DIASPORA AS THE INSTRUMENT OF HUMANE CAPITAL

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ABSTRACT

By means of the free movements of production factors in the world economy, countries can easily reach the production factors which their economies lack. Having aroused as an additional factor besides the production factors especially in today's age, and being regarded as an important production factor by many academics, information has been an important factor for increasing the growth rate of both developing and developed countries. This enables countries to develop without being dependent on their own production factors. However, developing countries have difficulties in sustaining their growth acceleration because of the problems they have in both finding qualified labor power and accessing technology and capital. For this reason, many developing countries search alternative ways for solving this problem and sustaining their growth trend.

When the countries which have reached high growth rates and sustain these rates despite the economical crises are analyzed, it can be observed that many of these countries have based their growth economies on information technologies, and benefit from their Diasporas for developing these technologies. It can easily be seen from the studies that while the countries, especially China and India, which have made important economical progresses in the last 10-15 years, they have get fundamental befits from their diasporas.

Many developing countries need humane capital as much as they do capital. While these countries benefit from foreign investors for the capital they need, they cannot find a foreign resource that can provide them with labor power necessary for humane capital. Within this respect, the countries (China, India and South Korea etc.) having Diasporas with qualified labor power, try to provide the humane capital they need from these groups. Many Asian and European countries such as China, India and Israel, have tried to meet their humane capital need by getting benefit from Diaspora members who have developed themselves at engineering, R&D and information technology areas aroused in developed countries.

The aim of this study is to show developing countries who have Diasporas in developed countries but cannot make use of this power or are unaware of it such as Turkey and Bosnia and Herzegovina that their Diasporas are alternative resources for humane capital necessary for them to sustain the reached growth trend.

Keywords: Diaspora, humane capital, information technologies, economic development, developing countries.

1. Introduction

World economies develop and change depending upon information as well as globalization movements and the technological developments in parallel with them. Being associated with this situation, human capital has played an important role in the growth and development of economies. The effect of human capital on the factors such as economic growth, employment, productivity that are determinant for national development has made the human capital to be clarified (Han and Kaya,

2002). Human capital is considered as the set of values emphasizing on human qualifications such as talent, experience and dynamism just as the individual participating in the production has.

Innovativeness, being necessary for sustaining economic growth and development, is a production of information, the arising value of globalizing world. Having more human capital results in more production and transaction of knowledge, and its being used in amore value-added way. This situation will eventually affect the economic growth and development of countries (Tiryakioglu, 2008). However, the defects and gaps of education policies carried on by underdeveloped and developing countries either prevent, associating with the defects of health and social security system, the targeted human capital save from being achieved or causes the brain drain of qualified labor.

The financial institutes and social progress organizations that direct the global economy carry on various studies about the obstacles that prevent the underdeveloped countries from development, and solution suggestions regarding these obstacles. By means of these studies, those have been understood that the human resources and prosperities hold by developed countries are used generally in order to generate information; this increases the development of developed countries and surpasses the development efforts of developing countries.

These studies show the developing countries that any country trying to escape from the vicious circle of underdevelopment should invest in human capital (Karagul, 2002). However, it is not solely sufficient to invest in human capital to sustain economic growth and development in developing countries. It would be an insufficient effort to invest just in human in these countries the economic and social substructures of which are not at the required level. However, in case the developing countries use their young population effectively by means of right investments in the human capital, they will be able to have the opportunity of turning their disadvantages into advantages. In order to attain this period, the developing countries should get the required measurements by properly analyzing the situation they are in. Some developing countries can obtain the human capital they need not only by domestic resources but also by the diasporas they have. Many developing countries, especially China and India, regard the diasporas they have both as physical capital and as human capital, and also use these resources effectively.

In this study, it is tried to be shown by various country examples that diasporas could be used as an alternative resource in order to create human capital that has had an important place among modern growth theories. Within this concept, the relationship between human capital and growth will be analyzed within neo-classical and endogenous growth models in the first part of the study while the contribution of diasporas to developing countries will be explained with country examples in the second part.

2. The Human Capital Concept

As it is in many other social concepts, there is no totally accepted common definition of human capital. In general, human capital is a capital that states the information, talent, experience, emotional loyalty towards job, the level that attitudes and values reach, and physical and physiological healthiness or strength that individuals have during the production period (Keskin, 2011). Also, M.Husz (1998) has stated human capital concept that involves the duration, experience, information and talent that a household or a generation could use during production period.

In literature, there are various approaches in respect to the assumptions made regarding the effect and the importance of human capital within socio-economic development, the methods used regarding these assumptions, and the data obtained. According to Schultz, human acquire important and necessary information during the life. However, it is not clear whether these post-acquired information and talent are capital factors to be used for ability generation or not. The increase of human capital that cause faster and greater growth than classical capital makes it available to define a

large amount of growth rates that take place in developed countries (Ozsoy, 2010). The fact that human capital has more effect on production than physical capital has is related to the investments made in human capital such as education and health that increase the effect of effort on good and service production. By means of these investments, the effort factor plays an important role in the production period by increasing the productivity of physical capital (Tunc, 1993).

The first studies regarding human capital concept have been carried on by researchers such as Becker (1962, 1964), Denisov (1962), Schultz (1961, 1968). The human capital concept has been modeled by R.Lucas (19989, one of the pioneers of endogenous growth theories, and has taken its place in literature as one of the determinants of economic growth (Tiryakioglu, 2008). The studies carried on by Rebelo (1991) and Jones (1996), too, has made important contributions within the concept of human capital and economic growth. According to the results obtained by these studies, while a small amount of growth rate is determined by effort and physical capital, large amount of it is determined by human capital (Tiryakioglu, 2008).

There are many different ideas and policies on increasing human capital. According to Harbison and Myers (1964), human capital save can be made in various ways. The most obvious one of these is the compulsory education involving primary, secondary, and high schools. Apart from this education, informal or practical educations are of the commonly used ways. This kinds of education could be obtained by being employed in various institutions, getting involved in adult training programs, being members of various groups. Thirdly, the individual should improve himself/herself. The individual should show an individual effort to acquire information, talent and skill in this method. The human capital save acquired in such way can be improved by reading and involving in various courses. The two other factors providing human capital saves are bettering the health and nourishment factors increasing the working capacity of the employees (Ozsoy, 2010).

Human capital is one of the basic factors of economic growth used to the information, talent and experiences of educated labor. In another say, human capital is the union of factors that increase the quality, effectiveness and productivity of effort factor. Human capital is determined by two compounds such as education and health. Besides these two variables, “Social Capital” plays a determinant role in maintaining the effectiveness and productivity of human capital. While defining information, the resource of technology, as the motor of economic growth, Marshall advocated the idea that qualified effort has gained importance; it is necessary to think in long-term to share resource for education, and also that education will make various contributions directly or indirectly in short and long term (Freeman and Soete, 2003).

3. Human Capital in Neo-Classical Growth and Endogenous Growth

3.1 Human Capital in Neo Classical Growth Model

Despite the fact that the importance of investing in human factor during economic growth duration has been emphasized for long years, its effect on the growth has been able to be gathered within a theoretical frame for a long time. The growth theories developed as the gap between the developed and developing countries has been greater after II World War has focused on to analyze the reasons of growth differences between this two groups (Taban and Kar, 2006). One of these analyzes is the approach that has been put forward by Solow (1956) and then has taken its place as the Neo-Classical growth theory in the literature. According to this approach, population growth and technological development have taken their place in the model as the outer factors determining growth.

Solow’s model could be defined as below with the help of Cobb-Douglas production function.

$$Y = f(K, L) = AK^{\alpha}L^{1-\alpha} \quad (1)$$

In this function, Y stands for output level, K for physical capital amount , L for labor amount, and A for technology. Also, 1<α<0. This model of Solow is based on the assumption of production function's fixed bringing according to the scale. According to this model, growth is determined by population growth rate and technological development. These two variables are defined as outers in the model.
The basic assumption that the Neo-Classical growth theory is based on is the fact that capital has a diminishing returns. For this reason, as the increases in the physical capital that is the basic determinant during transitional period and the assumption that capital has a diminishing returns, the growth stops at a certain level. This situation means that the gap between the developed and developing countries will get smaller, and that there will be a nearing in terms of economic growth between these two groups. This forecast is called as "convergence hypothesis" while the fact that the developing countries get closer to the developed countries is called as "catching period" (Taban and Kar, 2006). According to this hypothesis, the poor countries will catch the wealthy countries by growing faster than them. However, it is put forward by the empirical studies carried on that the gap is not being closed by the developing countries, and also it is getting greater.

3.2 Human Capital in Endogenous Growth Model

The endogenous growth theory tries to interiorize growth speed, that is to say attempts to determine it in the model. In another words, endogenous growth theories do not accept the externality of growth and consider it as a variable determined in the model (Karabulutu and Emsen, 1997).

In Solow's model, the fact how the economical growth takes place cannot be fully explained as the technological development is external. This deficiency of this model has caused a new model to occur that aims to define how growth takes place and what would the policies affecting the growth could be. This approach that came out in the late 1980s and pioneered by Paul Romer and Robert Lucas is defined as endogenous growth theory. The most important difference between this new theory and Neo-Classical growth is its point of view towards the capital. While Neo-Classical growth model accepts that capital has a diminishing bringing, this new theory accepts that capital could have an increasing bringing by involving human capital into the capital concept, and that this increasing bringing will not diminish the growth in long term period (Romer, 1986; Sala-I Martin, 1990).

Growth theories focus on two kinds of factors in order to define long term growth and the growth differences among countries. First of these factors is information accumulation. In Schultz's (1961) and Becker's (1962) human capital models, and Lucas's (1988), Romer's (1990) and Rebelo's (1991) endogenous growth models, the information has a center role in the production period (Jaoul, 2004).

Knowledge come out as a result of learning by doing or R&D investments (Yanıkkaya, 2002). The increase or activation of R&D expenditures causes an increase in the physical capital and enables to reach a high growth trend (Coban, 2003). The second factor is human capital save. The general characteristic of this kind of models is that marginal bringing whether stay stable or increase in parallel with human capital increase.

The mostly known of endogenous growth theories is Lucas' model in which human capital save is considered as the basis. Lucas, just like Solow, assumes that there is a fixed bringing of capital save (K) and labor (L) in the production period. In contrast to this, he assumes that the increasing bringing in the production period will be valid by involving human capital, defined by him, different from Solow, as a separate production factor, into production function. This growth model of Lucas relates the productivity increase that is the basic dynamic of long term economic development defined externally in Solow's model to human capital. In the model, while the capital save and labor have a marginal productivity that diminish separately, human capital has an increase productivity rather than diminishing (Turkmen, 2002).

Mankiw, Romer and Weil has generated an enlarged form of Solow's model by putting human capital (H) into the production function put forward by Solow. According to this model, education, a human

capital compound, has been added as a separate variable to Cobb-Douglas production function and the new function is named as enlarged Cobb-Douglas production function (Berg, 2001).

$$Y = f(K, L) = AK^{\alpha}H^{\beta}L^{1-\alpha-\beta} \quad (2)$$

Considering this, while analyzing growth resources in human capital theory, the rates at which effort, physical capital and human capital production factors affect production are used with reference to Cobb-Douglas type production functions (Ozsoy, 2010).

4. The Relationship Between Human Capital and Diaspora

The gap between the developed countries and developing ones get larger every day. One of the most important factors causing this gap is the human capital save difference between the two groups. It is stated by empirical studies that human capital affects growth more than physical capital in long term. The developing countries trying to increase their physical capital stock by foreign investments cannot find a considerable resource in terms of human capital. There are many reasons causing the developing countries to have diminished human capital save. However, the most important of these is that these countries have low national incomes. Apart from these, some reasons such as decreased numbers of infant death in spite of the increasing population growth, lack of employment opportunity in parallel with the population growth, inadequate resources for the increasing population causes the share reserved for education and health to diminish (Tiryakioglu, 2008). In addition to all these reasons, the false education and health policies implemented cause human capital, the most important factor in production, to be lost insensibly.

One another factor standing against the development of developing countries is the brain drain that deeply affect the production duration. Brain drain, in short, can be defined as the migration of a country's qualified labor to another country. Brain drain concept also means a diminish in human capital save. Accordingly, the developing countries, already having problems about human capital issue, are afraid of losing their qualified labor. However, many developing countries those have active diasporas have adopted their diasporas in recent years as it has been in attracting foreign capital. By means of this approach called as Neo-Techno Patriotism, developing countries provide themselves with the required technology and information to sustain their development.

4.1 Neo-Techno Patriotism

In today's world experiencing information age, the world economy is experiencing Neo-Techno Patriotism era after techno-patriotism[*] and techno globalization[*] eras. In parallel with the increasing attention paid to R&D all around the world, innovativeness is managed by global capital powers by means of the opportunities provided by the developed information and technologies (Tasci and Guder, 2008). Neo-Techno-Patriotism is a new technology policy type that does not ignore national interests while making high use of the opportunities presented by globalization, and that is accepted not only by public but also by private parts. Neo-Techno-Patriotism approach is preferred by countries such as China and India those do not quit their national sensitiveness in addition to making use of the world that has changed into the sole by means of information and communication technologies (Tasci and Guder, 2008).

[*] Kamil Taşçı ve Gökhan Güder (2008) "Teknoloji Politikalarında Diasporaların Yeri ve Yazılım Endüstrisinin Gelişimine Etkileri: Brezilya, Çin, Hindistan ve Türkiye Örneği", The Journal of Knowledge Economy and Knowledge Management, Volume III Fall.

Table 1. Differences between the Three Approaches

	Techno-Patriotism	**Techno-Globalization**	**Neo- Techno-Patriotism**
Political Target	National Sensitiveness: Preventing the effects of Globalization	Global affairs: Empowering Globalization	National Sensitiveness: Empowering Globalization
Patriotism: impetus	Important. Local Level: Country's Competition	Not important	Important. Global Level: Effective Diasporas and Competition by Individuals
Market-Policy	Local: Import Substitution	World Market. Market Dynamics are Fully free	World Market: Innovative, Competitive Production for the Whole World
The Leader of Innovativeness	Country	Global Market Powers	Private Entrepreneurship, Public-private Cooperation
Clearness Towards Foreigners	Closed	Open	Open Depending on Some Conditions
Competition or cooperation expectation	Competition	Cooperation	Cooperative Competition

Resource: Quoted from Yamada (2001) by Tascı and Guder (2008).

Summarizing these three approaches, techno-patriotism has been modeled by Japan especially after World War II in the polarized world and then adopted by South Korea for a short while. Techno-Globalization is a policy aroused after the cold war in 1990s when the countries are integrated into unipolar global system. Ireland can be the best example to the countries implementing this policy. It is possible to classify the ideas that national technology policies have social basis in this way: techno-patriotism (industry society), techno-globalization approach (the transitional period qualified as beyond-industry society at the post-cold war period), and neo-techno-patriotism (information technology approach). The importance of diasporas for national states has been increasing rapidly in the globalizing world where market is the whole of it, export is at the top level among national interests, labor and capital movements are freed.

The importance given to the diasporas in the neo-techno-patriotism policy adopted by China, and the contributions diasporas make to nation states has been displayed for one more time by the development of China economy. According to the formal data, China is the country holding the most crowded diaspora all around the world with averagely 35million China originated population living in 150 different countries. The number of scientists living abroad is high in parallel with this data. Also, according to a report prepared by Pekin Social Science Academy in 2007, nearly 100 thousand Chinese students go abroad every year every year considering after 2002 (http://www.bilgicagi.com/Yazilar/1348-cin_sirri_neo_tekno_milliyetcilik.aspx. Only 20 or 30 thousand of this amount turn back to their country every year while the remaining prefer to work in the countries where they have education.

There are many factors behind the unusual growth and export rates accomplished by China economy in the last 10 years. One of these factors is the diaspora that the country holds with a generally well-educated 35 million population. The export volume grown in association with the industry growing by this effect has enabled China to grow with a rate of 10.6 and get involved in the greatest five economies all around the world. Economy policy that is implemented in relation to the requirements

of diaspora network and proper usage of information technology have great influence on the growth of China economy. According to various studies, China has sent 580.000 student abroad most of whom are master degree students in the last 25 years, and only 150.000 of them have turned back after completing their studies. Firstly, this situation may be perceived as brain drain. And this could be considered as diminishing human capital. However, when thought in long term and it is considered in mind that this human capital save improve themselves by working in proper environments and conditions and that they can then serve their countries better when the conditions of their country get better, it is understood that this condition will be a brain gain in spite of the fact that it is considered as brain drain in short term. Another study carried out clearly states this situation. According to a study carried out on the employees working in Silicon Valley, %43 of those working there are planning to turn back to China. The fact that the Chinese workers at doctorate degree are higher than those of Indians working at Silicon Valley shows the degree at which China will progress in terms of human capital in long term (Tasci and Guder, 2008).

One of the recent novas in Asia is India. India, similar to China in terms of her crowded diaspora as well as many other aspects, tries to make use of this great power of 20 million population in the most productive way to make the best contribution to the country's development. Many Indians started to migrate many countries, especially to the USA, and work at areas with advanced technology in 1980s when the third era of Indian diaspora was taking place. It is known that there are over 300.000 Indian originated people working at information technology area in the USA by 2001. In addition to this data, it is also claimed that there are nearly 4,5 million people working in OECD countries while this number is about 4 million in Middle East and African regions (Pandey and at al., 2004).

Especially those living in the USA has made great contributions to the Indian Diaspora. The Indian Diaspora of about 1,7 million population living in the USA has averagely 60 thousand dollar income per capita. This diaspora, consisted mostly of well-educated qualified individuals, has indispensible contributions to help the country develop in parallel with the age's requirements. Indian originated employees working at Silicon Valley in the USA established SIPA (Silican Indian Professional Association) in the early 1990s (Tasci and Guder, 2008).

Indian Diaspora is a wealthy and qualified diaspora in terms of human capital save. A study carried out in 200 reveals this fact. According to this study, the Silicon Valley technology company, which had a total endorsement of 5 billion dollar in 200 and employed 26.000 people, was administrated by Indians. So, India tries to make the highest use of this advantage by following it closely. In this direction, she tries to maintain her ties with Indians living in the USA and especially with those working at Silicon Valley. Also, Indian Diaspora High-Ranking Committee has been established within the Ministry of Science and Technology (Nagala, 2005).

Even the organization period of Indian Diaspora reveals the importance that the country gives to human capital in long term. The establishment of International School of Business to enable the professionals working in Silicon Valley and North America to become high-ranking administrators and the establishment of Silicon Valley and Indus Entrepreneur holding a fund of 40 billion dollars for the entrepreneurs working in the USA and requiring risk capital for software and advanced technology in India shows the development period of this diaspora established in the form of a student's union. This structure composed by the Indians at Silicon Valley is called as Indian-Advanced-Technolgy Diaspora (Ellerman, 2004).

The diasporas with high human capital make great contributions to their homelands not only production period but also in the marketing period. Although Indian software system was not developed enough in 1990s, the image created by positive public policies implemented and by the support of the Indian Diaspora in the USA, has lead American firms to prefer Indian software companies in terms of using foreign resource. In later period, the relatively cheap and quality service

that the preferred firms present to their customers has increased the trust and demand for Indian firms (Banerjee and Duflo, 200).

Turkish Diaspora, with a population over 4.5 million in the European Union region, especially in Germany that is one of the locomotive countries of European Union, holds the highest immigrant population of Europe. Even though Turkey cannot make use of this power in parallel with its population, Turkish Diaspora has made great economic contributions to homeland. The diaspora that contributed to country economy especially by means of the exchange sent to the country from the early 1960s to 200s has made great contributions to the country's foreign trade especially since 1980s when the economy was directed to foreign economies. However, when compared with the other diaspora examples around the world, its contribution is very behind its potential in terms of both its lacks in structuring and its contributions in economic and political issues.

When it is considered that R&D, information and communication technologies and innovativeness are developed by a well-educated, young and dynamic population, it is clear that Turkish diaspora is not at the demanded level in terms of human capital save. The fact that there are about 23,5 thousand students having high education in Germany where is the center of Turkish diaspora with a Turkish population of about 2 million indicates that Turkish Diaspora does not involve enough human capital (Tasci and Guder, 2010). However, both by students sent abroad by means of the policies implemented in the homeland and by the fact that new generation diaspora member lead education more can be stated as positive developments in terms of human capital save in long term. One of these developments is that about 40 scientists who carried out academic studies in important universities around the world has turned back to Turkey within various programs and has started to carry out studies in the country (http://www.bilgicagi.com/Yazilar/79gocugucedonusturmekproaktifstratejilergerektirir.aspx).

Especially in the period that started with the fall down of Yugoslavia and continued with Serbian slaughter, many Bosnian was compelled to leave their homelands and migrate to various countries. Although there are not clear numbers as there is not enough study carried out on this issue, Bosnian Diaspora is active in various countries as a valuable community. However, Bosnian Diaspora cannot make the demanded contribution to the country's economy. There are many reasons for this situation but they are not involved in our study. However, considering the examples above, it is so clear that international aids are so important for country's economies in today's world.

5. Conclusion

In the global world system where classical growth theories lose their significance, the gap between the developed and developing countries increase, especially developing countries try to increase their development speeds to close the gap. In parallel with this effort, many developing countries try to increase their development powers by seeking for various alternative resources. Many countries, especially China and India, has directed their growth policies beyond their boundaries by adopting Neo-techno patriotism movement in this direction. Within this concept, they have developed policies involving diasporas no matter whether they are their citizens or not. How successful these policies they implement can be understood from the success the countries have achieved.

Especially Turkey and all other developing countries holding powerful diasporas such as Bosnia and Herzegovina, too, need to make use of the diaspora power they have to enable their advanced technology sectors to get larger shares from world market by revising their science and technology in parallel with the world's changing trend. Apart from this, the qualified human resource sent to abroad for having education should be encouraged to turn back to the country for entrepreneurship.

Encouraging programs should be developed in terms of risk capital funds such as seed capital and initial capital aimed at entrepreneurs just as the India example.

It will make great contributions to Turkey's advanced technology export as she establishes tighter relations with the Turks living in developed countries such as Germany, the USA, Netherland, France and England where Turkey has a diaspora power. Within this concept, an inventory should be taken related to the numbers, positions and qualifications of the Turks living in Germany and the USA and working at advanced technology companies. Also Turkish Diaspora should be used and implemented by implementing image and security relevant policies as India did. Long term investments should be made to enable Turkish software industry or other industries in advanced technology sector in tandem with Turkish Cooperation and Development Agency (TCDA).

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