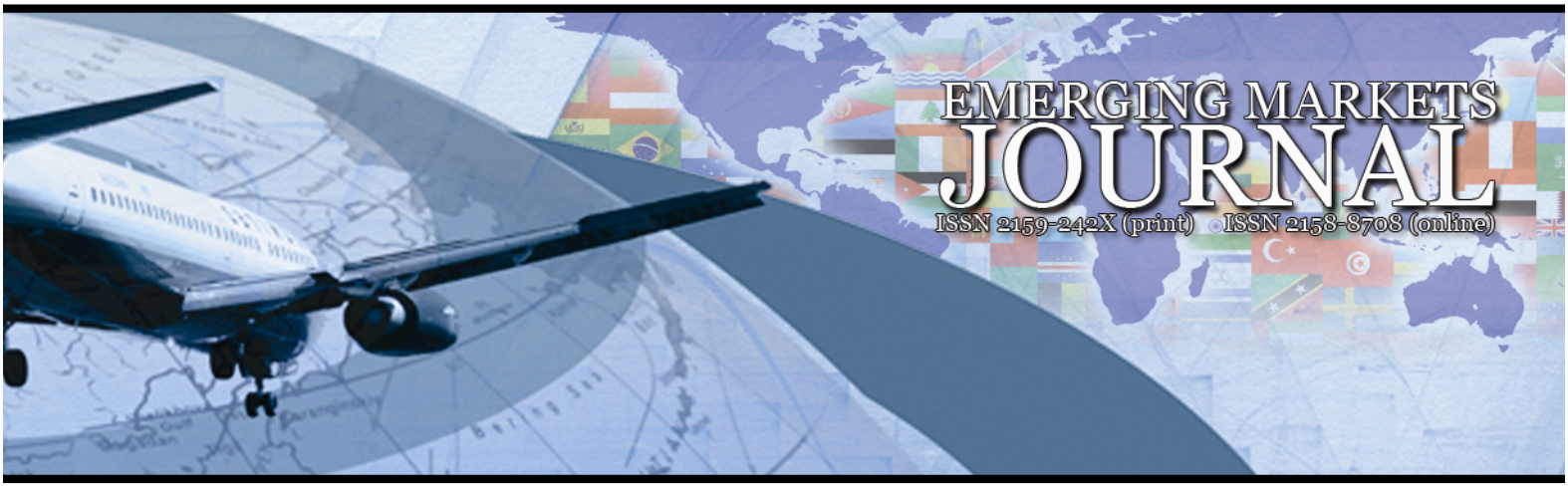

THE PRİCE OF HİGHER EDUCATİON AND İNDİVİDUAL DEMAND

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Abstract

The rise in the living standards in most of the world, the rise in population and schooling rates have increased the demand for higher education. The attribution of semi public property becomes determinant to decide whom will provide the supply and the production in semi public properties is realized by means of a supply and demand mechanism. The supply of higher education is mostly secured in accordance with the public demand as well as the resources available. In addition, the fact that higher education services have produced significant benefits has led to over demand. This situation relates to a simple economic rule that a commodity or service which costs almost nothing or little will increase until the mariginal benefit of its demand equals to 0 or almost 0. However, the educational supply and demand is difficult to identify in accordance to the supply and demand and balance of price as observed in the economic theory. The high profits that would be attracted in the future are significant factors influencing individual's decisions for investment. The decision for investment depends on the possible return in the future, the cost of investment, and the current interest rates. Higher education with investment purposes is influenced by these three factors and higher education is demanded more and more by individuals on the expectation that they will gain high profits In theory, it is accepted that the basic factors identifying the demand for higher education are in harmony with empirical research results in several countries including Turkey.

Keywords: Demand of higher education, price of higher education, returns of higher education, public finance in higher education

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The Price Of Higher Education And Individual Demand

Filiz Gölpek

I. Introduction

The rise in the living standards in most of the world, the rise in population and schooling rates as well as the scientific and technical developments have increased the demand for higher education. However the main reasons for such demand increase are that the higher education is provided almost free of charge, the current and capital expenses of institutions are met by public resources, and the educational investments bring about significant effects for both individuals and the community. These effects are reflected as benefits in varying degrees in each stage of education. Generally speaking, social benefits are derived at the primary and secondary stages, and private benefits are obtained at the higher education level.

The purpose of this study is an attempt to present a theoretical framework to show that private and social benefits of education are the main determinants of the demand for higher education. The study is comprised of 4 sections including the introduction and conclusion parts. The second section focuses on the private benefit (return) of education and analyses the public financial system in higher education. These are the main determinant for price of higher education and individual demand in higher education. In the third section, analyses the individual demand for higher education in the public system within a theoretical framework. The conclusion section emphasizes that private benefits may vary depending on the stages of education, and private benefits prevail particularly in higher education, and as a result the individual demand for higher education is increased.

II. The Price of Higher Education

Private Returns of Higher Educati

In a classical sense, education provides financial benefits to both individual and the society. Private and social benefits values are emphasized in order to find out how much benefit both individuals and the society obtain. Generally, the studies in this area point out that the social benefits predominate in the primary and secondary stages and the private benefits in higher education.

Private returns are benefits that individuals receiving education gain which are not reflected on the society. These benefits are obtained when individuals are to earn more in their future as their employment opportunities, productivity, and earning capacity increase with education. The benefits which are described in financial terms are compared with private costs and expressed as private rate of returns of an individual [1].

Private return rate of education is higher education in Africa (32%) and South America (23%) than developed countries (12%). Private return rate of higher education in South America (the highest 24%-the lowest 14%) is about twice higher than that of secondary level (the highest 15%, the lowest 5%) [2], [3]. In Brazil the private return rate of education of those in low socio-economic status (11.4%), that of the workers in France (11.9%), that of those individuals in Kenya whose parents have no education (8.5%) is lower compared to others [4]. In the USA, the private return rates for high school graduates is 13%, whereas the rate for college graduates is 20% [5]; the benefits of male university graduates is

approximately 83% higher than those of primary school graduates [6]. The studies in Turkey reveal that the private return rate at higher education level (16.2%) is approximately twice higher than social return rate (8.5%) [7]; the private return rate of public sector personnel graduated from engineering faculty (40.26%) is higher than their social return rate (32.93%) [8]. According to mean averages of the OECD educational data, the private return rates at higher education (11.5%-10.7%) are higher than those at secondary education level. These are shown on the Table 1 below.

Table 1. Private return rates at different education levels in various countries (%)

Countries	Secondary Male-Female (%)	Higher Education Male-Female (%)	Countries	Secondary Male-Female (%)	Higher Education Male-Female (%)
Australia	14.4-11.5	9.1-11.3	Portugal	11.6-12	18.4-18.4
Belgium	6.6-10.8	11.7-14.1	Spain	11.7-14.6	9.3-11.6
Canada	12.6-9.2	9.6-8.8	Sweden	14.3-10.2	6.1-5.3
Denmark	5.8-3.4	4.4-4	Turkey	9.4-8.9	19.1-19.1
Germany	7.8-6.5	9-6.5	England	13.4-10.5	11.2-8.5
Korea	11.1-0.9	9.4-12.9	Italy	7.2-8.5	11.5 6.6
Netherlands	4.4-4.8	6.6-5.6	OECD means.	10.6-9.3	11.5-10.7

Source: OECD (2010). Education at a Glance.

The literature review suggests that, no matter what the level of development and economic systems of the counters are, there is always a positive relationship between education and salaries, and there salaries at the level of higher education are comparably high.

University graduates can find well-paid jobs in countries facing workforce shortage. For instance a Brazilian study shows that female high school graduates are 3-4 times more fortunate than primary school graduates in finding employment; and when compared with females of no educational background, female primary school graduates are employed twice more [9], [10]. According to the OECD mean averages, employment rates are 65% at primary level, 88% at secondary level, and 90% at higher education level. The rates in Turkey are 72%, 79% and 82% respectively [11]. According to the data from the 2011 household workforce research, workforce entry rates among males are approximately 68% below high school level whereas among females the rates are 23%; at higher education level the rates are 86% and 73% respectively among males and females [12].

Monthly salary of a university graduate in Argentina ($ 494) is twice higher than that of a primary school graduate ($ 236) [13]; a university graduate in Botswana earns almost 5 times more than an employee of no educational background (2.842 and 584 Pula respectively), an average monthly salary of a university graduate (2.504 Pula) is almost 6 times higher than that of an uneducated employee (346 Pula), and almost 2 higher than that of a secondary school graduate [14]. In South Africa, African males receive a salary increase of 27% when they move from secondary to higher education graduate status, and receive an increase of 16% when they move from primary to secondary school graduate status. White males, on the other hand, receive an increase of 8% and 15% respectively [15]. In Turkey, when the level of education is concerned, the highest annual salary is obtained by graduates or post graduates, being

29.258 TL for the male employees, and 23.899 TL for the females [16].

Public Financial System in Higher Education

A popular policy in several countries in the 70's was to offer free education which was provided by the state governments to a large extent. The welfare state view lies at the centre of such a policy. This has resulted in financing educational expenditure through taxes rather than demanding from parents in several countries. Such policies have been regarded as a way to provide equal opportunity and to spread higher education [17], [18].

The fact that the provision of education was controlled by the governments and subsidized by taxes has been based on some basic reasons such as imperfect market, external factors, equity and public domain arguments. More concrete justifications could be listed such as protection of minors, external factors, views of democracy, search for common values, equal opportunity, the effects of education on economic growth, imperfect capital markets, misinformation and monopolizitations [19], [20], [21], [22].

Provision of public finance and subsidization of educational services by governments have lead to serious problems and created rapid-growing costs. As educational and other service costs and prices have increased, we have reached at a stage of welfare state crisis in which governments fail to provide free or low cost services [23]. In countries where there is a high share of public sectors, such as Greece (100%), Ireland (96.9%), Spain (94.4%) and Italy (88.2%), it is interesting to observe immense amount of suffering following the 2008 crisis.

There are dramatic differences among the OECD countries. in terms of private sector shares set apart for higher education from GDP. While Chile (85%), Korea (79%), the USA (68%), Australia (60%), Israel (47%) and New Zealand (43%) have the biggest share of private sector, several European countries hit the bottom in this respect. While the OECD mean average is 33%, the rate in Turkey is 10%. While the share of public sector is 96.8% in 2008 in Turkey, it has decreased to 90% in 2010 [24].

According to public financial system, the OECD mean average rates for private return of higher education is almost 3 times higher than social return rates, and this figure varies from 2 to 4 times in the countries involved [25]. Several popular university programs enable their well-trained graduates to secure very high returns. Despite the social benefits many programs provide, the private benefits still predominate.

III. Individual Demand for Higher Education

The fact that the main determinant of individual behaviour is to gain profits and to maximize them is regarded as the basic principles of economy. The high profits that would be attracted in the future are significant factors influencing individual's decisions for investment.

The decision for investment depends on the possible return in the future, the cost of investment, and the current interest rates [26]. If no investment is made, the easiest way to make income is to deposit money for interest return. There is a reverse functional relationship between interest rates and investment capacity. When the interest rates fall, the investments increase in the businesses and the economy as the opportunity for profits arises. In this respect, a rational business or individual faces three situations while making decisions within the framework of return rates and interest rates [27].

- If the interest rate is equal to return rate (i = r), there is no need for investment as the money deposited in a bank will produce the same profit.

• If the return rate is higher than the interest rate (r > i), it will be profitable to invest. For this reason the conditions are said to be appropriate for investment.

• If the return rate is lower than the interest rate (r < i), the investment will not attract profits. For this reason the resources should be utilized in other ways.

According to this, if r > i in higher education, the demand will increase. In the case of i = r there will be no demand increase. If r < i, the demand will decrease. In addition, there will be no demand when the current value is equal to the cost. In other words, If present value (PV) = C, i = r and P = 1. If the present value (PV) is greater than the cost (PV > C), the demand will rise (r > i P < 1). In case of PV < C, the demand will decrease (r < i; P > 1).

Higher education with investment purposes is influenced by these three factors and higher education is demanded more and more by individuals on the expectation that they will gain high profits. The most pre-eminent study to explain the demand for higher education has been carried out by G.Becker.

Becker (1967) [28] attempted to describe individualistic supply and demand in higher education and used the terms the private return of education (r) and the opportunity cost of investment (i). Becker believed that higher education would produce more benefits than other stages of education and assumed that supply curve is fixed invariably. According to this, when the supply is fixed, individuals' demand for more human capital will cause a rightward shift of the demand curve. However, if there are position vacancies in classes because of unutilized capacity or if there are buildings to be leased as schools, then the higher education supply curve may tend to be positive. In this case, as the demand for higher education increases the service quantity, therefore, productivity will increase.

The horizontal axis shows the quantity of education whereas the vertical axis indicates concealed price of public assets. The demand curve of public assets in higher education is formed considering the assumption "if other conditions are unchanged" which is called upon on the other demand curve. These assumptions are primarily family income and pleasure as well as the prices of other goods, especially personal loan and interest rates. The demand curve of higher education is shown at Fig 1 below.

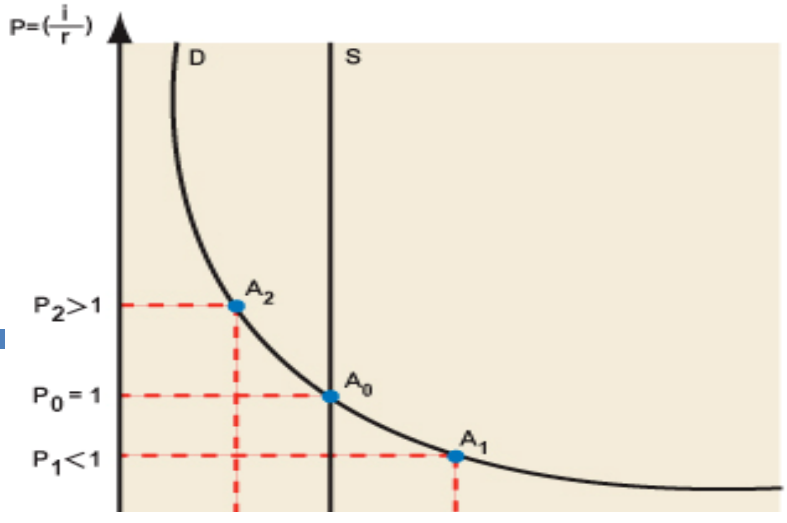

Fig 1. The Demand Curve of Higher Education

Since a fall in the cost of higher education increases the r, the prices will drop and the demand will increase. Similarly, an increase in the net income will increase the r. Such an increase will drop the price and increase the demand. A fall in the return of the investment will decrease the price and increase the demand for higher education. However, as the presence of over demand increases P, it will lead to a drop in the higher education return rate, and the balance will be preserved at P = 1, in other words at i = r.

We may use of the factors affecting the demand in preserving the balance; in the short run scholarships, donations, subsidy increase or decreases, and financing through credits could be used as a means of policy while ending the excess demand created especially when P < 1 or compensating for the shortage of demand when P >1. An important variable for investment policy for governments becomes clear here. If r is accepted as the rate of social return in higher education the governments maintain their marginal capacity increases until i = r when the other conditions are unchanged. A price of balance is said to be present all the time.

G.Akalın (1980) [29], who used this approach in higher education in Turkey for the first time, analyzed the demand for education and stated that the excess demand for higher education results from the low price due to the costs involved. Akalın, indicated in his study that the kind of investments regarding i in Turkey are the interest rates of state or private bonds or the return rates of real estates and the small funds are attracted to these kind of investments in Turkey The researcher, in calculating the price for higher education, used the interest rate for real estate as basis in the long run for the small investor (i = 9%) and calculated the private return rate accordingly (r = 10.5%) and reached the result that the higher education price is smaller then 1 (P = 9/10.5). If the price is smaller than 1 there will be excess demand, if bigger, we will have low demand.

Such result shows that the over demand for higher education results from the low price of higher education. For the demand and supply to be balanced (D = S), in other words for the price to be equal to 1 (P = 1) will be realized either when the investment rate is equal to the return rate (i = r) or when the cost of higher education is collected from the benefactor.

IV. Conclusion

The demand for higher education has been increased significantly all over the world as the rapid technological developments rendered higher education and life long learning necessary. Since education is perceived as a means to increase the number of trained manpower in especially underdeveloped countries and higher education expenses are met by public resources, the individual demand for higher education has increased.

As the literature reveals, there is a strong positive correlation between private return rates and

the demand for higher education. The demand rice in higher education has made it necessary for the governments to provide academic staff, the facilities and financial support, pressuring us into opening new higher educational institutions. The fact that higher education services are semi public has made it necessary to use the public resources. The production in semi public properties is realized by means of a supply and demand mechanism. The attribution of semi public property becomes determinant to decide whom will provide the supply. The supply of higher education service is mostly secured in accordance with the public demand as well as the resources available. However, the educational supply and demand is difficult to identify in accordance to the supply and demand and balance of price as observed in the economic theory.

It is accepted that the basic factors identifying the demand for higher education are the costs and increasing profits. The empirical research results are in harmony with the theoretical applications. It has been observed that income and proportional wage differences have influenced the enrolment figures positively, that the effects of indirect costs are negative, and there exist determining variables in the demand model for income and foregone earnings. Similarly, students' chance to get financial credits affects the demand for education. The most important factor of all is that higher education costs are met by public expenses.

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VI. Appendix A.

The rate of return is based on the principle of calculating the discount rate which renders the present value of benefit trends that will result from investments equal to the present value of cost. The required procedure in this technique is to select the rate by which the benefits will be discounted. In case the investment is financed through debts for a long period the real interest rate paid is accepted as the rate of discount. If no loan is received during the implementation of the project, then the interest rate of the Central Bank which is applied to long term bonds could be accepted as discount rate as these bonds carry almost no risks. In the following formula r indicates the return rate, the return refers to profit differences, and the M stands for the cost. Private return rate (PRR) includes total private costs and return rates. Accordingly, the rate of private return is calculated by the following formula.

PRR private : 0 = return ö / (1+r) t - M

0 = [private return t / (1+r) t] - (private cost)