The Economy of Education and its Role in National Development

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Abstract: We can say indubitable that education is one of the main elements of economic growth and development of each country. Even, some believe that evolution and progress of this part causes progress of the other parts. Economics education is a combination of word “economy” and “education” that study usage of economics in the education system; hereby, it considers a branch of economics. And it considers one of the courses of education science because it attends to recognition of economic issues of education and improvement of efficiency of education system. So, for acquaintance with economics education, it’s necessary to first understand the economics and its related objects; it means that we should have perfect and exact recognition about current expenditure that pay for education of manpower. Moreover, it can be mentioned to the role of education as a collector of force and human capital needed for economic and social development of communities. In this article, it is mentioned to education in Iran as for its high expenditure.

Key words: *Economics education, current expenditure, national development, government.*

1. Introduction

Economics education is one of the latest courses in our country that it has done less research about it and available resources are very limited in this context. Discussion of this subject makes new field of science and research not only our country but also in industrialized countries. Although economic issues of education have discussed and different solutions have offered for them in all human societies since past; but attention to economic value of education and the economic role of education in people and communities life is something that has attracted growing interest in the past two or three decades and has caused extensive studies and researches in this area. Attention to economic aspects of education has followed changes of education in new communities; and this is because of changes occurred in the areas of science, technology, economic, social, political and cultural of this new communities. So that formal education is a basic needs of individual and social now, and public education consider as a people life and one of the most important thing in all new communities, whereas it was for special group of people and only privileged classes of society could use it. This changes have accelerate after world war 2 and demand for more and better education for achieving top jobs and better life in industrialized and developing country greatly increased and reached in its highest. Due to limited resources, this excessive demand for more and better education has made these two questions for educational and economic officials, and planners:

- How or through what means can be provided more resources and facilities for education?
- How can be obtained more and better education from available resources?

In addition, the role of education as a collector of force and human capital needed for economic and social development of communities and effect of education on income and wealth distribution in society, it covers other aspects of interest in the economic fields of education that has attract economists, planners, scholars and education officials comment.

2. Attitude changes in the economics of education in the third millennium:

It knows education as the first effective factor in development and states that three major requirement needed for education are: increased community awareness, creating appropriate skills in population, job skills, special skills of life skills of healthy relationship, upbringing of health and righteous generation who can be involved in community development. True independence of each country is measured by its capabilities in

rejecting dependence and proof independence of other countries. No country will not be able to reach self-sufficiency truly, unless it trains committed and skilled manpower required for its activities and they are available. Nowadays, education is the source of changes and social innovations in the society. Education institutions interact with social changes. Education is the gradual process, cultural and social changes and national development. Change in education means tasks and programs and processes in a different way and due to expanse and diversity in social structure of society. Planning, technology and innovation are new methods and elements which are effective in changes and improvement of tasks and their utility. Education must be balanced among changes and innovations and proof and stagnation. We review economics education from the viewpoint of scholars in the twentieth century that tried to justify economic returns of education especially higher education at university based on opportunity cost or cost of effectiveness. And in next part, it will be discussed changes made in economic s of education which will be shown that education is not only as an individual or social investment of manpower, but also it has become a market for trading with intense competition. In a time not so past, economics role of education in the educational literature is quoted such like: promotion of human resources ability and preparing the workforce for using superior technology. On this basis, the conclusion was that education is a kind of private investment which investors can improve power to create their income in future (Emadzadeh, 1995). In this regard, it was trying to attract attention to huge areas of planning and more national to this: education is a capital product and has individual and social returns because it will have effective results in the long run. In other words, it was used special forms to justify investment in education which those forms were not too difficult to estimate. So, first, it was estimated the cost of higher education which included: Direct costs and indirect cost. Costs which were undertaken by student or government like, text book cost, transportation, educational services, staff and so on. Indirect costs included: the cost of lost or forgone opportunities; there are some different calculating patterns for these which the simplest form is: The number of learner's $\times$ Income (if they work now). Estimating the economic returns of education (means: the P of flow of income to individual and social educational expenditures) was considered as one of the process of economic yield estimation of education. Although, educational economic return often showed a high rate of return particularly in developing countries – according to proposed formulas -; but, when we compare investment in developing countries with developed countries, we realize that in most cases, it was reversed. It means that if the above economic return shows more investment rate, so investment must increase because of increasing of economic efficiency (more economic efficiency, more investment).

3. Quality of education and its relation with economy of country

Nowadays, many countries, in addition to research about sciences and technology, spend more time and many resources for improvement in education. Indeed, reform and improvement of education is a continuous action in many countries. (Chang and Chiu, 2005)¹². Education of science considers as o²ne of the elements of policies of scientific development in many countries and it is the important part of educational systems goals, too. Promotion in education of science is necessary for growth, production, cultural development and making social services in future. Making high levels of literacy or enhancement of literacy rate is one of the clear and main goals of science education. This literacy includes understanding the nature of science, scientific organizations and its role in individual life. Scientific literacy is knowledge and understanding scientific concepts and processes required for personal decision, participation in cultural and citizenship and economic production. This literacy extends in school years and in life, too. Literacy involves this gist that person can determine main scientific issues in local and national decisions and can explain situations with a scientific and technological form. Created views and values about science in the first years of education will form person's scientific literacy growth and improvement as an adult. It can be well expressed the relation between education and economy in quality of staff. The economic importance of work, especially in higher education (University) and Education is discussed. German people are over-trained. Studies show that people education rate is increased so faster than business needs. This has led to inflation of degrees; in other words, people are working in positions which are lower than their education and literacy. Although, such incompetence is not a

clear definition; but, it may say that such people can do their job better and are more capable in the presentation of innovations.

4. The role of education, research and development in country

Regional measures are not so rational in new technologies and their product whereas global arena is more rational for explaining them. Regardless of facts which say that large research and development institutions make job opportunities in the region; generated knowledge in these enterprises lead to greater and larger markets than regional markets. This is very important that especially small and medium companies access to new knowledge very easily and make regional infrastructures for it. The role of education in regional innovations depends on region of discovery place and transfer of knowledge more than its production place. So, good relations have an important role. Indubitable, it can be said that Education is one of the main pillars of economic growth and development. Even, some believe that evolution and progress of this part causes progress of the other parts. Economic growth in addition to production factors (Labor and Capital), depends on improvement of workforce quality, technical advances in technology, economy of scale, better allocation of resources and Education. Indubitable, implementation of development plans needs educated people and specialists. And educated people depend on talented and active young people; and role of Education is discovery of these talents and improve them. Education, besides of proper utilization of persons' intelligence and talent, provides field and area for the country's improvement. It's clear that training of specialists requires experienced and competence teachers. So, education systems can employ capable and competence teachers to train human force required for development plan. So, education grows and develops talents and improves quality of persons. Enhancing the quality of work force increases efficiency and also, it accelerates economic growth. Education considers as one of the most stable of each community's economic parts. Whereas other economic sections often are faced to recession and prosperity. So, education can train work force and deliver them to society. Making research institutions is the key to success of the industrial revolution in western countries. Most scientific and technological achievements are because of researcher effort. Universities and other research institutes are responsible for research. So, in any case, education trains research staff and deliver them to these institutions, and research centers budget_ because of their great results _ has increased very rapidly. Investment in Education and training human force considers as a long-time investment because it has required to a long time from beginning of investment to the utilization time. But investment in education is extremely profitable, especially in developing communities; because it can play an important role in the economic growth of communities in different aspects like culture, production capacity, distribution of income and population growth. People can achieve skills and specialty because of education, so this improves production capacity and also, it enhances workforce ability. In addition, education causes people get higher positions_ because they have acquired skills_ and so, their living standards will be better.

The main idea of innovation comment is based on the fact that innovation through increase of person's production power causes increase in production and in economic growth. It should be emphasized on people's innovation and creation for improving of human force; and for achieving to this goal, increase in investment in human services can influence economic growth. Adam Sumithand Classic employment on the importance of investment in workforce skills. Such thoughts led to add workforce quality (like formal education and training within work) to other conditions for job like: number or quantity of workforce. The meaning of investment, in new studies about growth of investment (investment in equipment and machinery), spread from classical in human services. Knowledge is collected storage of information and skills that results from use of information by information receiver; in other word, knowledge is mixed of experiences, values, available information and systematic expert attitudes which give a framework for evaluation and utilization of new experiences and information. Knowledge occurs and uses in mind. Knowledge in organization is realized not only by degrees and knowledge storage but also in work procedures, organizational process, actions and the norms. Knowledge is a factor that is formed based on data and information and according to the definition; it's different from data and information. Data is a sign that reaches to a receiver from a resource and shows an objective fact, but just about an event. Generally, innovation is the use of new ideas. Everyone have ability to create new ideas potentially (with different rate); and to grow and improve this ability require an appropriate area, stimulants and special factors. From this viewpoint, innovation is not spontaneous and random; it's a complicated process which needs various

requirements; it extensively influence economy and society and also takes effects of them, so, it's necessary to attend it generally and in interaction with other sides. Scientists for studying of innovation were more emphasized on sciences and technology in past; but now, it's realized that science and technology are only one of access ways to innovation. Innovation is a multifaceted phenomenon; for this reason, it becomes a subject for various branches of the humanism. Behavioral sciences believe that kind of behavior which a person shows during an innovation action is very important. From an economist's view, motive and economic conditions which facilitate innovation and their effects in different institutes and companies function are important; and in a manager's opinion, how to manage company for better utilization of creative and innovative capacity of staff is important.

The theory of human capital, the basis of attention to education economy: Acquisition of education in new economic system makes a situation in which people could invest on themselves_ this is a fundamental theory and a reason to create this course_. As such, the expected economic return of Education influences decision on this investment extremely. And this opens the way for economic analysis of individual demands to use educational facilities and; in the other hand determine a criterion and standard for supplying community' facilities of education. Although Education is a kind of investment in human and the people can acquire knowledge, skill and specialty through spend money in an appropriate education and training; this will provides a background for better job and it will increase income and production in future; nevertheless, this was unknown until recently. Adam Sumith said (in the book called "Nations wealth" in 1770): "when an expensive car install in a factory, it is expected in addition to provide a capital and money (which is paid for it) it could make a normal profit for its owner. It can be compared that an expensive car with an educated person who is trained with spending of time and too effort for working in affairs that require great skill and accuracy. Indeed, it's expected that in addition to his usual wage, all of education expenditures and a normal profit which is capital as value as education expenditures are paid. Also, this payment should be paid in an acceptable and reasonable time; because human life ends like vehicles. And the difference between a skilled person's wage and an ordinary person is the result of this principle". Some other economists are mentioned importance of economic and capital aspects of education, including: American economists (Irving Fisher) who presented the society concept of capital in his book named "The Nature of Capital and Income"; he knew capital as any kind of storage which is in a specific time provides a process of services during this time" which this storage can be within human and considers as a human capital. Also, Alfred Marshal said: "a capital which is spent for people education is the most valuable capital." Even so, economics avoided to undertaken and do any regular analysis of human force and this theory was unknown until 1960. The main base of this course is a theory of investment in human or human force which presented by Theodore Schultz in 1960; after that, extensive studies has been done about this kind of investment; interest in different aspects of this investment caused attention to the role of investment and its effect on person's income and work and economic growth. The study and attention on the government expenditures growth with emphasis on current expenditures of Education: to explain the reason of government's growth is a tradition and has continued since Adolf Wagner. Recently, changes of demonstrability theories in public section have often caused wide range of rational and political discussions entitled public choice outlook. This view express that offices in public section adopt economic policies as such as agencies and firms. In studies done on this idea, it became clear that the focus is exclusively on industrialized countries. What be considered is, how to apply these concepts in developing countries. Different methods are organized to find a reason for development of public sector, include: accounting of costs, topics of demand sides, topics of supply side and development theory.

Accounting of costs in economy: Sanders and Klav use accounting of cost method for analyzing government expenditures growth in OECD member. Experts have said that although this method is not directly useful and effective for discussion about demonstrability theories in public sector, but it seems to be useful method to analyze expenditures. There is an idea that production growth in government services section interrupts in other economic sectors; so, the cost of government output unit increases with enhance in production during the same time (due to reduce in quantity of government output demand). If an observable growth in government shows other sections of demand sides, the increase in goods and government services demand should partially recover negative substitution effects caused by price increase in state productions. Income effect is an exact factor for this purpose because; Wagner's rule with an exact form is coordinated with traditional analysis of demand. Wagner's rule shows that government demand will have more increase with enhancing of income because of technological needs of industrialization and urban-oriented. This subject is

true about entitlement goods more than transitional goods. This topic is justified for public goods due to the income elasticity. Especially, the increase in government expenditures related to public and social investment (physical facilities such as bridges, roads, airports) and investment in service sector imply that personnel requirements of industry which may increase income are known. Empirical evidences in developing countries reject Wagner's theories and believe that other theories and topics are required for accounting the increase of government share from income. In Iran, government expenditures in possession section of capital assets in Education are increased about 1226.3 percent in 2000-2011. As it shows, government has a great share in Education but, private sector's share is very low; on the other side, current expenditures of education has increased about 241 percent in 2008-2010. There are at least two separate topics on the supply side. As previously noted, Baumol recognized unbalanced growth in the production (1967). He resulted that although the paid wages are same in different sectors but, utilization growth in service section has been slower than other sectors- because of different rates in technology-. As the government production tends strongly to services, so, in this model it's predicted to increase the government's output costs.

If the actual levels of goods production and state services don't change (it's clear that this subject doesn't apply in state transfer) and the unit costs of government which is concerned to the private sector increases during the period, there may be other factors unlike technological processes. For example, state productions may be more incompetence than private productions- because of budgetary constraints-. Overall, the increase in production cost of government sector can be considered an important factor in public consumption growth. Other debates about supply side reflect Say's law about state expenditures (this law says that the supply makes demand). The motivation of the creation of government expenditures is the access rate of income. Rem (1978) studied this viewpoint in their studies about growth of great expenditures in long-term in England. They found out that taxpayers agree with acceptable changes in tax levels gradually during time, especially in situation of events such as war and significant economic recession. Please effect is the same in developing countries (1967). Government expenditures, especially in consumption are obtained by using available resources instead of the other methods. For example, if government wants increase domestic saving through higher levels of public saving, the increase in tax incomes may cause more spending and maybe influence public investment. But possibly it will be for government consumption. This effect observes clearly in experiences of Senegal and Ivory Coast. Export tax programs pay too rents to government's fund through increasing the community price; as (Devarajan, Swaroop & Zou 1996) has emphasized. This method will be used if it's used for financing of increasing public spending both for consumption and investment. What these justifications are expressed is that we should pay attention to tendency toward pay dues to government and explore this willingness. In Iran's economy, government is the final payer both in supply and demand side in current costs of Education sector and Higher education (university), so, government expenditures in these sectors have extremely increased during recent years. In the other word, increase in government current expenditures and training costs in academic levels might have been one of the main factors of budget deficit in Iran in recent years. Government gradually began to make economic basic changes with justification of increasing government current expenditures and continuous budget deficit in Iran's economy in 1989. These terms were known to adjustment policies and economic reconstruction. Almost, all economic reform programs include some serious efforts to stabilize macroeconomic both theoretically and empirically.

Hence, reduce spending or increase tax rates is an important component of reform program. Politically, it's difficult to reduce costs or increase government revenue. Although the social benefit of a particular expenditure of government is negligible, there are some people (including people who receive the first round of payments, directly) who benefit from that. People who benefit from economic reforms; this profit is for future (and they may be unaware of the profit).but, sadness appears after the loss of job, contracts or transfer payments of government. Naturally, resistance to reduce spending would be severe, and politicians would be sensitive because of political costs which they will have to pay for this action. Also, it's difficult to decide what coats should be reduced in a short time; civil projects are in various stages of progress; many transfer payment is pension and the government has a legal obligation to pay them and finally, many government officials work in main ministries departments and they're required. Oil incomes are announced \$ 45 billion in 2005. Oil revenues were \$ 28.7 billion in 2004. Oil incomes increased about \$16.3 billion in 2005; this increase has had positive effect on increasing current expenditures in recent years especially during execution of the first quarter and third programs. The budget of 5,080,000 billion Rials has been considered 81/5 dollars per barrel of oil in Iran in 2011. Government and parliament of Islamic Republic of Iran should

evaluate effects of oil revenues in the national economy with an emphasis on national sovereignty and applying true fiscal policies. And they should try to depend on oil income and protect resources for future. Although the subsidies are essential step in access to the country's macroeconomic goals that happened in 2010, but government should try to adapt current expenditures in these conditions of Iran's economy. Survey of available data in annual budget laws and its function reports express that more than 70 percent of country's public budget resources is allocated for current expenditures and about 30 percent is the ration of constructional credits that the average has been 28.6 percent during the last three decades. But in fact, these rations have been changed for the current costs and also to cover non-realization of expected incomes by law. Due to share of oil revenues in public budget, about 60 percent of public revenues are supplied from oil incomes in the last three decades.

5. Summary, conclusion and policy proposals

Identification of effective factors on government current costs is very important in every country; because in this way, we can do something justify current costs in the country. In this article, the effect of every mentioned factor on government current expenditures in the country has been reviewed based on estimation of econometric models and the obtained results and coefficients have been analyzed. In order to rationalize government spending and moderation and saving of government current expenditures in macro level, following items can be stated:

- Increase of tax incomes
- Change in combination of government expenditures
- Revision in the government organizations and reducing government employees (adjustment of human resources)
- Reducing Education's current costs through participation of private sector and reducing expenditures in the country's Higher Education (university) and move toward privatization.
- Changes in population size and structure (birth control policies)
- Stability in exchange rate in the country's economy

A) Indubitable, increasing tax incomes for providing a part of government's current expenditures according to tax performance in comparison with current expenditures in every country should make a fundamental change in tax system and in executive system and tax collection. In other word, it should be introduce taxes with a broader base that can make significant income for the government. In this case VAT (value added taxation) is seriously considered according to experience of different countries especially, developing countries and also according to tax status in our country. This tax is a kind of general sales taxes which has a broad base that can include different goods and services. If this tax is done with careful planning, it could be provide a significant income tax for government, and the government general incomes will increase in this way.

B) Change in combination of government expenditures: According to results in this article, budget organizing in the country's area must be commensurate with the country's capacities. Also, it should consider applying financial and administrative discipline and attention to the country's realities and provide the background of overall reform of economic in Iran. So, at first, it must be paid more attention to the expenditures of government's investment in combination of government expenditures and then, share of investment in economic affairs (which are directly productive) should increase among the components of the government investment. It should be said about government expenditures that whatever the share of government investment expenditures increase especially in sectors which are directly productive like, agriculture, industry, mining and building, we can hope that it encourages private sector to invest; so, increasing investment in long-term can increase the real growth rate in economic.

C) Revision in the government organizations and reducing government employees: Government should adjust the number of employees which have increased after Islamic Revolution. Size of government organizations should be reduced and it's necessary that government organizations increase their efficiency and practical and executive capabilities rather than inappropriate expansion of organizations. In addition, transfer of activities to private sector can improve the country's macroeconomic performance which this

transfer should be with an exact planning and with government supervision according to increase in efficiency of private sector.

D) Reducing Education's current costs and higher education's current costs: High share of the country budget is allocated to current expenditures of Education due to the large number of students. Although the constitution is set to provide these services and the other ones as the government's duty, but, achieving to these goals completely, extensive facilities are required. In these cases, it's better that government services are conducted on the use and coverage low-income; and people with higher incomes are responsible for providing expenditures of these services. For achieving to these goals, various methods -including participation of private sector in Education and Higher Education and encourage people to participate- are required. Increasing number of Higher Education centers which use government's general budget have extremely increased both in current and construction budget of government during recent years. The process of control and managing Higher Education centers require much budget, because the number of students, courses, physical spaces, number of administrative and ministerial staff and faculty member has increased. So, government should lead the country's Education system to privatization. It seems that government would not be able to manage country's Higher Education. Government should indispensably provide specific facilities to create non-profit institutions in both high school and university.

E) Changes in population size and structure (birth control policies): Increasing population is very important factor to change government current expenditures. Population changes in number and structure and composition can influence government expenditures. As we know, public services should spread and improve with increasing population. So, adjustment of government current expenditures needs population adjustment. Certainly, government should receive noticeable part of current expenditures from people because of increasing public services. So, it could adjust its current expenditures with people's participation.

F) Stability in exchange rate in the country: Nowadays, impact of currency fluctuations in macroeconomic is the most common topics; how exchange rate changes influence on inflation and increasing price? Exchange rate is the most important determinant factor of the price of raw materials, intermediate goods, capital equipment and final products; and it seems that it's effective in formation of inflationary pressures because production and consumption depend on imports. Increasing currency price is one of the reason increasing government incomes in Iran's economy in recent years, so, the effect of increasing currency and its relation to inflation and finally its relation to the increase in government current expenditures can be studied. So, it's recommended that exchange rate is more stable during the fourth development plan.

References

- Emadzadeh, M. (1995). Debates of Education Economy, Isfahan, Jihad University of Isfahan University.
- Rem, R. (1978). Wagner s hypothesis in time series and cross- section perspectives: evidence from real data for 115 countries. *Review of economics and statistics*, 67, 194-204.
- Chang, S. N. & Chiu, M. H. (2005). The Development of Authentic Assessment to Investigate Ninth Grader's Scientific Literacy: In the Case of Scientific Cognition Concerning the Concept of Chemistry and Physics. *International Journal of Science and Mathematics Education*, 3, 117-140. National Science Council, Taiwan.