HAS TURKEY CONVERGED TO THE EUROPEAN UNION IN TERMS OF HUMAN DEVELOPMENT? AN EVALUATION FOR THE PERIOD OF 1980- 2010[*]

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Abstract

This study aims to examine whether Turkey could converge towards the EU-27 average in terms of human development in the period 1980-2010. Turkey had an increase by 1,23% in human development in the period 1980-2010, while the EU-27 average was 0,55%. As a result, Turkey had a convergence towards the EU-27 average by 0,86 points in terms of human development. GNI per capita, as a subcomponent of human development, is the just field that the gap between Turkey and the EU-27 average widened. In order to close the gap and uplift its human development level, Turkey, no doubt, should have higher growth rates than the EU countries.

Keywords: Human Development, EU-27, Economic Growth, Turkey

İNSANİ GELİŞMİŞLİK BAKIMINDAN TÜRKİYE AVRUPA BİRLİĞİ'NE YAKINSADI MI? 1980-2010 DÖNEMİ İÇİN BİR DEĞERLENDİRME

Özet

Bu çalışma, Türkiye'nin insani gelişmişlik yönünden AB-27 ülke ortalamasına 1980-2010 döneminde bir yakınsama sağlayıp sağlamadığını incelemeyi amaçlamaktadır. Türkiye, 1980-2010 döneminde insani gelişmişlikte %1,23 oranında bir artış sağlamıştır. Buna karşılık, AB-27 ülkesindeki ortalama artış oranı %0,55 olarak gerçekleşmiştir. Sonuç olarak Türkiye AB-27 ülke ortalamasına 0,86 puanlık bir puanlık yakınsama sağlamıştır. İnsani gelişmişliğin bir alt bileşeni olan kişi başına GSMH, Türkiye'nin AB-27 ülke ortalamasına yakınsamanın olmadığı, hatta uzaklaşmanın olduğu tek alandır. Türkiye'nin bu alanda açığı kapatması ve insani gelişmişlik açısından daha iyi bir konuma gelmesi, hiç şüphesiz AB ülkelerine gore daha yüksek bir büyüme performansını gerçekleştirmesiyle mümkün olacaktır.

Anahtar Kelimeler: İnsani Gelişme, AB-27, Ekonomik Büyüme, Türkiye

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1. Introduction

It is not sufficient for a country to be named as a developed country due to its high growth of national income. The fact that many developed countries still have social problems; that's why it is a necessity to elaborate the connection between economic growth and better human development. It became clear that we are required to consider the human development not only with its economic dimension but also with its social dimension. To this end, Human Development Index was developed for the first time in 1990 in order to compare the development level of countries in the Human Development reports of United Nations Development Program (UNDP).

This study aims to assess Turkey's performance as a candidate member of the European Union (EU) in terms of human development for the period 1980-2010 in a comparison with EU countries. Also, the assessment aims to show that how much Turkey has converged to the EU countries in terms of human development in this period.

Following the introduction, the rest of the paper is organized as follows: In section 2 the relationship between human development and economic development are investigated. Section 3 gives a general information about the measurement of human development. Section 4 examines Turkey's human development adventure between the years of 1980 and 2010. In section 5, Turkey's human development level is compared with EU-27 countries. Finally, in section 6 the results of the study and the proposals are presented.

2. Human Development and Economic Development

Development aims to provide the people of a country with a suitable environment for a happy, long and healthy life. As an

international goal, it aims to uplift the conditions regarding health, education, and income for all people[1].

Development, at the same time, may be thought as a process in which innovation and creativity could be acquired. In that process, one's skills, educational level, standard of judgment, and sense of wealth with emerging economic, social, political, and cultural environment constitute the driving force of development by fostering creativity and innovation. That is to say, while the externalities provided by the qualified human force could, on the one hand, affect the productivity of investments; on the other hand, the income increase resulting from economic growth could increase human development level. In other words, the economic growth of countries that already reached high human development level would be high, and the increase in income resulting from economic growth that would be used for spendings of health, education etc. would pave the way for increase in the human developmental level. By contrast, in the countries with low human developmental level, the productivity of investments and the economic growth rate would be lower; and thus, since the income level would be lower, these countries would not have sufficient resources for human development. Accordingly, they would have problems in the process of economic growth in terms of human development issues[2].

In recent years, the development economists' interest in defining and calculating the indicators of development has increased in parallel with the ever-increasing complexity of the economic life. The most important reason behind this increasing interest is that the economic development has been discussed not only with reference to its physical

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[1]Yusuf Tuna, İ. Güran Yumuşak, "Beşeri Kalkınma İndeksi ve Türkiye Analizi", *I.Ulusal Bilgi Ekonomi ve Yönetim Kongresi Bildiriler Kitabı*, 2002, p. 457.

[2] Bülent Güloğlu, Mine Yılmazer, "Ekonomik Büyüme ve İnsani Kalkınma: Panel Veriler Ekonometrisi Neler Getiriyor?", *I. Ulusal Bilgi, Ekonomi ve Yönetim Kongresi Bildiriler Kitabı,* Hereke-Kocaeli, 2002, p. 429.

dimension, but also with reference to its qualitative dimension in the theoretical debates. In this vein, the endogenous growth models developed by Lucas[3], Rebelo[4] and Mankiw[5] et al, consider the human capital as a separate production factor from the physical capital, and in these models it is proved that human capital has considerable effects on the economic growth. The question the relationship between the economic growth and the human capital is scientifically proved by many researchers. For instance, the empirical studies conducted by Barro and Martin[6], Tallman and Wang[7], Ramirez[8], et al Barro[9] and Webber[10] support this view. All these results imply that to reach a higher development rate for a country is bound up with its ability to training a more qualified human resource. In other words, it can be argued that societies which give importance to the human development have better standards of life in comparison to the others. Within this scope, the human development levels of countries have been presented each year by the Human Development Reports[11] which are prepared by the United Nation Development Program (UNDP). These reports provide an assessment about countries by means of three essential dimensions of human development: a long and healthy life, access to knowledge, and a

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[3]Robert Lucas, "On the Mechanics of Economic Development", *Journal of Monetary Economics* 22, (1988).

[4]Sergio Rebelo, "Long Run Policy Analysis and Long Run Growth" *Journal of Political Economy 99,* (1991).

[5]N. Gregory Mankiw, David Romer, David N. Weil, "A Contribution to The Empirics of Economic Growth", *Quarterly Journal of Economics 107,* (1992).

[6]Robert J. Barro, X. Sala-i Martin, *Economic Growth* (New York: McGraw-Hill, Inc, 1995).

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[8]Alejandro Ramirez, Gustav Ranis, Frances Stewart, "Economic Growth and Human Development", *Yale University Economic Growth Center Discussion Paper 787,* (1997).

[9]Robert J. Barro, "Economic Growth in A Cross Section of Countries", *Quarterly Journal of Economics 106* (1991).

[10]Don J. Webber, "Policies to Stimulate Growth: Should We Invest in Health or Education", *Applied Economics 34* (2002).

[11]The first Human Development Reports was prepared in 1990 under the leadership of Pakistani economist and the minister of finance Mahbub ul Haq, with the contribution of the Nobel winning economist Amartya Sen.

decent standard of living[12]. To this end, the UNDP uses Human Development Index in order to compare socio-economic development level of countries.

3. Measurement of Human Development

The Human Development Index (HDI)[13] is a summary measure of human development. It has three dimensions and four indicators which are shown on the Table 1. The health dimension of the index is measured by life expectancy at birth. The education component of the HDI is measured by mean of years of schooling for adults aged 25 and older years and expected years of schooling for children of schooling going age. The decent standard of living component is measured by GNI per capita (PPP US$).

Table 1: The Components of Human Development Index
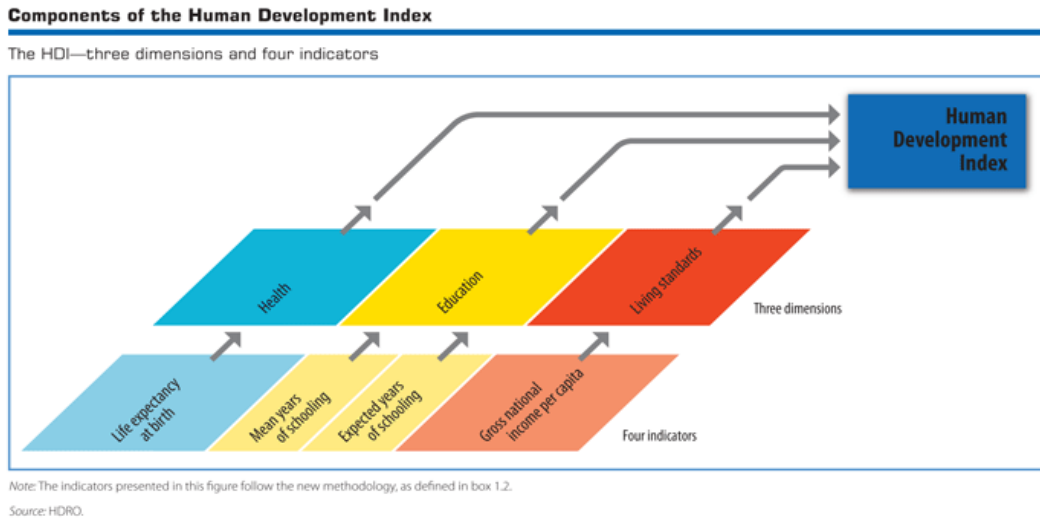
Source: UNDP, 2010.

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[12]M. Yasemin Tekbudak, Hüseyin Tatlıdil, "A comparative Study Between Turkey and OECD Countries in Terms of Human Development (1980-2010)", *Tisk Akademi 6*, (2011).

[13] HDI calculation methodology was changed in 2010. In this respect, the indicators adult literacy (%) and combined gross enrollment ratio (%) were superseded by mean years of schooling and expected years of schooling respectively. Moreover, gross national income per capita (GNI per capita-PPP US$) replaced gross domestic product (GDP per capita-PPP US$).

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Before calculating HDI, the first step is to calculate subindices called "life expectancy index", "education index" and "gross national income index". Minimum and maximum values (goalposts) should be set in order to transform the indicators into indices between 0 and 1. Because the geometric mean is used for aggregation, the maximum value does not affect the relative comparison (in percentage terms) between any two countries or periods of time. The maximums are the highest observed values in the time series (1980–2010). The minimum values can be appropriately considered as subsistence values. The minimum values are set at 20 years for life expectancy, at 0 years for both education variables and at $163 for per capita gross national income (GNI).

The goalposts are given in the following table:

Table 2: Goalposts for the Human Development Index in 2010 Report

Dimension	Minimum	Observed Maximum
Life expectancy	20.0	83,2 (Japan, 2010)
Mean years of schooling	0	13,2 (United States, 2000)
Expected years of schooling	0	20,6 (Austraila, 2002)
Per capita Income (PPP US$)	163 (Zimbabwe, 2008)	108,211 (United Arab Emirates, 1980)

Source: UNDP, 2010.

Having defined the minimum and maximum values, the subindices are calculated as follows:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}} \qquad (1)$$

Until 2010, HDI was the arithmetic mean of the three subindices. This method presupposes perfect substitutability across dimensions. In other words, any increment in one dimension at any value can be substituted or neutralized by an equal decrement in another dimension

at any other value in this method[14]. To remove the substitutability, the aggregation was changed as the geometric mean of the three dimension indices:

$$HDI = (I_{Life}^{1/3} \cdot I_{Education}^{1/3} \cdot I_{Income}^{1/3}) \qquad (2)$$

Adopting the geometric mean produces lower index values, with the largest changes occurring in countries with uneven development across dimensions. The geometric mean has only a moderate impact on HDI ranks. Setting the upper bounds at actual maximum values has less impact on overall index values and has little further impact on ranks[15].

4. Turkey's Human Development Trend, 1980-2010

In this part, Turkey's performance regarding HDI for the period 1980-2010, and subcomponents of its HDI such as life expectancy, GNI per capita, expected years of schooling, mean years of schooling are examined.

Graph I shows Turkey's HDI values for the period 1980-2010. Turkey was a country having a low human development with a HDI value as 0,467 in 1980. Turkey has attempted constantly to increase its human development level since 1980, and it became a high human development country with a HDI value as 0,679 as of 2010.

In that period, Turkey's HDI value has increased by 0,212. Even though its HDI value has constantly increased by years, its rank among countries has ever decreased. For instance, it is seen that as being 57th among 95 countries in 1980, Turkey receded to 71st among 118 countries in 1990, to 66th among 137 in 2000, and to 83th among 169 countries in 2010. That results from the fact that the countries that

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[14]Hippu SK Nathan, Srijit Mishra, "Progress in Human Development: Are we on the right path?", *International Journal of Economic Policy in Emerging Economies 3* (2010), p. 200.
[15]UNDP,2010. *Human Development Report* , access 10.04.2012, http://hdr.undp.org/en/statistics/hdi/.

have similar HDI values have better performances than Turkey in this period.

Graph 1: HDI Values of Turkey (1980-2010)
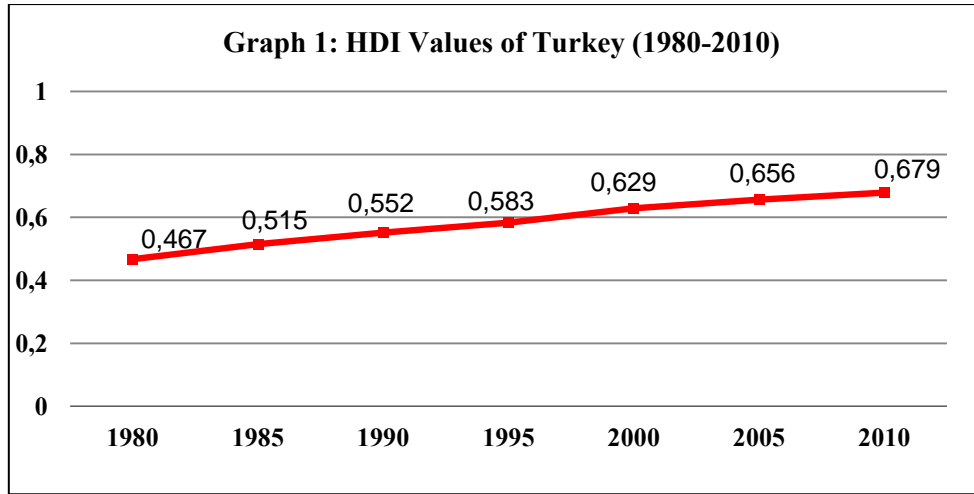
Source: UNDP 2010.

Graph 2 shows the life expectancy at birth in Turkey for years from 1980 to 2010. In this period, life expectancy at birth increased steadily. It increased from 60,3 in 1980 to 72,2 in 2010. According to this data, the mean lifetime of Turkish people increased 12 years in that period.

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Graph 2: Life Expectancy at Birth in Turkey (years) (1980-2010)
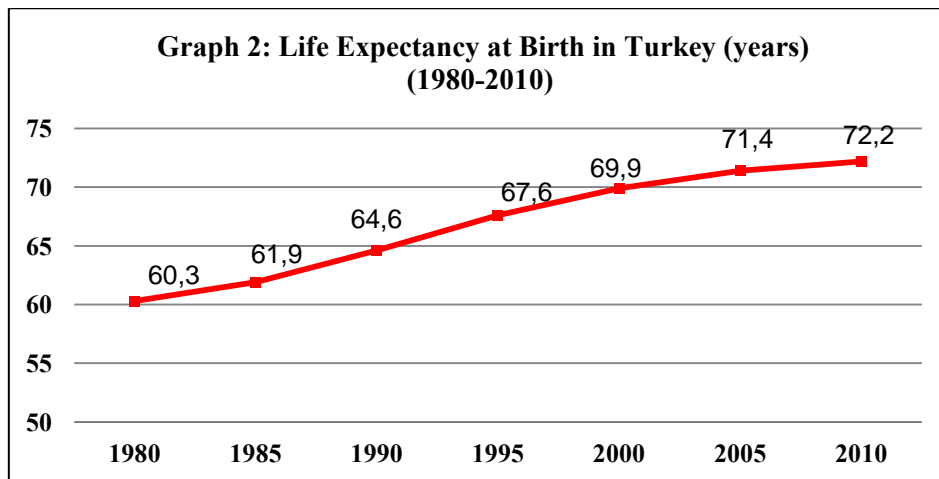
Source: UNDP 2010.

Graph 3 shows Turkey's GNI per capita values at constant prices for the period 1980-2010. As can be seen from the graph, it increased from $ 6.291 in 1980 to $ 13.359 in 2010. That is to say,

Turkey's GNI per capita increased by 112% in that thirty years, and the prosperity of Turkey's people doubled.

Graph 3: GNI Per capita (constant 2008 PPP US$) (1980-2010)
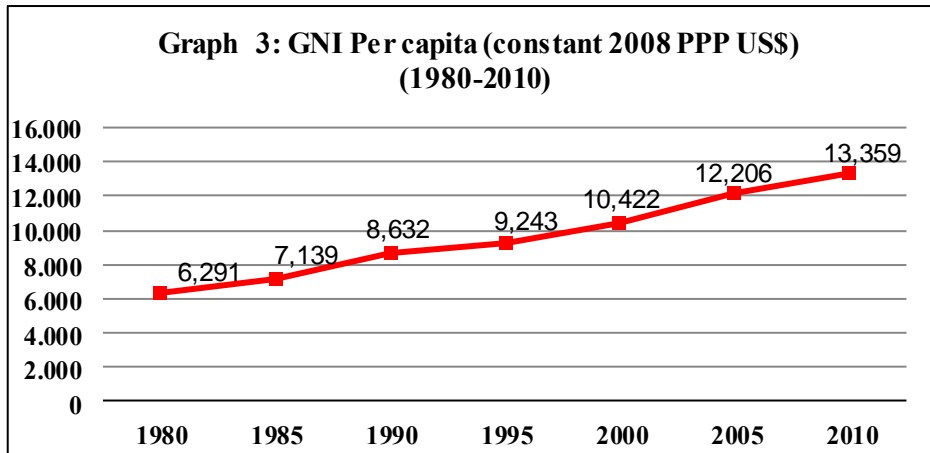
Source: UNDP 2010

Graph 4 shows the mean years of schooling and the expected years of schooling. As these indicators implies Turkey could not reach up a good development level in both of those areas. Its expected years of schooling increased just by 4,8 years within thirty years, from 7 years to 11,8.

The mean years of schooling for adults over 25-age is also below the desired level. It increased from 2,8 in 1980 to 6,5 in 2010. In other words, the increase in the mean years of schooling was just 3,7 years for this period.

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Graph 5: HDI Values of Turkey and Average of EU-27 Countries
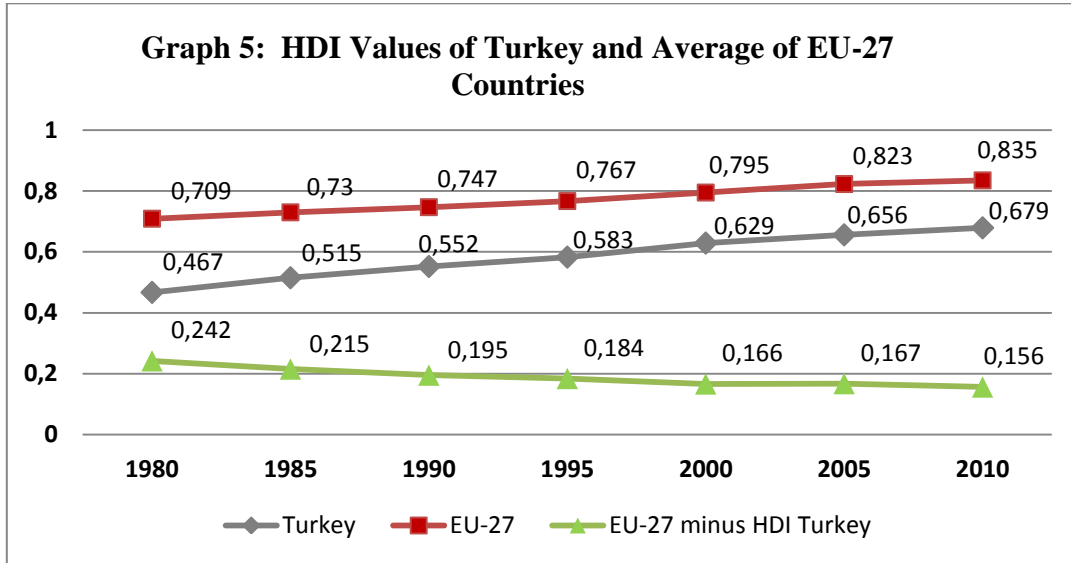
Source: UNDP 2010

5. The Comparison of Human Development Level of Turkey with the EU Countries

5.1. The Comparison of HDI Values

It became possible for Turkey to converge to the average of EU-27 in terms of HDI values even if just a bit. For the period 1980-2010, Turkey could make an improvement by 45,4 % in human development while the same ratio was 18% for the EU-27. Furthermore, Turkey reached 1,23 % increase per year, while the ratio was 0,55 for the EU-27. As graph 5 shows, the gap between HDIs of Turkey and the EU-27 has decreased from 0,242 in 1980 to 0.156 in 2010. According to that figures, Turkey had a convergence by 0,86 point towards the EU-27

Graph 5: HDI Values of Turkey and Average of EU-27 Countries
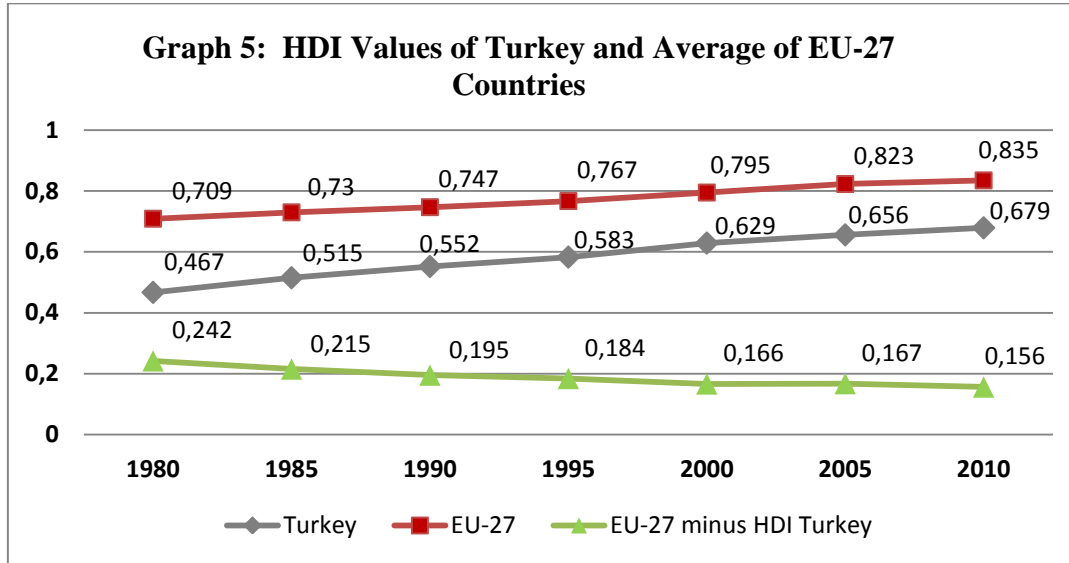
Source: UNDP 2010 and author's own calculations.

As of 2010, Ireland (0,895), Netherlands (0,890), and Sweden (0,885) respectively are the best countries in terms of human development level among EU countries. In contrast, Latvia (0,769), Romania (0,767), and Bulgaria (0,767) are the countries that have lowest human development level. In terms of human development, Ireland could make an improvement as 24,3% for the period 1980-2010, Netherland and Sweden were 14,2% and 14,5% respectively. Looking at the countries that have lowest human development level, the improvement in human development level were 18,1%, 11,5%, and 14,5% for Latvia, Romania, and Bulgaria respectively for the period 1980-2010.

Even though Turkey is the country having the lowest human development level, it has been the country that could reach the highest improvement rate when compared to the EU countries in that period.

### 5.2. The Subcomponents of Human Development

5.2.1. Life Expectancy

Graph 6 shows the life expectancy of Turkey and the average of the EU-27 for the period 1980-2010. Life expectancy at birth for the EU countries rose from 72,4 in 1980 to 78,19 in 2010. According to that

figures, the mean lifetime of the citizens of the EU countries had 6-year increase in thirty years. France, Italy, Spain, and Scotland are the countries that have the longest mean lifetime among the EU countries. In these countries, life expectancy is 81 years approximately. Latvia has the shortest mean lifetime with 72 years among the EU countries.

Life expectancy in Turkey rose from 60,3 in 1980 to 72,2 in 2010. That is to say, Turkey had a 12-year increase in mean lifetime in that thirty years. The highest improvements for Turkey in its life expectancy figure were the years from 1985 to 2000. During these years, there occurred an increase in life expectancy over 5 years in Turkey. The rate of rise in mean lifetime per year has been 0,60% for Turkey, while this rate for the EU countries was 0,25%. Turkey had a 20-percent increase in life expectancy at birth in the period 1980-2010, this rate for the EU countries was 8%. Turkey had a convergence as 6,1-year to average of the EU countries in terms of life expectancy in that thirty years.

As may be seen from Graph 6, the gap between Turkey and average of EU countries in terms of life expectancy was 12 years in 1980, it decreased to 6 years in 2010. Turkey had a significant convergence to average of the EU countries in the years from 1980-2000 in terms of life expectancy, while it could not be that successful in this respect after 2000 as much as it was before.
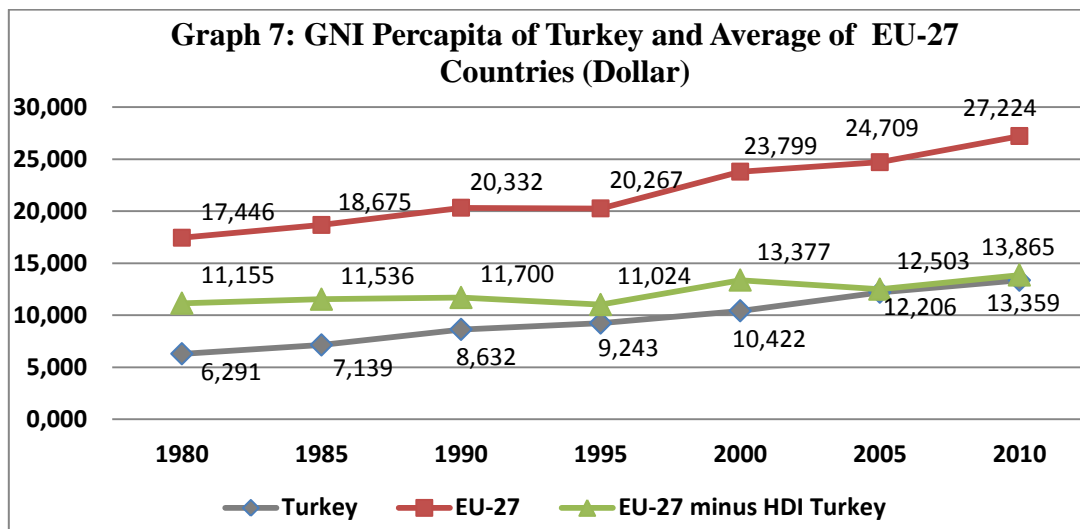
Graph 6: Life Expectancy of Turkey and Average of EU-27 Countries
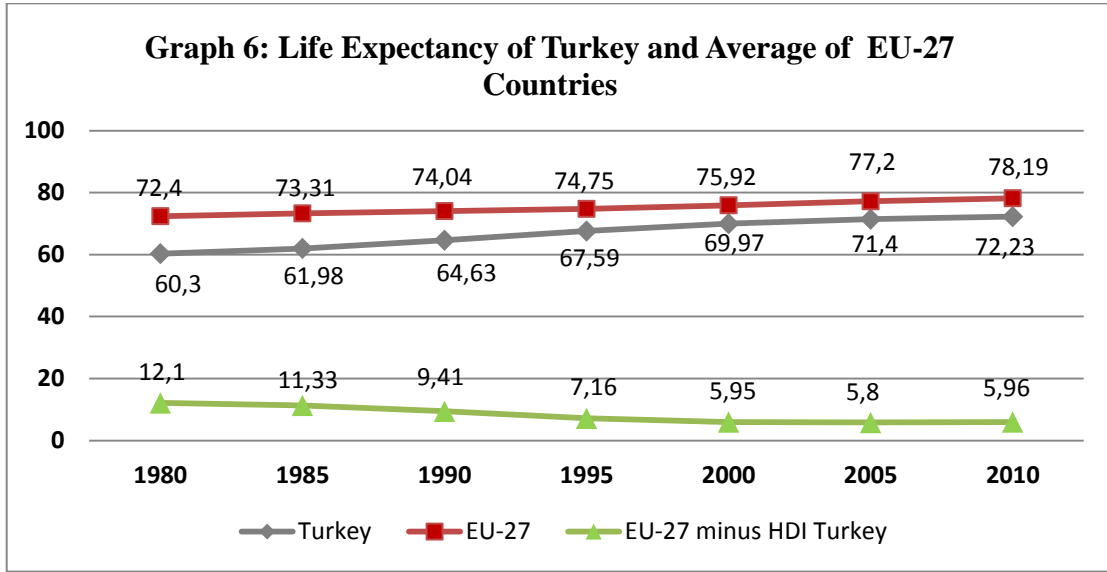
Source: UNDP 2010 and author's own calculations.

5.2.2. GNI Per Capita

Turkey had a crucial improvement in terms of GNI per capita in the period 1980-2010. Its GNI per capita has risen from $6,291 in 1980 to $13,359 in 2010. While Turkey's GNI per capita rose by 112% in that period, the rate of increase in it per year was 2,5%. GNI per capita for the average of EU-27 was $17,446 in 1980, and it became $27,224 in 2010. According to that figures, GNI per capita for average of EU-27 rose by 56% in this period, and the rate of increase in it per year was 1,5%.

These figures show that Turkey had a better performance than the EU-27 average in terms of increasing the GNI per capita; nevertheless it could not converge to the EU-27 average in that respect as Graph 3 implies, and even the gap between the EU-27 widened. The gap rose from $11.000 in 1980 to $13.000 in 2000s in round figures. In 2010, the gap widened more, and there occurred a divergence as $2,710.

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As of 2010, the highest GNI per capita belonged to Luxemburg with $51.000 among the EU countries, and it was followed by Netherland and Austria with $40,658 and $37,056 respectively. The countries that have the lowest GNI per capita among the EU countries are Latvia, Romania, and Bulgaria- that of Latvia's and Romania's is approximately $13.000, and Bulgaria has the lowest figure with $11.000. According to these figures, Turkey is better than Latvia, Romania, and Bulgaria in terms of GNI per capita.

Graph 7: GNI Percapita of Turkey and Average of EU-27 Countries (Dollar)

	1980	1985	1990	1995	2000	2005	2010
Turkey	6,291	7,139	8,632	9,243	10,422	12,206	13,359
EU-27	17,446	18,675	20,332	20,267	23,799	24,709	27,224
EU-27 minus HDI Turkey	11,155	11,536	11,700	11,024	13,377	12,503	13,865

Source: UNDP 2010 and author's own calculations.

5.2.3. Mean Years of Schooling

Graph 8 shows the mean years of schooling and average of EU_27 countries for 25 years and above. The mean years of schooling increased from 7,63 in 1980 to 10,53 in 2010.The Czech Republic, Germany, and Estonia - with about 12 years - take place on the top in the list of mean years of schooling. England, Slovenia, and Portugal are the countries that have the lowest level of mean years of schooling with 9,5, 9, and years respectively.

According to these figures, the EU-27 average had 38 percentage increase in mean years of schooling in the period 1980-2010. In Turkey,

however, while it had been very low level of 2,87 years in 1980, it increased to 6,47 in 2010. Even if Turkey increased mean years of schooling by 125 percentage during that period, its convergence to the EU-27 average was just 0,7 year. Thus, Turkey with its performance regarding mean years of schooling fell behind of the EU-27.

Graph 8: Mean Years of Schooling of Turkey and Average of EU-27 Countries (25 years and above)
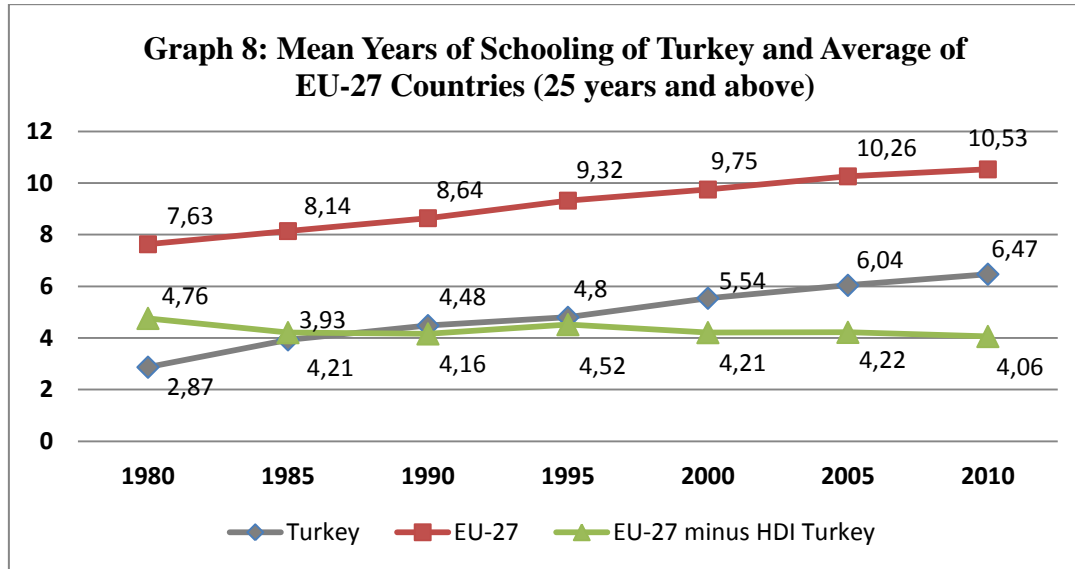
Source: UNDP 2010 and author's own calculations.

5.2.4. Expected Years of Schooling

Expected years of schooling of the EU-27 average was 12,1 years in 1980, while that of Turkey was 5,4. That is to say, the EU average was more than twice of Turkey's expected years of schooling in 1980. Expected years of schooling of the EU-27 average increased by 29 percentage from 1980 to 2010, and became 15,6 years. Turkey, however, reached 11,84 years with 70 percentage increase in that period. Thus, the gap between the EU-27 average and Turkey as to mean years of schooling decreased to 3,76 in 2010 from 5,14 in 1980. Namely, Turkey could converge the expected years of schooling of the EU-27 average as much as 1,38 years in the period 1980-2010.

The highest figures as to expected years of schooling are Ireland (17,86), Finland (17,12), and Denmark (16,87), while the lowest ones are Cyprus (13,79), Bulgaria (13,67), and Luxemburg (13,27).

Graph 9: Expected Years of Schooling of Turkey and Average of EU-27 Countries
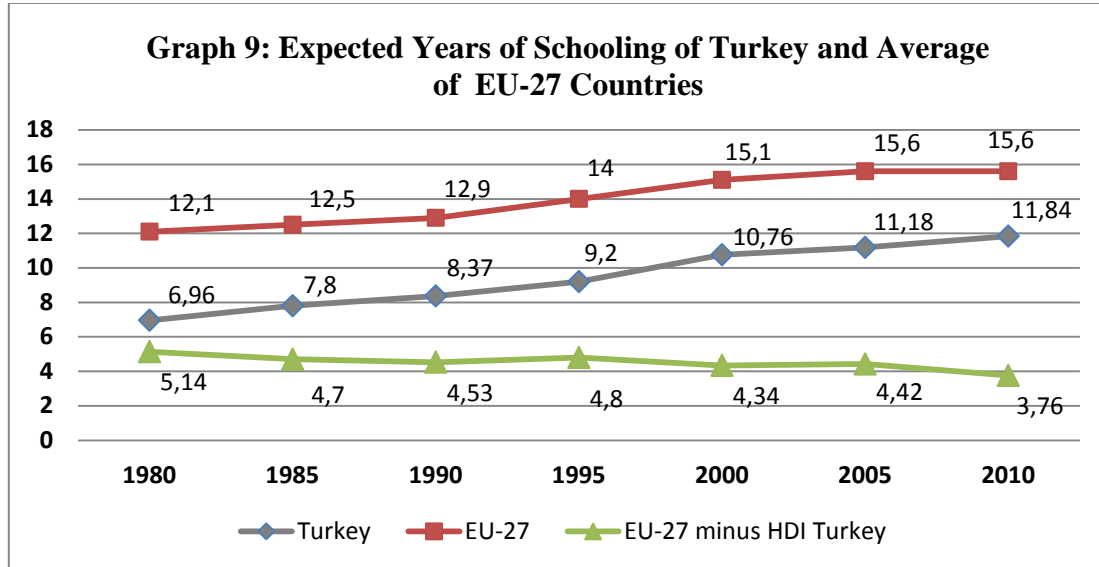
Source: UNDP 2010 and author's own calculations.

6. Conclusion

This study compares the Turkey's performance regarding HDI and the subcomponents that determine HDI in the period 1980-2010 with that of the EU-27 average. As said above, it aims to examine whether Turkey could converge towards the EU-27 in terms of human development in that thirty years.

Turkey's HDI values could converge even if just a bit to the EU-27 averages during that period. Turkey had an increase by 1,23% in human development in the period 1980-2010. The EU-27 average, however, increased by 0,55%. Turkey had a convergence towards the EU-27 average by 0,86 points. Even if Turkey is the country that has the lowest human development level among the EU countries, it could reach the highest increase rate regarding HDI in that thirty years.

The best convergence in Turkey's HDI values is case for the life expectancy at birth as a subcomponent of human development. Turkey

could be successful in converging towards the EU-27 averages in life expectancy at birth by 6,1 years. However, Turkey could not carry out the same success in the field of education. Turkey could not have a significant convergence towards the EU-27 in neither mean years of schooling nor expected years of schooling. During 30 years, the convergence was 0,7 and 1,38 for the mean years of schooling and the expected years of schooling respectively. GNI per capita is the just field in Turkey had a divergence. In 2010, the divergence between GNI per capita of Turkey and the EU-27 averages increased to $2,710.

In order to close the gap and uplift its human development level, Turkey, no doubt, should have higher growth rates than the EU countries. Turkey could reach such a relatively high level of growth rate in the aftermath of the global financial crisis. It is expected that it would retain that good performance. Turkey would uplift its human development level with the spill-over of the success in income field to the fields of health and education. By this way, it would be a kind of country that is not threat but opportunity for the EU with its more qualified population.

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