

Theories of Supply and Demand, Problems and Peculiarities in the Healthcare Sector: Its Effects on Health Policy

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Abstract

Introduction: In recent years, many attempts have been made by economists to investigate whether health good is private and whether health services can be defined by free market mechanisms, in particular supply and demand mechanisms, or whether it is a public good that can only be effectively distributed through policies adopted by the state.

Purpose: The purpose of this review is to identify supply and demand theories, problems and specifics in the health sector, and their implications for health policy.

Literature review: A scrutinized review of the Greek and international literature was carried out. The material of the study was manuscripts on the subject found in Greek and international electronic databases such as: Google Scholar, Mednet, Pubmed and the Association of Hellenic Academic libraries (HEAL-Link).

Results: The laws of supply and demand do not seem to work in the health sector as health commodity has very specific features that distinguish it from any other goods determined by market and demand mechanisms. The first peculiarity associated with health commodity is the uncertainty existing in all citizens and significantly affects their choices. Specifically, the individual cannot know whether he will be ill in the future or whether he will be ill from a particular disease, to be able to save a certain amount that could be used in a similar case.

Conclusion: In the free market where most private goods are traded, quantities and prices are determined by demand and supply mechanisms. In particular, consumers being fully informed about their requirements and characteristics of the products and services, they are in demand of concrete quantities of them.

Keywords: Supply and demand theories; Problems; Specificities; Health care industry; Consequences; Health policy

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Introduction

In recent years, many attempts have been made by economists to investigate whether health good is private and whether health services can be defined by free market mechanisms, in particular supply and demand mechanisms, or whether it is a public good that can only be effectively distributed through policies adopted by the state [1,2] The debate on whether the health is private or public good derives from the health sector's characteristics, namely uncertainty, insurance coverage,

asymmetric information, the phenomenon of induced demand, moral hazard, their monopolistic nature and externalities [3].

The nature of health goods and the way in which quantities are produced and prices given to patients are also the subject of this paper. In particular, the first part analyzes the concepts of supply and demand and examines the changes that occur due to the influence of various factors on these forces. The second part then discusses the specifics of health services and finally the third part examines the need for state intervention and the adoption of health policies taking into account those particularities [4].

Aim

The purpose of this review is to identify supply and demand theories, problems and specifics in the health sector, and their implications for health policy.

Literature Review

Greek and international literature was reviewed, focusing on views on supply and demand theories, problems and specificities in the health sector, and the implications for health policy. The study material consisted of articles on the subject found in Greek and international databases such as: Google Scholar, Mednet, Pubmed, Medline and the Hellenic Academic Libraries Association (HEAL-Link), using keywords: supply and demand theories, problems, specificities, health care industry, consequences, health policy. The exclusion criteria for the articles were language, except for Greek and English.

Supply and demand in the free market economy

In a free market, the mechanisms of controlling the production, supply and consumption of products and services are the mechanisms of supply and demand. More simply, in an economy, households or otherwise consumers are those who show a demand for specific products, depending on the prices of those products, their preferences, their income level and many other factors [5]. On the other hand, enterprises are the ones that produce and deliver the necessary products and services, with the ultimate goal of meeting the needs of households or consumers expressing specific demand levels. As in the case of demand, in the case of supply, there are important variables that act on it and ultimately shape it, such as productive factors and available technology [6].

The free market system applies the law of demand and supply whereby both demand from the household side and supply from the business side are determined by the sales prices of the products [7]. More specifically, in the law of demand the lower the price of products, the higher the demand for these products, which means that demand and price are inversely sizes. It is also documented that in the law of supply, as the price of products increases, so does their supply, which means that supply and value are proportional. It should be noted that in the free economy there are also points of balance between supply and demand where there is a common price at which demand and supply are equal, i.e., optimal quantities are obtained [8].

Both demand and supply of products and services can be determined by the respective curves, which are presented below. It is emphasized that on the vertical axis is the value and on the horizontal axis are the quantities of services and products. In the first chart, which shows the demand curve, it is perceived that as the price of the product increases, the quantity demanded by households decreases (**Figure 1**). In the second chart that shows the supply curve, it is observed that as the price increases, so does the quantity of products or services offered by the companies (**Figure 2**). The equilibrium point between the

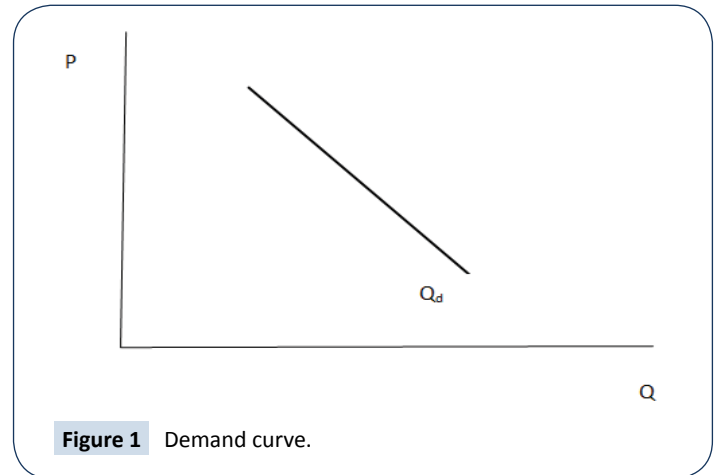


Figure 1 Demand curve.

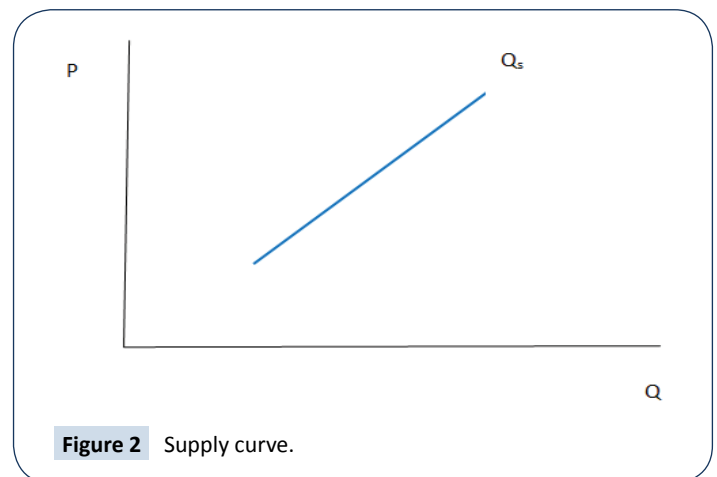
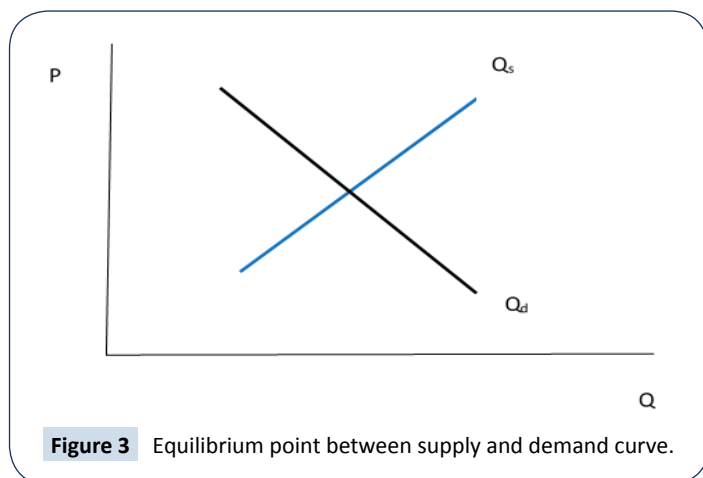


Figure 2 Supply curve.

two curves becomes evident in the third diagram where there is a point at which the demand curve intersects the supply curve (**Figure 3**). In fact, this is also the point where there is an optimal balance between the quantities needed by the consumers and the quantities produced by businesses [5]. However, these curves do not remain unaffected by time, but can be moved either left or right depending on the changes in consumer needs and the conditions prevailing in the business environment. According to microeconomic theory, demand for a product or service can be influenced by various factors such as consumer income, expectations about their future income status, prices of other products, number of buyers and consumer preferences [6,9].

More specifically, there can be a decline in demand, which is plotted as the curve shifts to the left and is the result of a decline in consumer income, pessimistic consumer estimates, rising commodity prices, consumer shift to other products. On the contrary, there can be an increase in demand, which is plotted graphically as the curve shifts to the right and is the result of increased consumer income, optimistic consumer estimates, lower prices for other products, and consumer shift to these products [10].

The supply curve for a product or service can also be influenced by various factors such as technology and productivity factor prices, prices of other products, the number of companies



producing those products or services, taxes, subsidies and other relevant factors [6]. In particular, supply can increase and its curve shifts to the right if production technology is improved, prices are falling, companies are increasing, taxation is cut and subsidies are increasing. On the contrary, supply can be reduced and its curve shifts to the left if the quality of technology in the production process is reduced, the number of businesses is reduced, production prices are increased, taxation is increased and subsidies are reduced [11].

The peculiarities in the health sector

The laws of supply and demand do not seem to work in the health sector as health commodity has very specific features that distinguish it from any other goods determined by market and demand mechanisms. The first peculiarity associated with health commodity is the uncertainty existing in all citizens and significantly affects their choices. Specifically, the individual cannot know whether he will be ill in the future or whether he will be ill from a particular disease, to be able to save a certain amount that could be used in a similar case. Even if he decides to put aside some money, he cannot know if this amount will be sufficient in case he is infected by a disease [12].

It should be noted that uncertainty can be addressed through the insurance of individuals. In particular, in order to address this uncertainty, individuals decide to insure themselves to be able to cover the costs of health services in the future. Individuals entering into contracts with private insurance companies to cover future health care needs or otherwise are compulsorily insured by state insurances in cases where insurance is compulsory as in the case of Greece. In the US and other countries where state-owned insurance is not compulsory, citizens go into private insurance as this is the only way they can cover the costs associated with future illness [13].

The next health feature is the asymmetric information, in which patients have a different level of information about their health status, its management and treatment than the level of information available to physicians. This feature is one of the major differences occurring in the health field and making it different from other sectors of the economy [3]. On the contrary,

in the free market it is supported that consumers are fully informed about the quantity of products to consume and the cost of these products [14]. Asymmetric information indicates that patients consume health services provided by their attending physician as they do not have the appropriate information and knowledge to make a decision [1].

The existence of asymmetric information also leads to the phenomenon of induced demand, in which it is observed that large consumption of health services by patients is not always necessary for them [15]. More specifically, in many cases it appears that physicians encourage their patients to consume a greater amount of health services in order to achieve the best possible management of their disease and thus the best possible level of health [16]. However, in reality this behavior may not be ideal because physicians' motivations may not be aimed at forming a good standard of health for the patients, but for their personal financial gain. Many physicians, in order to increase their profits, decide to provide a greater amount of health services than is actually needed [15].

Many studies have been conducted worldwide to examine whether the induced demand phenomenon is present in various health systems. Shegeoka and Fushimi's research has shown the existence of induced demand through the behavior of physicians and hospital administrations, as there has been an increase in the use of services provided by intensive care units for 1 to 5 days to neonates, on the ground of low birth weight [17]. The Gruber and Owings survey also confirms the existence of the induced demand phenomenon as there has been a significant increase in cesarean sections in an effort by gynecologists-obstetricians to compensate for their loss of income due to low fertility in recent years [18].

The consumption of health services in larger quantities than those actually needed by patients not only has adverse effects on their health status, but it also has significant public and private costs [16]. This means that the resources available for health are not used properly to the benefit of a large number of citizens but are instead unnecessarily consumed to increase the profitability of physicians [15]. In particular, when health costs are covered by the state budget and social security agencies, physicians' efforts to increase the consumption of health services seem to be made easier as people do not realize any costs that could influence their decisions. In essence, there is an association between the phenomenon of induced demand and moral hazard on the part of citizens [19].

More specifically, moral hazard relates to the way people behave towards the consumption of health services. In many cases it is observed that citizens accept to consume more services than they need as they do not participate in the payment of the service provider or even if they do so they are very limited [20]. Essentially, citizens do not have a barrier to the amount of health services consumed as private consumption is severely limited in cases where health service compensations are covered by insurance companies or insurance funds [21].

The monopolistic structure of the health care market is another feature that distinguishes it from the rest of the economy. Physicians gain enormous power that could be characterized as monopolistic partly because of asymmetric information and partly because of the confidence gained from the patients they care for. This power allows physicians, in many cases, to determine the prices of health services on their own, ignoring competition [22]. Physicians may be able to determine the prices of the health services by themselves, but these values cannot be very divergent from the average as patients would not be able to respond to such increased prices and would necessarily search for more economical options [23].

Another important feature that makes health care a different field is the existence of a large number of externalities. The consumption of health services by an individual can significantly affect other people in his/her home and social environment. People's behavior towards the use of health services can affect public health. A characteristic example is vaccination, which affects both the person's life being vaccinated and public health as it can reduce the spread of the disease [24]. All of the above features make clear why the health sector is different from other sectors of the economy and also explain why demand and supply mechanisms cannot work [25].

The health specific and public policies

The special features of health services presented and analyzed above make it clear that health is a shared private good, the production of which and its sale to patients are determined by supply and demand mechanisms [26]. Nevertheless, the fact that health is not private does not automatically mean that it is a public good and this conclusion comes with the implementation of the exclusion principle, whereby if the physician is not paid may exclude the patient and not offer him health services. Consequently, the good of health could be classified as a semi-public good as it is in the middle of the principles that apply in both cases [27].

All citizens of a country should have the right to access health services, however this cannot happen for all unless the state intervenes. The state intervenes on a variety of health-related issues and develops appropriate policies to ensure equality of health for all its citizens. It is worth noting that in Greece the state intervenes in a variety of ways and in many cases it implements health policies related to the particularities of health [28].

More specifically, to deal with uncertainty, the state has established compulsory insurance for all working citizens so that all citizens, whether belonging to high-risk groups or not, may access health services in the future [29].

In addition, the state takes appropriate decisions and adopts appropriate policies to address the phenomena of induced

demand and moral hazard. In particular, electronic prescription has been used to make doctors' movements and actions more transparent and make the screening process easier [30]. In addition, in an effort to address the induced demand phenomenon, the state also sets policies related to the financing and compensation of physicians and health care units. In particular, one of these policies concerns financing under similar diagnoses in which health care providers receive specific amounts for specific diseases, regardless of the amount of health services consumed, so that health care providers are not really motivated to provide additional health services [31].

In order for the state to address part of the moral hazard, it sets a minimum participation rate for insured persons, the amount of which has increased in recent years. However, this measure excludes patients who have been diagnosed with chronic diseases as in these cases there are concrete quantities of medicines and health services required. More generally, many state interventions occur through the adoption of policies aimed at equitable distribution of health services to the citizens of the country. In this way, equality in health is achieved [32].

Discussion

In the free market where most private goods are traded, quantities and prices are determined by demand and supply mechanisms. In particular, consumers being fully informed about their requirements and characteristics of the products and services, they are in demand of concrete quantities of them. On the other hand, companies, in the free market, monitoring the trends in demand are producing similar amounts of products and services in order to achieve an equilibrium point at which the quantity demanded equals the quantity supplied. However, it appears that free market mechanisms cannot work in the case of the health sector and as a result the quantity of health services cannot be determined by supply and demand mechanisms [33-36].

Conclusion

The features that make health services different from other goods traded in the free market are uncertainty, insurance coverage and asymmetric information, the phenomenon of induced demand, their moral hazard, their monopolistic nature and the externalities they present and affect the entire community. Due to these features, it is not possible to determine the quantities of health services to be consumed by patients and citizens of countries as well as the prices of these health services, thus state intervention is required. The governments of countries in order to ensure equal access of all citizens to health services create policies that address some of the above difficulties and contribute to a fair distribution of health services to all citizens without criteria.

References

- 1 Yfantopoulos G (2006) Health Economics, Theory and Policy. Athens.
- 2 Chletsos M (2011) Health Economics. Patakis, Athens.
- 3 Liaropoulos L (2015) Health Services & Systems Organization. BETA Publications, Athens.
- 4 Doyal L, Pennell I (1979) The political economy of health. Pluto-Press, Athens.
- 5 Chacholiadis M (1990) Microeconomics I. A Review, Athens.
- 6 Varian H (2006) Microeconomics: A contemporary approach. A Review, Athens.
- 7 Coburn D (2010) Health and health care: A political economy perspective. *Staying alive: Critical perspectives on health, illness, and health care* 2: 65-91.
- 8 Smith PC, Yip W (2016) The economics of health system design. *Oxford Review of Economic Policy* 32: 21-40.
- 9 Bloom DE (2000) The health and wealth of nations. *Science* 287: 1207-1209.
- 10 Folland S, Goodman AC, Stano M (2007) *The Economics of Health and Health Care* Upper Saddle River, NJ: Pearson Prentice Hall, USA. p. 6.
- 11 Grossman M (2017) *The demand for health: A theoretical and empirical investigation*. Columbia University Press.
- 12 Sloan A, Hsieh R (2017) *Health economics*. MIT Press, USA.
- 13 Tuohy CH, Glied S (2011) The political economy of health care. In *The Oxford Handbook of Health Economics*. Oxford University Press pp. 57-77.
- 14 Frank G, McGuire G (2000) Economics and mental health. *Handbook of health economics* 1: 893-954.
- 15 Keyvanara M, Karimi S, Khoasarani E, Jazi MJ (2014) Experts' perceptions of the concept of demand in healthcare: A qualitative study in Isfahan, Iran. *J Educ Health Promot* 3: 27.
- 16 Sialakis CH (2018) Challenging demand: An economic approach and ways to deal effectively. *Scientific Chronicles*, 23: 138-144.
- 17 Shigeoka H, Fushimi K (2014) Supplier-induced demand for newborn treatment: Evidence from Japan. *J Health Econ* 35: 162-178.
- 18 Gruber J, Owings M (1996) Physician financial incentives and cesarean section delivery. *Rand J Econ*.
- 19 McConnell R, Brue L, Flynn M (2009) *Economics: Principles, problems, and policies*. Boston McGraw-Hill/Irwin.
- 20 Phelps E (2016) *Health economics*. Routledge, USA.
- 21 Fuchs R (1989) Health economics. In *Social Economics* Palgrave Macmillan, London, UK. pp. 119-129.
- 22 Reisman D (1993) *The political economy of health care*. Springer, UK.
- 23 Ginzberg E (1965) The political economy of health. *Bulletin of the New York Academy of Medicine* 41: 1015.
- 24 Ruger JP, Jamison DT, Bloom DE, Canning D (2011) Health and the economy. *Global Health: Diseases, Programs, Systems, and Policies* pp. 757-814.
- 25 Mallows D, Litster J (2016) Literacy as supply and demand. *Zeitschrift für Weiterbildungsforschung-Report* 39: 171-182.
- 26 Baum F (2016) *The New Public Health* Oxford University Press. p.4.
- 27 Yeates N (2005) A global political economy of care. *Social Policy and Society* 4: 227-234.
- 28 Brenner MH (1995) Political economy and health. *Society and health* pp. 211-246.
- 29 Ensor T, Witter S (2001) Health economics in low-income countries: adapting to the reality of the unofficial economy. *Health Policy* 57: 1-13.
- 30 Yfantopoulos N, Yfantopoulos P, Yfantopoulos J (2016) Pharmaceutical policies under economic crisis: The Greek case. *J Health Policy* 2: 1.
- 31 Xenos P, Nektarios M, Polyzos N, Yfantopoulos J (2014) Modern methods of hospital financing, competition and financial incentives. *Archives of Greek Med* 31: 172-185.
- 32 Feldstein J (2012) *Health care economics*. Cengage Learning.
- 33 Fuchs R (1986) *The health economy*. Harvard University Press, UK.
- 34 Kyriopoulos I, Neighbor M (2008) *The economics of health. Methods and Applications of Financial Evaluation*, Papazzi.
- 35 Davis B, McMaster R (2017) *Health Care Economics*. Routledge, USA.
- 36 Fuchs R (2000) The future of health economics. *J Health Econ* 19: 141-157.