Original Article

Factors affecting the demand for higher education in medical universities in Iran

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Abstract

Background: One of the most effective indicators of human capital and social determinants of health is the number of university graduates. Investigating the variables influencing Iran's desire for higher education was the goal of this study.

Methods: In this cross sectional study, the Autoregressive Distributed Lag (ARDL) method was used. The questionnaire used in this study included a researcher-made questionnaire to collect information on the target variables of the study. The first stage was using the Banerjee, Dolado, and Mastre approaches to find out if the model had a long-term connection before doing the long-term co-integration test. The t-statistics connected to coefficients inside an interval of the dependent variable served as the basis for this test's execution. The dynamic error correction model (ECM) and the ARDL model's long-term coefficients were retrieved. The Gulpak article model and information from the Central Bank of the Islamic Republic of Iran, the Statistics Center, and other sources were utilized to investigate the variables impacting the demand for higher education in Iran.

Results: Factors affecting the demand for higher education include the average free and night tuition, economic growth, employment rate, consumer and producer price indices, government spending on education and the ratio of urban population to the total population. The factors that influence the demand for higher education are government spending in the education sector, consumer price indices, and economic growth indicators.

Conclusion: Given the role that human resources play in the creation of human societies, particularly in the health sector, raising the proportion of government spending on education can spur demand for postsecondary education and advance national development.

Keywords: Education, Graduate; Education, Medical, Graduate; Iran.

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Introduction

By enhancing the information, abilities, and attitudes needed in human resources, higher education is a critical form of investment in human resources and a social determinant of health. It also helps to improve the health

sector of society and promote economic growth. Higher education promotes knowledge and plays a role in creating new knowledge with research, technological, and scientific advances. It shows how important higher education institutions, such as universities, are becoming to the economy. Education has attracted the attention of economists since the old days, so the economics of education has been proposed as a specific field since the early 1960s that analyzes the share of education in economic growth (1). The social demand for higher education as an indicator of potential specialized human capital in society is crucial in investigating the role of higher education on economic and social development. The changes in age structure as a consequence of reducing mortality from various diseases, fertility changes, and migration flows by determining the size of the population exposed to higher education affect the social demand for higher education. On the other hand, one of the most important factors influencing demographic dynamics is the shift in society brought about by the growth of social knowledge and the rise in the number of university graduates (2). Learning and education, for the sake of education, have little intrinsic value. By 2025, there will be half as many candidates for bachelor's degree programs as there are now, at 600,000, due to the decline in the number of applicants for higher education during the following 14 years (3). Furthermore, in recent years, the societal need for higher education has decreased due to the decline in childbearing in the late 1980s. As we move toward higher income deciles, higher education turns from a luxury item into a necessary item for urban and rural Iranian households (4).

In a study by Shiri & Noorollahi, the variable of household education and education cost, as the wage index negatively, and the variables of urbanization and government expenditure on education positively affected the number of students (5). In the qualitative section, the study conducted by Qhavidel et al. found that the factors influencing the demand for higher education among the general public could be categorized into four categories: individual and family, university, economic, social and cultural, and economic. Of these, the former are the most significant, while the latter are cultural and social (6). Given the theoretical foundations and background of the study, it can be stated that the number of university graduates is nowadays one of the most significant indicators of human capital. An educated workforce is considered to have more value-added than an ordinary person. Therefore, this study looks at the variables influencing Iran's medical groups' desire for further education.

Methods

Type of study

In this cross sectional study, the Autoregressive Distributed Lag (ARDL) method was used to investigate the demand for higher education.

Research setting:

The environment investigated in this research includes average Azad and state universities' tuition, rate of economic growth, employment rate, government expenditure, and finally the ratio of urban population to the total population in Iran.

Study population:

Students studying in Azad and state universities in Iran included the study population of this study.

Inclusion and exclusion criteria:

The inclusion criteria of the study included studying in Iran's state and Azad universities of medical sciences.

Questionnaires:

The questionnaire used in this study includes a researcher-made questionnaire to collect information on the target variables of the study. They include government expenditure on education, employment

rates, economic growth, average Azad and state universities' tuition, and the number of students studying in Azad and state universities.

Statistical tests:

The Engel-Granger approach and the Johansen-Juselius maximum likelihood method can be used to examine the short- and long-term correlations between the dependent variable and other explanatory factors in the model related to the demand for higher education. Owing to their shortcomings, other techniques, such as ARDL analysis, can be utilized to examine both short- and long-term correlations between variables. Using the ARDL approach has the benefit of allowing one to investigate the co-integration connection between the variables regardless of whether the explanatory variables are at the stationary level ((0) I) or become stationary by one-time differentiation ((1)). To estimate long-term associations, the ARDL method consists of two phases. Evaluating the long-term and short-term coefficients comes after looking at the long-term relationship between each variable. Only once the first stage has shown the long-term link between the variables can the second step be completed.

The study model of relationships:

An Autoregressive Distributed Lag model with distributive represented as ARDL (p,q1,q2,...,qk), which is expressed as follows (1):

$$\alpha(L,p)Y_t = \alpha_0 + \sum_{i=1}^{k} \beta_i\ (L,q_i)X_{it} + \delta Wt + ut\ t = 1,2,\ldots,n \quad (3\text{-}1)$$

This equation shows the dynamic relationship between the variables, so:

$$\alpha(L,p) = 1 - \alpha^1 L - \alpha^2 L^2 - \ldots - \alpha pLpt = 1,2,\ldots,n \quad (3\text{-}2)$$

$$\beta_i(L,q_i) = 1 - \beta i^1 L - \beta i^2 L^2 - \ldots - \beta iqLq \quad i = 1,2,\ldots,n \quad (3\text{-}3)$$

The variables in this example are Yt, the dependent variable; α0, the intercept; Xit, the independent variables; L, the lag operator; p, the number of lags applied to Yt; q, the number of lags applied to Xt, the independent variables; and Wt, which is the set of predefined variables, such as trend variables, dummy variables, and other exogenous variables with constant lag. One can use the Hannan-Quinn, Schwarz Bayesian, or Akaike criteria (7) to find the number of optimum delays for each of the explanatory variables. By performing basic algebraic operations on the aforementioned equation and assuming that the present values of the lags of all dependent and distributional variables are identical over the long run, the long-term relationship of the ARDL model was produced as follows:

$$\boldsymbol{Y_t = \alpha + \sum_{i=1}^{k} \theta_i X_i + \gamma W_t + \nu_t} \quad \textbf{(3-4)}$$

In this equation:

$$\alpha = \frac{\alpha_0}{\alpha\,(1,p)} \quad \textbf{(3-5)}$$

$$\gamma = \frac{\delta}{\alpha\,(1,p)} \quad \textbf{(3-6)}$$

$$\theta_i = \frac{\beta_i\,(1,q)}{\alpha\,(1,p)} = \frac{\sum_{j=1}^{q} \beta_{ij}}{\alpha\,(1,p)} \quad \textbf{(3-7)}$$

$$\nu_t = \frac{u_t}{\alpha\,(1,p)} \quad \textbf{(3-8)}$$

There are two phases in the ARDL model estimate process for estimating long-term coefficients. The first phase was looking at whether the research variables had the long-term link that economic theory expected. In the second stage, long-term and short-term coefficients were computed if a long-term association was found. The first stage was using the Banerjee, Dolado, and Mastre approaches to find out if the model had a long-term connection before doing the long-term co-integration test. The t statistic, which is connected to the coefficients with the lag of the dependent variable, serves as the foundation for this test. To run this test, divide the result by the standard deviation of the variables listed and remove 1 from the coefficient containing the lag of the dependent variable. The null hypothesis is rejected, and the presence of a long-term link is acknowledged if the estimated t statistic's absolute value is higher than the crucial values offered by Banerjee, Dolado, and Mastre (3).

$$t = \frac{\widehat{\alpha}_i - 1}{S_{\widehat{\alpha}_i}} \quad \textbf{(3-9)}$$

If the first step of the ARDL method determines that there is a long-term relationship, the second step will estimate the coefficients for the long-term effects. Additionally, the ARDL model can be used to derive a dynamic error correction model (ECM) that combines short-term dynamics with long-term equilibrium while retaining long-term information. The error correction model can be expressed in the following manner:

$$DY_t = \alpha + \sum_{i=1}^{m} \beta_i D\,Y_{t-i} + \sum_{i=1}^{m} \gamma_i DX_{y-i} + \lambda ECM_{t-1} + \nu_t \quad \textbf{(3-10)}$$

In this scenario, D represents the initial variation between the variables, and λ denotes the degree of modification made over each time interval until the long-term balance is attained. According to the Granger method, if the current values of Y are predicted using the past values of X and Y more accurately than the case where the values of X are not used, the variable Y will be under the causality of the variable X (9). According to Canova (10), the Granger non-causality test may yield inaccurate findings if the variables in the vector autoregresive model (VAR) are non-stationary. In situations like this, long-term co-integration models or the first difference of the variables in the VAR model ought to be applied. Using the model from Golbek's work, the following connection was established in order to look into the variables influencing the demand for higher education in Iran.

$$LND_t = \alpha_0 + \alpha_1 LNP_t + \alpha_2 LNGRO_t + \alpha_3 LNEMP_t + \alpha_4 LNCPI_t + \alpha_5 LNWP_t + \alpha_6 LNGE_t + \alpha_7 LNURB_t + \varepsilon_t$$

The variables used in this study are:

LN: The logarithm of each variable.

D: The number of Azad and state universities students

P: Average Azad and state universities' tuition, which is known as the price variable

GRO: economic growth, real gross domestic product

EMP: Employment rate

CPI: Consumer Price Index

WP: Wage Price Index

GE: Government expenditure on education

URB: ratio of urban population to total population

Also, the data used were time series and were obtained from the Iran Statistics Center, Central Bank of the Islamic Republic of Iran.

The dependent variable of the study is the number of university students (D). The independent variables include the average Azad and state universities' tuition, which is known as the price variable (P), economic growth (real gross domestic product) (GRO), employment rate (EMP), consumer price index (CPI), wage price index, (WP), government expenditure on education (GE), the ratio of urban population to total population (URB). The following equation will be estimated:

$$LND_t = \alpha_0 + \alpha_1 LNP_t + \alpha_2 LNGRO_t + \alpha_3 LNEMP_t + \alpha_4 LNCPI_t + \alpha_5 LNWP_t + \alpha_6 LNGE_t + \alpha_7 LNURB_t + \varepsilon_t$$

Statistical analysis:

SPSS-20 and Microsoft Excel software were used for data analysis. Also, descriptive and analytical regression statistics, independent t-test, and time series co-integration tests were used to find relationships between variables.

Results

Investigating the stationarity of research variables

To verify that there are no variables that are aggregates of the second order, or I(2), and to prevent erroneous findings, the stationarity of the research variables was initially assessed before estimating the research models to prevent false regression. With respect to the Utara model, the F statistics represent the presumption that every variable in the model is either I(0) or I(1) when there are I(2) variables. Thus, in

Table 1. Results of unit root test (stationarity of variables)

Variable	Statistic t	P - Value	Stationarity result
LND	-2.5529	0.1158	Stationary in the first order differentiation (I_1) level
	-4.0606	0.0048	
LNP	-2.8113	0.0716	Stationary at the (I_0) level
LNGRO	-4.3192	0.0025	Stationary at the (I_0) level
LNEMP	-5.0800	0.0005	Stationary at the (I_0) level
LNCPI	-1.5877	0.4725	Stationary in the first order differentiation (I_1) level
	-2.9893	0.0509	
LNWP	-1. 5756	0.4785	Stationary in the first order differentiation (I_1) level
	-2.6868	0.0915	
LNGE	-0.5792	0.8584	Stationary in the first order differentiation (I_1) level
	-4.9067	0.0007	
LNURB	-2.1318	0.2347	Stationary in the first order differentiation (I_1) level
	-3.5615	0.0148	

Source: research findings

order to ascertain that none of the variables are aggregates of second or higher order, the unit root test must be run in the ARDL model. The generalized Dickey-Fuller test results for the research variables are displayed in Table 1 as stationary findings.*Based on the results Table 1, the average Azad and state universities' tuition (LNP), economic growth (LNGRO), and employment rate (LNEMP) are at a stationary level. Also, the variables of the number of students of Azad and state universities (LND), consumer price index (LNCPI), wage price index (LNWP), government expenditure on education (GE), the ratio of urban population to total population (URB) are stationary with one-time differentiation. The results obtained from the analysis of the significance of the variables showed that since the variables are stationary, the ARDL estimation method can be used.*

ARDL model estimation

ARDL was used to estimate the specified model of the above research. Due to the small number of research data, the maximum lags of the model were considered using the Schwartz-Bayesian criterion and Microfit 5 software. ARDL model (1,1,0,1,0,0,0,0) was selected as the best estimation Also, based on the results of Table 2, the estimated model has a high R2, indicating high explanatory power of the independent variables. Also, the estimation model fulfills the classical assumptions related to error terms (lack of autocorrelation, homogeneity variance, normality of error terms).

Table 2. Dynamic ARDL model related to factors affecting the demand for higher education in Iran

Variable name	Coefficient	SD	Statistic t	Probability
LND(-1)	0.57172	0.147711	3.8864	0.002
LNP	-0.18882	0.47431	-0.39810	0.698
LNGRO	-0.11521	0.038843	-2.9660	0.012
LNEMP	0.62960	2.8718	0.21923	0.830
LNCPI	1.1223	0.58397	1.9219	0.079
LNWPI	-0.23304	0.67194	-0.34682	0.735
LNWPI(-1)	-0.61353	0.29640	-2.0699	0.061
LNGE	-0.15970	0.12333	-1.2949	0.220
LNGE(-1)	-0.22702	0.12904	-1.7593	0.104
LNURB	0.069387	5.7000	0.012173	0.990
C	3.4294	31.2605	0.10971	0.914

Source: research findings

Table 3. Goodness of fit criteria and classical hypothesis tests

R-square	0.98700	Heterogeneity Variance	0.038604 (0.846)
F – Statistic (prob)	91.1260 (0.000)	Normality (Jarque – Bera statistic)	0.77244 (0.680)
Durbin – Watson stat	2.5311	Auto-correlation (Breusch –Godfrey statistic)	4.2813 (0.063)

Source: research findings

Prior to calculating the long-term coefficients, a co-integration test was performed to verify the existence of a long-term link between the variables in the model. For this test, the Pesaran & Shin (1) approach was applied. According to the findings, the co-integration test's computed F value was 3.40, above the crucial value of 3.25. This shows that the variables in the model do, in fact, have a long-term connection. The anticipated long-term link is shown in Table 3, where it is evident that government spending on education, the consumer price index, and economic growth all significantly and favorably affect Iran's demand for higher education. Other variables are not statistically significant, but their coefficients are in accordance with the prediction. The variable coefficient of LNGRO is 0.26899, indicating that for a one percent increase in the logarithm of economic growth, assuming other conditions are constant; the demand for higher education in Iran will increase by 0.26899 percent. In other words, an increase in economic growth indicates an increase in national production in the country. It will cause employers to have a desire to attract more educated and specialized forces in the industry, agriculture, and service sectors. As a result, the demand for higher education in Iran will increase.

The coefficient of LNCPI is 2.6205, meaning that, under the assumption that all other factors remain constant, the demand for higher education in Iran will rise by 2.6205 percent for every one percent change in the logarithm of the consumer price index. Put another way, when the nation's inflation rate rises, as measured by the consumer price index, people are more likely to pursue higher education in an effort to enhance their income and obtain better jobs. Iran's need for higher education will rise as a result. The LNGE variable coefficient is 0.90296, meaning that, with other assumptions, the demand for higher education in Iran will rise by 0.90296 percent for every 1% increase in the logarithm of government spending in the education sector. In other words, the government has directly increased the demand for higher education by increasing the education budget through the establishment of different universities in different cities.

The estimate of the error correction model (ECM) was the final phase in the ARDL approach. Experimental research makes heavy use of error-correcting models. The main explanation for this is that they establish a connection between the variables' long-term equilibrium values and their short-term volatility. Table 4's findings indicate that the differentiation of

Table 4. Estimation of the long-term relationship of ARDL related to factors affecting the demand for higher education in Iran

Variable name	Coefficient	SD	Statistic t	Probability
LNP	-0.44088	1.0402	-0.42384	0.679^{ns}
LNGRO	0.26899	0.13323	2.0190	0.066*
LNEMP	1.4701	6.6968	0.21952	0.83^{ns}
LNCPI	2.6205	1.2522	2.09	0.091*
LNWPI	-1.9767	1.6108	-1.2271	0.243^{ns}
LNGE	0.90296	0.40757	2.2155	0.047**
LNURB	0.16201	13.2848	0.012195	0.990^{ns}
C	8.0074	74.0004	0.10821	0.916^{ns}

Source: research findings.
** and **, respectively, indicate significance at the 90 and 95 percent level, and ns indicates non-significance*

Table 5. Estimation of error correction model (ECM)

Variable name	Coefficient	SD	Statistic t	Probability
dLNP	-0.18882	0.47431	-0.39810	0.697^{ns}
dLNGRO	0.11521	0.038843	2.9660	0.010**
dLNEMP	0.62960	2.8718	0.21923	0.830^{ns}
dLNCPI	1.1223	0.58397	1.9219	0.075**
dLNWPI	-0.23304	0.67194	-0.34682	0.734^{ns}
dLNGE	0.15970	0.12333	1.2949	0.216^{ns}
dLNURB	0.069387	5.7000	0.012173	0.990^{ns}
ecm(-1)	-0.42828	0.14711	-2.9114	0.011**

Source: research findings.
** and **, respectively, indicate significance at the 90 and 95 percent level, and ns indicates non-significance*

the economic growth logarithm (dLNGRO) variable is significant at the 90% level and has a positive sign. This indicates that the rise desired for higher education in Iran is favorably and considerably impacted by growing economic growth in the short term. Moreover, the coefficient of this variable shows that if the economic growth increases by one percent, the demand for higher education will increase by 0.1152 percent, assuming other conditions are constant.

Also, the variable of the logarithm of the consumer price index (dLNCPI) has been positive and significant at the 90% level. In other words, with a one percent increase in this variable, the growth of higher education demand will increase by 1.223 percent assuming other conditions are constant. Finally, the coefficient of the error correction sentence (ECM) for the estimated model is significant at the level of 5% and is equal to -0.42828, meaning that 42% of the imbalance of the dependent variable (higher education demand in Iran) adjusts towards the long-term relationship after a period Table 5.

Examining the stability test

The present investigation employed the CUSUM and CUSUMSQ techniques to conduct a stability test, given their applicability in scenarios involving uncertainty about the occurrence of structural change and their suitability for time series data. The null hypothesis of this test posits that the vector of coefficients remains constant throughout each period, while the alternative hypothesis takes into account the opposite situation, as depicted in Figure 1.

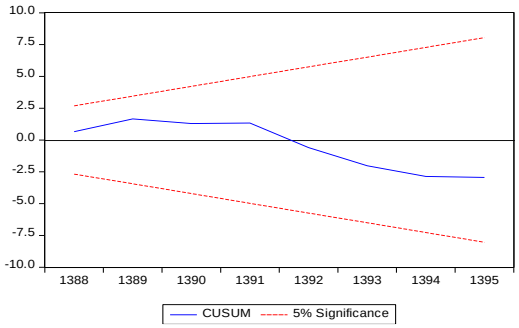

Figure 1. Examining stability test

The straight lines in the graph show the significance at the significance level of 0.05%. As shown in the graph above, the path of the test statistics is in such a way that it is continuously inside the straight lines and does not indicate the instability of the model. The calculated model was stable over the study duration, and this conclusion can be drawn from the tests that show the stability of the coefficients cannot be ruled out at a significance level of 0.05%.

Discussion

Investigating the variables influencing Iran's medical groups' need for higher education was the aim of this study. The elements that impact it include Azad and state universities' tuition, economic growth, employment rate, consumer price index, producer price index, government expenditure on education, and the ratio of urban population to the total population. According to the results of model estimation, the sign of all variables is as expected. The cost of tuition at state and Azad institutions has a detrimental impact on Iran's desire for higher education. Stated

differently, when university expenses rise, home expenditures will also rise, and fewer individuals will be able to attend classes, hence decreasing demand for higher education in Iran. In other words, education has become a luxury commodity in recent years, and as its share in household income increases, demand for it will decrease. The results of studies by Nazem Bokaei et al. (11), Noorbakhsh & Culp (12), Mueller & Rockerbie (13), and Watkins (14) confirm this issue. The employment rate is another variable investigated in this study and its sign is positive, as expected. That is to say, if employment rates rise in a community, there will be a corresponding increase in the need for educated and specialized university staff, which will raise the need for higher education. These findings are consistent with research conducted by Watkins (14)

The producer price index variable, known as the wage index variable, negatively affects the need for higher education in Iran. In other words, this index is considered as an opportunity cost, and the reverse effect of this index shows that having a job is a factor in reducing the desire to enter universities. One of the concerns of the young generation to enter universities is finding a job. The results of a study by Nazem Bokaei et al. (11), confirm this issue. The ratio of the urban population to the total population also positively affects the number of students. In other words, with the increase in urbanization in recent decades and the increase in the industrialization of the country, there is a need for a specialized workforce, and an increase in knowledge at higher levels, which will increase the need for higher education. This result is in line with the results of a study by Nazem Bokaei et al. (11). The variables of economic growth, consumer price index, and government expenditures in the education sector positively and significantly affect the need for higher education. The coefficient of these variables was 0.26899, 2.6205, and 0.90296, respectively, and the signs of all variables are as expected. With the increase of economic growth, the production and thus the employment of skilled workforce, and university specialists will also increase. It will rise the need for higher education in the country. Also, with the increase in the consumer price index, people will show a tendency to study in higher education centers to get a better job and earn more money, leading to an rise in the need for higher education in the country (15).

The share of government expenditures on education positively and significantly affects the need for higher education since education is one of the public goods, and the government's attention to this issue, especially in the area of infrastructure, can result in a rise in the quantity of pupils. From the perspective of development economists, the volume of applicants to higher education is one of the elements that, in the growth models of recent years, caused economic growth as well as one of the factors in the development of societies. Consequently, raising the proportion of government spending on education may contribute to a rise in demand for postsecondary education. It also encourages the nation's expansion and advancement. The findings of the Nazem Bokaei et al. research (11). confirm this issue. Development cannot be achieved without a trained and educated workforce. The experience of industrialization of developed countries indicates that the workforce working in economic sectors plays a key role (16).

It can be stated that the best investment for the development of countries is investing in human resources education since human beings become irreplaceable capital during this process (17).

Collis and Montgomery argue that an organization gains a competitive advantage when it has its own resources in such a way that none of its competitors can copy it. It is also true for human capital (18). Factors such as education, expertise, and skill play a significant role in increasing the

performance of the workforce (19). Investment in the training of human resources is useful and effective when the graduates of institutions and universities, as the products of this system, are placed in the specialized positions that they have been trained in and avoid employment in non-specialized sectors that cause the loss of all capital and consumption resources (20). From the investment point of view, education especially higher education has been considered as a capital good with the expansion of the theory of human capital. In this theory, education and any kind of skill and training create capability and capacity in a person, leading to more income in the future (21). A balance in the quantity and quality of higher education can be effective in increasing the society and the scientific, technical, industrial, and cultural progress of the society (22). One of the current issues facing Iran's higher education system is the rise in enrollment and the quantitative expansion of universities despite capacity limitations and the unique economic, social, and cultural context of each region. This has resulted in a significant number of graduates who are unemployed (23).

The formation of human capital requires improvement and investment in higher education since higher education is one of the most crucial gateways to the labor market. Policy-making in the higher education system, management, and structure, international cooperation (connection with international scientific centers), the connection between the university and the industry, quality, and social demand are among the most significant challenges facing the higher education system in Iran. Their comprehensive and systematic understanding provides the conditions for the country's scientific growth and expert human capital for sustainable development (24).

One of the significant disadvantages of this investigation is the direct calculation of costs such as the average Azad and state universities' tuitions, economic growth, employment rate, consumer price index, producer price index, government expenditure on education, the ratio of urban population to the total population, and the not considering indirect costs related to education, such as travel costs, medical costs, insurance costs, the cost of educational items, and the income of people in various educational groups.

Recommendations

Based on the obtained results and existing research gaps, it is recommended to pay attention to university tuition fees due to the importance of education in recent years and the reduction in household income due to the increase in unemployment and inflation. To provide appropriate conditions for the education of more people in society, universities, and higher education institutions should not increase their education fees. Also, universities and institutions of higher education should provide more favorable conditions for students to continue their education by providing appropriate facilities. The government can also reduce the educational costs of universities and educational institutions by giving educational subsidies to these institutions. Any nation's need for higher education is strongly influenced by economic growth; in Iran, this demand has grown in tandem with the country's economic expansion. Therefore, the government can provide conditions for economic growth in the country by taking appropriate measures. Government expenditures in education have had a positive and significant impact on the demand for higher education. Thus, the government is recommended to allocate a larger share to education, especially higher education, in setting its annual budget.

Conclusion

Based on the present study, it can be stated that the role and significance of human power in the production process of human societies is the most crucial production

factor. One of the most significant and effective indicators of human capital is the number of university graduates. An educated workforce imposes high private and public costs for society and a lot of returns are expected from it. Every university student after completing a few years of higher education and entering the labor market can have more value added than an ordinary person. The correct and rational use of the capabilities and talents of human resources in any society is one of the basic issues of development. In other words, the workforce is one of the richest capitals of any country and its correct use is considered one of the priorities in achieving growth and development. Universities and higher education centers are responsible for forming the solid foundations of economic growth by producing knowledge, training specialized human resources needed in society, and expanding scientific innovation, and creativity. Thus, achieving development goals requires higher education policies aimed at expanding expertise and skills.

Authors' contribution

Batool Shafiezad Abkenar and Seyed Nematullah Mousavi developed the study concept and design. Mahdi Kamali and Mohammad Mohebbi acquired the data. Batool Shafiezad Abkenar and Seyed Nematullah Mousavi analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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Conflict of interest

The authors declare that they have no conflict of interests.

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