THE PROSPERITY INDEX AND ITS RELATIONSHIP WITH ECONOMIC GROWTH: CASE OF TURKEY

Ahmet Mesut Büyüksarıkulak 1; Ali Kahramanoğlu 2

1 Doğanhisar Vocational High School, Selçuk University, Konya, Turkey
2 Bafra Faculty of Business Administration, Ondokuz Mayıs University, Samsun, Turkey

E-mail: ali.kahramanoglu@omu.edu.tr

Received April 2019; accepted August 2019

Abstract
Economic growth has been one of the most important subjects of economics in almost every period. It can be said that first, economic growth, then the increment of the prosperity levels of countries is aimed with economic policies. For measuring welfare; In addition to income method, new parameters such as education, health, environment and management were included in the calculation. The objective of this study is to evaluate The Legatum Prosperity Index results, prepared by The Legatum Institute as an alternative approach to measure prosperity, between 2007-2017 with regards to Turkey and to associate these with economic growth. In the creation of the index, economic quality, business environment, health, education, security, natural environment, management, personal liberties, social capital criteria are used. In the last decade, Turkey’s economy experienced a recession only in 2009 but grew in other years. When we examine the ranking on the Prosperity Index, it is observed that it has generally a horizontal course. This situation indicates that economic growth has not contributed to prosperity increase enough in Turkey. It can be interpreted as Turkey’s prosperity level will not progress significantly in the coming years, considering the constant retrogressing in rankings especially in the last three years.

Research paper

Keywords: Economic Growth; Turkey; Prosperity Index; Welfare; Measurement of Welfare

Reference to this paper should be made as follows: Büyüksarıkulak, A. M. & Kahramanoğlu, A. (2019). The Prosperity Index and Its Relationship with Economic Growth: Case of Turkey, Journal of Entrepreneurship, Business and Economics, 7(2), 1–30.
Introduction

Economic growth has been one of the most important subjects of the economics in almost every period, and many pieces of research have been done about what are the determinants of economic growth, what it affects and from which it is affected, in the literature. It can be said that first, economic growth, then the increment of the prosperity levels of countries is aimed with economic policies. Prosperity has the utmost importance not only for developed countries but also for developing and less developed countries. Measuring prosperity is an indicator of the extent to which social progress is achieved in a country. As the level of prosperity in a country increases, the growth and development target of the countries' economies will be actualized. In other words, while economic growth affects prosperity positively at first, the prosperity increase will fasten the economic growth and development further (Zhong, 2010).

The income method, which was initially used for the measurement of prosperity, began to be inadequate in time with increasing globalization. Therefore, the need to use new methods to measure prosperity in the developing process was needed. In these methods developed, new parameters such as education, health, environment and management are included in the calculation (Atalay, 2015; Radovic Markovic and Salamzadeh, 2012). Today, there are various indexes that measure the prosperity levels of countries. Among these, “Prosperity Index” (The Legatum Index), which defines and measures prosperity widely, has been developing by The Legatum Institute, a London-centered think-tank, since
2007. Besides the economic indicators of countries, the index is composed of nine criteria: business environment, governance, education, health, safety & security, social capital, natural environment.

Thanks to this index, the prosperity levels of countries can be compared across multiple areas. As a result, countries will try to produce new policies for the criteria they are inadequate and will be able to put into effect the practices that will bring the prosperity of society to a maximum.

Apart from this index prepared by The Legatum Institute, there are other indices that measure and rank countries' prosperity levels. Among these, there are “Human Development Index”, which has been preparing by United Nations Development Programme (UNDP) since 1990, and “Better Life Index”, which has been preparing by Organisation for Economic Co-operation and Development (OECD) since 2011.

In this study, it is intended to reveal the relation between Turkey’s economic growth since 2007 and its ranking on the Prosperity Index prepared by The Legatum Institute. The study hopes to contribute to the literature since it discusses the relation between the Prosperity Index and Turkey’s economy.

**Economic growth**

The economic growth, which is described in many different forms in the economic literature, can be defined as the increase of a country's production capacity or real gross domestic product (RGDP) from one year to the next (Taban, 2016:1).
Besides that there are some other definitions: According to Peterson (1994), economic growth is to increase the production ability in order to produce the goods and services needed. Ülgener (1991) defines growth as a continuous increase in the basic data of economics, providing a higher real income per capita from one year to the other. Ünsal (2011) defines growth as the increase in the amount of the produced goods and services - real gross domestic product in time.

As can be understood from the definitions above, economic growth, shortly, is the economy’s showing increase numerically.

Today, the most important economic target, regardless of the level of development of countries, is to achieve economic growth. With the stable growth of economies, it will be easier to reduce poverty and unemployment, to make income distribution more equitable, to achieve technological innovations, and to increase physical and human capital stocks. Hence, countries work intensively to determine policies that will ensure appropriate growth for their structures. Therefore, especially in the last three decades, academicians and researchers have started to conduct more researches about growth (Akıncı, 2013:100).

The growth rate is used to measure economic growth. The growth rate is the same as the rate of increase in the real gross domestic product (RGDP). RGDP refers to the value of the final goods and services produced in a given period in a country based on the prices of one year. RGDP is a value adjusted price movement due to inflation. Subtracting the related year’s RGDP from the previous year’s RGDP and dividing the remainder by
the previous year’s RGDP and multiplying the result by hundred, we obtain a growth rate which is called gross growth rate. It is shown as below (Yılmaz & Akıncı, 2012:10)

\[
g_t = \frac{\text{RGDP}_t - \text{RGDP}_{t-1}}{\text{RGDP}_{t-1}} \times 100
\]  

(1)

In the formula (1), “t” refers to the period of which growth rate will be calculated, “\(g_t\)” refers to the growth rate in t period, “RGDP” refers to the RGDP value of t period, “RGDP_{t-1}” refers to the RGDP value of the previous year before t period.

The gross growth rate is an indicator of the increase in production quantity and does not give enough information about the prosperity level of the country. In order to monitor the increase in the level of prosperity, we should look at the net growth rate found by subtracting the population growth rate from the gross growth rate. Population growth rate, which is needed for obtaining net growth rate, is found with the formula (2) (Yılmaz & Akıncı, 2012:10)

\[
n_t = \frac{N_t - N_{t-1}}{N_{t-1}} \times 100
\]  

(2)

In the formula (2), “\(n_t\)” refers to the population growth rate in t period, “\(N_t\)” refers to the population in t period, “\(N_{t-1}\)” refers to the population in the t-1 period. Thereby, the net growth rate (\(g^*\)) is calculated with the formula below (Berber, 2006:23).
If a country’s gross growth rate in a year is greater than the population growth rate, the net growth rate is positive and the increase in prosperity is ensured. But if a country’s gross growth rate in a year is less than the population growth rate, the net growth rate is negative and the decrease in prosperity occurs. If the increases are equal, there is no growth in the economy (Berber, 2006:24).

Growth can be measured by annual increases, but can also be measured with the average growth rate throughout long terms. “g” refers to the growth rate, “n” refers to the number of years, and “g” is calculated with the formula (4) as below.

\[ g = \left( \frac{\text{REAL GDP AT THE END OF THE PERIOD}}{\text{REAL GDP AT THE START OF THE PERIOD}} \right)^{\frac{1}{n}} - 1 \]  

The main determinants of economic growth can be classified under 5 headings. These are population and labour force, capital accumulation, technological development, human capital accumulation and natural resources.

It is inevitable for economic growth to be affected by population growth. The increase in population in a country will lead to an increase in labour supply. The increase or decrease in population that causes changes in the employment rates of countries is one of the determinants of economic
growth. Recently, a large number of empirical studies have been conducted about the subject. In some of these studies, while population growth adversely affects economic growth, in some, population growth triggers economic growth, and in some studies, there is no relationship between population and economic growth (Yazıcı, 2018:10).

Capital accumulation is the transfer of the current income to the investment in order to increase the production by saving up a part of this income. This will cause capital accumulation, thus increasing the production capacity of the economy (Kaynak, 2011:268). Factory, machine-equipment, tools, raw material and other durable production factors that cause production increase boost a country’s capital stock (Kiraz, 2016:34). In addition, capital accumulation in the country also includes infrastructure investments such as roads and dams (Bakan, 2017:29). Capital accumulation constitutes the most important source of an economy that wants to grow. Because if there is insufficient capital compared to the labour force, the labour force is not expected to be too productive (Taban, 2016:32).

The most important source of economic growth is technological development (Üstünel, 1966:215). Especially after the industrial revolution, its importance increased. Technological development could be defined as a fund of knowledge that enables to produce more, ensure the increase in efficiency or to produce more quality goods and services (Kiraz, 2016:36). Thus more amount of output could be produced when capital and labour force are at the same level (Ünsal, 2007:191). Technological progress is
seen as the best way to overcome the apparent boundaries of growth (Parasız, 2003:10).

Human capital refers to the level of knowledge, skills, abilities, experience, behaviour and values that individuals have and can use productively. On the other hand, it expresses the physical and mental durability of individuals (Keskin, 2011:128). Human capital has a positive impact on economic growth by providing to introduce new ideas, develop new technologies and use them effectively (Eser & Ekiz Gökmen, 2009:42). Human capital began to be accepted as the most important element of economic growth with the development of internal growth models based on human capital towards the end of the 1980s. By ensuring the accumulation of human capital, productivity can be increased and thus economic growth can be achieved more rapidly. Human capital has three elements which are education, health and labour transfers. However, education is usually used to measure human capital. The reason for this is that it is hard to measure other elements (Yazıcı, 2018:8).

Natural resources, the final determinant of economic growth, are defined as assets that are readily available in nature to meet the needs of people (Taban, 2016:21). Natural resources encompass both underground and surface assets. Petroleum, natural gas, coal, iron, soil, water and forests are the best examples of natural resources (Ülgen, 2002:305). The activities such as the extraction and use of underground resources of a country and agricultural production through water resources will contribute to the economic growth as it will make positive contributions to the production
capacity of the economy (Ertek, 2008:389). However, natural resources alone are not enough for economic growth. Along with natural resources, there is a need for technological opportunities, capital, well-trained labour force, good management and economic policies that can plan these correctly (Başol et al., 2005:70).

**Prosperity and prosperity index**

The word “Prosperity” is defined as “living in opulence, comfort and wealth” in the dictionary prepared by the Turkish Language Society. Prosperity means for a society to have better living standards and to continue the life under better conditions. In every country, the main objective of executives is to increase the prosperity of society along with economic growth.

Economic growth is necessary in order to ensure prosperity in a country, but ensuring economic growth does not mean that prosperity will be increased. In addition to economic growth, progress is required in many areas such as economic transformation, education, health, justice, democracy, and fair distribution of income (Giménez, Zárate, 2016).

The factors forming prosperity are shown in Figure-1. According to this, atmosphere, biological diversity, the quality of water and natural resources reflect ecosystem. Working life, physical and mental health, freedom and personal relationships create human prosperity. Economy refers to national income and wealth. Civil and political responsibility, access to services and security management forms human rights. Cultural
heritage and art culture; conservation of economic and environmental assets, utilization of resources and consumption constitute the resource management. Finally, ecosystem services encompass the impact of natural events and natural resources.

**Figure 1. A Framework to measure the progress of societies**

The purpose of measuring prosperity in a country is to show the extent to which social progress is achieved. The most classical method used by economists and states in the measurement of prosperity is GDP per capita because it is reliable and easy to calculate. It is also very easy to collect data in this method (Akar, 2014:3-4). In time, due to the changing conditions in the world, factors such as health, climate change and global threats that affect the quality of life of the society have emerged and indices that express prosperity in a wider sense have been needed (Kulesza & Ucieklak-Jez, 2012: 184). Only GDP criterion is not enough to measure
prosperity, more than one criteria are needed (Stiglitz, et al., 2009: 14). For this reason, in 2008, the Nobelist in economy Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi came together to form a commission. The Commission stated the missing points of the GDP method used in the measurement of prosperity and determined the criteria to be used (Kroll, 2011:3).

In the light of these developments, a London-based think-tank “Legatum Institute”, which defines itself as an international think-tank and educational help organization aiming to provide evidence-based solutions for those who will see free, fair and developing societies, has been preparing “The Legatum Institute Index” since 2007 to measure countries’ levels of prosperity and changes in these levels, and to compare these levels. The index provides an alternative to the GDP method to compare countries' prosperity levels (www.li.com).

There were 50 countries in the index first. This number has increased in time. By 2017, the number of countries has reached 149. In 2016, a new methodology was applied to the calculation of the index. The reason for this innovation is to achieve a transparent measurement as a result of theoretical and empirical studies on prosperity. In the methodology applied, a hundred and four variables are evaluated in nine criteria. First of all, each variable is given one of the four coefficients (0.5, 1, 1.5, 2) according to the importance it has in influencing prosperity. Then the scores of the variables are multiplied by the determined coefficient to find the score of each of the nine criteria. Thus, the scores of the countries for each
criterion is formed. Finally, each criterion is summed up and averaged to reach the Prosperity Index General Score. Thereafter, countries are ranked according to their scores. Each criterion has the same significance in this calculated index score. The scores calculated for nine criteria in the index are included and the rankings of countries with regard to each prosperity indicator can be seen. The nine criteria used in the calculation of the index and their contents are as follows (http://www.prosperity.com/about/methodology).

**Economic Quality:** It measures countries on the openness of their economy, macro-economic indicators, foundations for growth, economic opportunity and financial sector efficiency.

**Business Environment:** A strong business environment provides an entrepreneurial environment in which citizens can pursue new ideas and opportunities for greater wealth and higher social prosperity to improve their lives. This criterion measures a country’s entrepreneurial environment, it's business infrastructure, barriers to innovation and labour market flexibility (Salamzadeh and Kawamorita, 2017; Castilla, 2018).

**Governance:** Rule of law, effective governance, democracy and political participation, corruption level and citizens’ participation to policy creation processes are measured by this criterion. After all, well-governed democratic societies tend to increase their per capita income and prosperity to higher levels.

**Personal Freedom:** In this criterion, basic legal rights and personal freedoms such as freedom of expression, belief and freedom of association,
as well as social tolerance are measured. It has been observed that the prosperity levels of the societies that develop strong citizenship rights and freedoms increase (Michalos, 2014).

**Social Capital:** As social networks and social cohesion in a society increase, people's trust and respect increase in time, directly affecting the prosperity of the country. Thus, this criterion measures the strength of personal relationships, social network support, social norms and civic participation in a country (Atalay, 2015; Salamzadeh et al., 2017)

**Safety & Security:** This criterion country based on national security and personal safety. Threats to national and personal security endanger economic and social prosperity. The environment of fear and uncertainty will affect the level of life satisfaction negatively.

**Education:** This criterion measures access to education, quality of education, human capital and competitiveness in a country.

**Health:** A strong health infrastructure in a country leads to a higher level of prosperity. Physically and mentally healthy citizens are the basis of the efficient workforce in a country. An inadequate health system is one of the obstacles to the citizens' potential. This criterion measures a country’s performance in three areas: basic physical and mental health, health infrastructure and preventative care. (Michalos, 2014)

**Natural Environment:** This criterion measures a country’s performance in three areas: the quality of the natural environment, environmental pressures and preservation efforts.
The objective data on these criteria are obtained from intergovernmental organizations such as the United Nations, the World Bank, the International Monetary Fund, the World Health Organization, and non-governmental organizations such as the House of Freedom, Amnesty International and Transparency International. The subjective data are obtained from the Gallup World Survey and the Executive Opinion Survey conducted by the World Economic Forum.

**Economic growth in Turkey and status on the prosperity index**

In this section of the study, changes in Turkey’s ranking since 2007, the year that the Prosperity Index was started to be prepared, are tried to be discussed considering the economic growth rates of Turkey.

Growth rates of Turkey’s economy between 2007-2017 are shown in Chart-1. Accordingly, after growing 4.7% in 2007, Turkey’s economy’s growth decelerated in 2008 due to the global financial crisis that had a worldwide impact. In 2009, its economy experienced a 4.7% shrinkage. With recovering from the effects of the global crisis, rapid growth rates were obtained in 2010 and 2011. In continuing years, the economic growth had a fluctuating course and it concluded 2017 with a growth rate of 7.4%.
By years, Turkey’s ranking on the Prosperity Index and its scores are shown in Chart-2. The number of countries included in the index has increased over the years, and as mentioned above, changes in the methodology used in the calculation of the index have occurred. The data in Chart-2 are organized according to the latest methodology and to the 149 countries currently included in the index. As can be seen in the chart, Turkey’s ranking has a fluctuating course throughout years while index scores have a horizontal course. 74th in 2007, Turkey’s ranking was receded to 83rd in 2008 and kept its place in 2009. In 2010, Turkey advanced to 75th by making progress, and experienced minor declines in following years. Turkey has achieved the highest degree in 2014 with being 72nd on the index. In 2017, Turkey experienced the lowest degree with being 88th.
**Chart 2.** Turkey’s scores and rankings on the Prosperity Index by years

Growth rates of Turkey’s economy and its ranking on the Prosperity Index are shown together in Chart-3. As can be seen in the chart, Turkey moved down by 9 places when the economic growth slowed down in 2008. Although there was an economic recession in 2009, Turkey’s ranking was not changed. In 2011, Turkey moved up by only 1 place in comparison with the previous year despite the fact that the economy had a significant growth rate of 11.1%. A similar case occurred in 2017. This year, the economy has a growth rate of 7.4% even though Turkey has moved down by 9 places. The economic growth was 5.2% in 2014 when Turkey had the highest ranking. Significant progress on the index has not been carried out despite the fact that Turkey’s economy has grown significantly. Even in 2017, Turkey plummeted hard in the index in contrary to the economic growth.
According to the nine criteria used in the calculation of the Prosperity Index, the emerging case is as follows considering Turkey’s ranking. In Chart-4, Turkey’s ranking in the criterion of economic quality is shown. Turkey had the lowest ranking in 2009, the year that the economy faced a significant shrinkage due to the global economic crisis. In 2017, Turkey plummeted hard in the index in contrary to the economic growth. The reason for this is that Turkey could not progress but regress in variables affecting economic quality in spite of economic growth. The best years of economic quality are 2015 and 2016. In these years, Turkey moved up to the 45th place.
Chart 4. Turkey’s economic quality rankings by years

Turkey’s ranking in business environment criterion is shown in Chart-5. Turkey’s lowest ranking (96th) in the criterion was in 2009, whereas it's highest ranking (73rd) was in 2012. The ranking in 2009 could be linked with the global crisis affecting the world. The most remarkable year in the chart is 2017. Although a significant increase in economic growth was achieved this year, a serious loss in the rankings and a 17-place decline was experienced.
Chart 5. Turkey’s business environment rankings by years

In Chart-6, changes in Turkey’s governance criterion by years could be seen. Turkey had the best ranking (44th) in 2013, whereas had the lowest ranking in 2017. Especially, as of 2013, a continuous decline draws attention. Despite the economic growth in 2013, Turkey could not progress but regress in fields like democracy, political participation and rule of law.
Chart 6. Turkey’s governance rankings by years

In Chart-7, Turkey’s ranking in the personal freedom criterion is shown. In this criterion, Turkey usually has been regressing. In the rankings, the best place was gained in 2010, whereas the lowest place was in 2013. In 2017, a significant decline was monitored and Turkey came close to the ranking in 2013. Given that the calculation is made for 149 countries it shows that Turkey is located below the average. This reveals that no progress was achieved about personal freedom and regression by years is remarkable. The economic growth has not affected the personal freedom criterion positively.
Chart 7. Turkey’s personal freedom rankings by years

In Chart-8, Turkey’s ranking in the social capital criterion is shown. A fluctuating course is observed in this criterion. The lowest ranking (140th) was in 2008, whereas the highest ranking (89th) was in 2014. As it is understood from the graph, in some years in which economic growth has been achieved, there has been progressing in the ranking, while in some years there has been a decline in the ranking.
In Chart-9, Turkey’s ranking in the safety & security criterion is shown. A horizontal course is observed in this criterion from 2007 to 2017. Turkey had the best ranking (119th) in 2011, whereas had the lowest rankings in 2008 and 2017. Despite the successes in economic growth, it is not possible to see Turkey in a good place with regards to the safety & security criterion. Although abroad factors form some of the reasons, in order to increase the prosperity and move up in the index, safety & security needs to be ensured. Again in the recent past, especially in big cities, terrorist events have caused regression in the ranking.
In Chart-10, Turkey’s ranking in the education criterion is shown. Even there was a fluctuating course in the first three years of the index, a horizontal course was monitored as of 2010. It can be said that Turkey’s ranking in the education criterion has not been affected by economic growth substantially. In order to cope with increasing competition between countries in the globalizing world, Turkey needs to progress in education considering the importance of human capital. Many types of research have revealed that education has a positive impact on economic growth. Especially in recent years, frequent changes in the Turkish education system and not having a consistent system are the barriers to the progress in this criterion.
According to the Prosperity Index, Turkey’s ranking in the health criterion is shown in Chart-11. A horizontal course is observed in the rankings by years. Therefore, despite economic growth, it can be said that there is no progress in health.
Chart 11. Turkey’s health rankings by years

In Chart 12, Turkey’s ranking in the natural environment criterion, the last criterion of the Prosperity Index, is shown. There is an increasing trend in the natural environment ranking by years. In the index, Turkey had the best ranking (51st) in 2014, whereas had the lowest ranking (78th) in 2007. If we look at the developments in recent years, despite economic growth of Turkey's economy it has been unable to show progress in the natural environment rankings.
Conclusion and Suggestions

With developing technology and increasing globalization, people become aware of the changes in their living conditions. As a consequence, prosperity is redefined and it comprises of not only income but also many factors like health, education, environment, governance.

There are various indices used to measure the prosperity levels of countries. One of these is “The Legatum Prosperity Index” prepared by The Legatum Institute, an English think-tank. In the calculation of the index, nine criteria are used: economic quality, business environment, governance, personal freedom, social capital, safety & security, education, health and natural environment. Thanks to this index, the prosperity levels of countries can be evaluated and compared between countries.
Chart-13 demonstrates Turkey’s ranking as a whole according to the nine criteria used in the calculation of the Prosperity Index. Despite the fact that economic growth has increased in varying rates since 2010, no significant progress can be reported in the criteria that measure prosperity and this is an indication that the benefit of economic growth does not reflect on the prosperity level. For example, despite the significant growth rate of 7.4%, Turkey’s economy could only progress in the natural environment and social capital criteria in 2017. Conversely, the education ranking stood still in its place, and regression has been experienced in economic quality, business environment, governance, personal freedom, safety & security and health.

**Chart 13.** Turkey’s rankings according to the Prosperity Index criteria by years
If we evaluate that data obtained by comparing with OECD (Turkey is a member of it) and European Union countries (Turkey tries to join them), we see that Turkey takes the lower place in both groups. In addition, Turkey again is at the lower place among the candidate countries of the European Union. This is an indication that Turkey needs to make progress about the subjects regarding the Prosperity Index criteria besides providing economic growth. From 2007 to 2017, except for the governance and safety & security criteria, progress has been made in scores of other criteria. However, other countries have progressed faster than Turkey, and this caused Turkey’s rankings to regress. There is a serious decline in the governance and safety & security criteria.

Some reasons regarding Turkey’s experiencing a regression in the safety & security criterion may not be in the hands of Turkey. For example, the recent events in Syria, the migration, the negative impact of refugee problems are not issuable. One of the reasons for the recent decline in these issues is thought to be the result of the coup attempt in 2016. This can be considered normal. However, despite the economic growth in general, it is thought that the political, economic and sociological reasons for not making progress in the level of prosperity should be investigated.

References

27. Ünsal, M.E., (2007). İktisadi Büyüme, İmaj Yayınevi, 8-10
http://www.prosperity.com/about/methodology(18.06.2018)
https://www.ab.gov.tr/ (18.05.2018)