growth and the Japanese-Mexican type, similar to the English type with an increase in the level of fertility in the first phase (Pavlík, 1964).

The population increase during the demographic revolution was considerable, which created problems, e.g. in England during the second half of 18th and in 19th centuries. But looking back at that time, we can see a certain harmony in this process, when the growing industry needed unqualified workers coming from the country. The human capital was based on the number of labour force. Only after countries became demographically developed and the natural increase is again approaching zero, the second component of human capital is becoming more and more important.

Conclusion

Two parts of human capital could be discerned. Their weight changes over time. From the overwhelming importance of the first part in the old ages, the significance of the second part is growing especially during the global revolution of modern era reaching according to various estimations 80 percent of wealth (G. Becker, 1995). Its further growing could be expected with the low population growth in countries after the process of demographic revolution is over.

References

- BECKER, Gary S. (1993). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. 3rd edition published by arrangement with the National Bureau of Economic Research.
- MALTHUS, Thomas R. (1st ed. 1798). Essay on the Principle of Population, as its effects the future Improvement of Society, with remarks on the Speculation of Mr. Godwin, Mr.

Condorcet and other writers. (2nd to 6th ed. 1803 – 1826). *Essay on the Principle of Population or a view of its past and present effects on human happiness.*

MARX, Karl. (1990, 1st ed. 1867). *Capital*. Penguin, London.

PAVLÍK, Ján, ed. (1996). *Gary Becker in Prague*. Centre for Liberal Studies, Prague.

PAVLÍK, Zdeněk (1964). *Nástin populačního vývoje svgěta (Outline of the World Population Development)*, NČSAV, Praha.

PAVLÍK, Zdeněk, Jitka RYCHTAŘÍKOVÁ and Alena ŠUBRTOVÁ (1986). *Základy demografie (Principles of Demography)*, Academia Praha.

SMITH, Adam (1776). *The Wealth of Nations*, London.

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