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Araştırma Makalesi

Escaping Income Trap Index (EITI)[1]

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Abstract

The Middle Income Trap is a major risk for many middle-income countries that cannot improve their manufacturing industry performance during the development phase and transition to the R&D and innovation-oriented service sector. Middle-income Countries (MICs) which were unable to increase their National Income Per Capita (NIPC) to become High-Income Countries (HICs) and were stuck at a certain income threshold fell into the Middle Income Trap (MIT). The study aims to analyze to measure the competitiveness of 65 countries with min-max methodology and rank them , so that the weakness indicators can be determined to setup a road map to increase competitiveness of Türkiye and to escape from MIT. In this study, 65 countries where 38 of them were HICs which might be taken as an example of economic development success and 26 of them as MICs those had strict competition in the international market along with Türkiye have been investigated by Escaping Income Trap Index (EITI). The index consisted of 5 sub-indices (dimensions) and 82 indicators. EITI scores were calculated for 65 countries in the study, and the relationships between index scores and National Income Per Capita (NIPC) was tested with both with the Cross-Sectional Data Method for the 2013-2014 period and with the Panel Data Method for the twenty-one periods between 1993-1994 and 2013-2014. It has been determined that Türkiye, which has a significant weight in the global economy, does not have a successful ranking in the general index and sub-indices obtained in the study. Türkiye ranked 61st in the index ranking calculated for 2013-2014, in which Switzerland ranked first, and the ratio of Türkiye's EITI score to the leading country scores was 65 percent. In other popular indices created by international organizations, this rate was 60 percent on average.

Keywords: *Economic Growth, Middle Income Trap, Competitiveness*

JEL Classification: *I31, R20, A11*

[1] Derived from author's PhD thesis.

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Gelir Tuzağından Kaçış Endeksi (GTKE)

Öz

Orta Gelir Tuzağı kalkınma aşamasında imalat sanayi performansını daha ileri götürüp Ar-Ge ve inovasyon odaklı hizmet sektörüne geçiş yapamayan birçok orta gelirli ülkelerin önündeki büyük bir risktir. Kişi Başına Milli Gelirini (KBMG) Yüksek Gelirli Ülke (YGÜ) sınıfına yükseltemeyen ve belirli bir gelir eşiğinde sıkışıp kalan orta gelirli ülkeler (OGÜ), Orta Gelir Tuzağına (OGT) düşmüş sayılır. Çalışma, 65 ülkenin rekabet gücünü minimum-maksimum metodolojisi ile ölçerek analiz etmeyi ve sıralamayı amaçlayarak, Türkiye'nin rekabet gücünü olumsuz etkileyen göstergelerin belirlenerek rekabet gücünün arttırılması ve MIT'den kaçış için bir yol haritası oluşturulmasını amaçlamaktadır. Bu çalışmada, örnek ülke olarak incelenen Türkiye ile birlikte, uluslararası pazarda sıkı rekabet içinde olduğu 26 OGÜ ve ekonomik kalkınma başarısına örnek alınabilecek 38 YGÜ olmak üzere toplam 65 ülke ele alınmıştır. Çalışmada, Gelir Tuzağından Kaçış Endeksi (GTKE) incelenmiştir. Endeks çok boyutlu olarak 5 alt endeks ve 82 göstergeden oluşmuştur. Çalışmada yer alan 65 ülke için GTKE puanları hesaplanmış ve endeks skorları Kişi Başına Düşen Milli Gelir (KBDMG) ile ilişkileri hem 2013-2014 dönemi için Kesitsel Veri Yöntemi ile hem de 1993-1994 ve 2013-2014 yılları arasındaki yirmi bir dönem için Panel Veri Yöntemi ile test edilmiştir. Küresel ekonomide önemli bir ağırlığa sahip olan Türkiye'nin çalışmada elde edilen genel endeks ve alt endekslerde başarılı bir sıralamaya sahip olmadığı tespit edilmiştir. Türkiye, İsviçre'nin ilk sırada yer aldığı 2013-2014 için hesaplanan endeks sıralamasında 61. olmuş, Türkiye'nin GTKE puanının lider ülke puanlarına oranı ise yüzde 65 olmuştur. Uluslararası kuruluşların oluşturduğu diğer popüler endekslerde ise bu oran ortalama yüzde 60 olmuştur.

Anahtar Kelimeler: *Ekonomik Büyüme, Orta Gelir Tuzağı, Rekabetçilik*

JEL Sınıflandırması: *I31, R20, A11*

1. Introduction

A common challenge for middle-income countries (MICs) in their development processes is to increase their per capita income and distribute this increase fairly at the societal level. In the past, while some countries managed to increase their incomes and move to the high-income country (HIC) category, others could not complete this process and remained stuck at a certain income level. This situation is explained by the concept of the "middle-income trap" (MIT), which occurs when economic growth slows down or stops at a certain point. Countries that fall into the MIT have difficulty reaching developed country status because they cannot increase their per capita income to higher levels. In the second half of the twentieth century, while some developing countries overcame this trap with successful development strategies, others remained stuck at this income threshold and could not make the desired progress in their economic growth processes.

In low and middle-income countries, the increase in per capita income during development stages and the equal distribution of this income increase within the country are closely monitored. While it has been seen in the past that some countries have been able to increase their per capita income over time and move up the development ladder to the class of high-income countries, it is seen that some have not been able to do this and are stuck at a certain income level.

In several studies, it has been demonstrated that some MICs could not catch the HICs as the "Neo-classical growth model" predicted. Today, countries which cannot increase their IPC to a high-income level and are stuck at a certain income threshold are called countries which have fallen into MIT. In the second part of the twentieth century, successful performances were seen as some of the developing and developed countries had increased their IPC, while some of them failed to do so. These countries were stuck at a certain income threshold lagging to jump to the upper-class level.

The study aims to analyze to measure the competitiveness of 65 countries with min-max methodology and rank them, so that the weakness indicators can be determined to setup a road map to increase competitiveness of Türkiye and to escape from MIT. In the study, EITI was also compared with the other indices, which were generated by international institutions. Finally, the EITI results in the study were tested by cross-sectional and panel data analyses.

In the study, 65 countries where 38 of were HICs and might be taken as an example of economic development success and 27 of them as MICs, those had strict competition in the international market, have been investigated by EITI. The index consisted of 5 sub-indices and 82 indicators multidimensionally. Türkiye, which was the 17th largest economy during the study and was examined as a sample country, has not been found taking place a very successful ranking in the overall index and the sub-indices. The 65 countries included in the study have realized approximately 75.9 per cent of the world population according to the data of 2014 and the world production is about 93.5 per cent.

2. Literature Review

The MIT was defined by the World Bank (WB) experts Gill and Kharas in their study named "An East Asian Renaissance: Ideas for Economic Growth", for the first time in 2007. Facing the recession in economic growth after the global financial crisis in 2008, MIT has been the prior subject to research and think about for the economies' growth and development. Regarding MIT, much research has been carried out in the world.

MICs, which do not have the advantage of scale economics, should not try to increase factors of production, such as limited capital and labour, whose marginal productivity would decrease steadily due to the law of diminishing returns. A creative society and an economy will be possible by adapting educational investments, institutional reforms and governance principles (Gill and Kharas, 2009). Felipe, Abdon and Kumar (2012) stated that Türkiye was a lower-middle income country (LMIC) in 1955 and had an average growth rate of 2.6 per cent in 50 years and raised to the upper-middle income country (UMIC) class in 2005. Even Türkiye has not yet fallen into MIT in 2010 but can fall into the trap in future unless Türkiye will not have an average growth rate of 4.7 per cent per year until 2018.

Although Garrett (2004) did not define MIT directly, he was interested in the issue of MICs' income growth for the first time in his study "Globalization's Missing Middle". He noted that some countries have increased their incomes more by globalization and the gap between HICs and MICs and Low-income Countries (LICs) has enlarged. The fact that the labour quality, the structure of the law and the financial system in the MICs, which use old production technologies, are not sufficient to compete with HICs but can only compete with LICs. He has also stated that the countries with high labour costs, will not win the battle and they will not be able to get rid of the middle-income class.

Eichengreen, Park and Shin (2012) and Eichengreen, Park and Shin (2013) have tried to identify the years in which the countries, which have more than 10,000 (2005 PPP) USD IPC have faced growth slowdowns in their economies. Eichengreen, Park and Shin (2012) found that when the countries' IPCs are about 17,000 USD, the country's IPC is 57 per cent of the leading country's (USA) IPC and the manufacturing industry employment rate is 23 per cent, the economies were experiencing breakpoints (growth slowdown). Many economists today describe these thresholds for MIT and determine whether the countries are in the trap or not based on these indicators. Eichengreen, Park and Shin (2013) found that some countries' IPCs have slowdown not at one threshold but at two different thresholds. The first threshold was about 15,000-16,000 USD and the second threshold was about 10,000-11,000 USD.

Raiser et al. (2014) have stated that although there are different definitions of MIT, there is a broad consensus on the factors that can assist MICs in avoiding this trap. Authors explained the factors affecting the possibility of long growth periods or slowdowns in growth as policy-related factors, structural factors and institutional factors. Countries falling into the MIT cannot compete in the export of industrial products with both the LICs, which have a cheap labour force, and the HICs, which have skilled labour to make innovation. In other words, they cannot transform into efficiency-driven productive economies than factor-driven economies based on cheap labour and capital factors (Asian Development Bank, 2011).

Jankowska, Nagengast and Perea (2012) have found that the Republic of Korea focused on basic education during the early stage of the industrialization period, high school and technical high school education during the heavy industrialization period, and university education for the electricity and knowledge-based industries to escape to fall in MIT. In their IMF Türkiye country report, Gerson and Flanagan (2014) stated that although the slowing economy will decrease inflation and the current deficit such a low economic growth will slow the convergence of Türkiye to the advanced countries (ACs) and even cause the country to fall into the MIT.

Impavido and Mikkelsen (2014) two members of the IMF team, pointed out that the Turkish economy is in a transitional period and with a growth slowdown in the economy there is a risk of being caught up in an MIT which prevents it from becoming HIC. According to the authors, as the income of the country tends to deviate from the investment to consumption the growth potential of the economy has been limited because of large investment requirements and exports have slowed down. According to the authors, the four areas that need to be focused on to move the economy again to an equilibrium level are;

- More savings in the public sector,
- Increasing private savings,
- Extending macro-prudential policies to protect fiscal stability,
- Refocusing on the inflation target.

In their study, Agénor, Canuto and Jelenic (2012) have proposed policies to escape from MIT, which were done for the WB. In the countries, which newly raised to middle-income levels, the productivity of imported technology diminishes and the real wages increase in the manufacturing industry. Diminishing economic growth and national income cause the country not to reach to high-income level, which means it is caught in MIT

Agénor and Canuto (2012) have examined the reasons for the MIT such as the decline in productivity, which public policies will prevent this decline and help to avoid falling into the MIT. The desire of individuals to upgrade their skill levels, access to different public infrastructure (basic and advanced infrastructure/design activities) information network externality are factors, which promote productivity. Tho (2013) concluded that a low-income country can only escape from MIT by increasing the productivity of capital and other production factors.

Flaaen, Ghani, and Mishra (2013) in their study prepared for the WB pointed out that the most important problem is falling into the MIT due to the problem of not competing with the LICs adopting the low-wage production model and the ACs having high technologies. In the study, Malaysian sector-based productivity growth was examined, and sophisticated product and service trade was compared with the world. The result is that the modernization of the service sector will be the locomotive of economic growth.

In their study, Zhuang, Vandenberg and Huang (2012) stated that increasing wages and a declining cheap labour force should be balanced by the development of industrialization and their tendency towards innovation as the countries rise to the middle-income stage. Instead of low-cost products, they need to focus on value-added high-tech products. Countries failing to do this cannot compete with LICs with low wages and HICs with high technology and are caught in MIT.

By comparative study of the definitions of the MIT and convergence trap, Pruchnik and Zowczak (2017) reviewed the conceptual framework for the Middle-Income Trap (MIT) for 186 countries. The comparative study could not provide a clear answer as to which countries fell into the trap.

Agénor (2017) reviewed the literature on the economics, which were caught in the Middle-Income Traps (MITs).The study reviews the recent analytical and empirical literature on middle-income traps. In their study titled ‘Middle-Income Trap: A Literature Review’, Karasac and Akbayır (2019) reviewed the literature about Middle Income Trap (MIT). They classified the reasons why

countries fall into the Middle-Income Trap (MIT) as low efficiency and quality of education, lack of technological progress, and structural deficiency in the transformation of states.

Ratnasari, Audha and Dani (2023) used a panel data regression model[2] for Indonesia for the 2010-2020 period. In their study, a significant effect of three variables (Life Expectancy, Gross Participation Rate and Gross Fixed Capital Increase) on MIT was determined with a 97.65% accuracy model. Islam et al. (2023) analysed to escape from the Middle-Income Trap (MIT) for a developing economy, Bangladesh for the 2010-2020 period by time threshold method (Number of Years Method).

Cm, Hoang and Yarram (2023) investigated the role of innovation and economic globalisation for the transition from Middle-Income Trap (MIT) by Bayesian Model Averaging (BMA), Generalized Method of Moments (GMM) and Cox Proportional Hazards Regression Model for the 27 transitioned countries in the 1990-2020 period. They found that time-dependent covariates of trade openness, foreign direct investment, high technology exports, health expenditures, and urbanization and life insurance premiums increase the transition speed and shorten the transition period.

Naseemullah (2022) found that the global institutions that governed economic integration in the post-Cold War era may in fact be the source of many of the growth constraints faced by developing countries in the study titled 'The International Political Economy of the Middle-income Trap (MIT)' for the 46 countries for the 1994-2019 period. It is predicted that Bangladesh will escape the lower-middle income trap by 2029 and become a high-income economy 12 years later, that is, in 2041, provided that the per capita GNP continues to grow at 9.69%.

In their study, Cm, Hoang and Yarram (2022) investigated 158 countries for the 1990-2019 period by Bayesian Model Averaging (BMA) and Generalized Method of Moments (GMM).The estimations show that the education has a positive and significant effect with economic growth in high-income and middle-income countries. Canuto, Dinh and Aynaoui (2024) used the framework for policy reforms to increase Total Factor Productivity (TFP) growth in Brazil for 1990-2018 period. They have found that, it is vital for Brazil to increase productivity growth through competition policies and by embracing technological change. Achieving this goal requires comprehensive trade reforms to improve domestic competitiveness and take effective advantage of technological advances. Apak, Sarigül and Koyuncu (2023) studied an empirical evaluation of the Middle-Income Trap (MIT) and immiserizing growth in BRICS countries for the 1960-2019 period. The results show that while Russia remains in the middle-income trap, there is impoverishing growth for India and South Africa.

In their study titled 'The Middle-Income Trap and Competition Policy: An Institutional Analysis', Song, Buts and Jegers (2023) stated that;

• To avoid falling into the middle-income trap, a country must have an appropriate institutional environment that includes strict adherence to the rule of law, high regulatory quality, and high government effectiveness,

• For upper middle income countries, it seems necessary to implement competition policy as early as possible,

• The quality of competition law and the independence of the competition authority must be guaranteed.

Hu et al. (2023) analysed 122 countries for the period 1960-2019 using the growth theory model. They have reached the results as;

• The probability of escaping from MIT was found to be relatively high for Asia.

[2] The Common Effect Model 'CEM', the Fixed Effect Model 'FEM', the Random Effect Model 'REM'

• Inequality has a negative and significant correlation with the MIT indicator, especially in the freer, higher-income and MIT country groups,

• The MIT indicator has a positive correlation with domestic investment, human capital accumulation, and trade openness, and a negative correlation with aging.

3. Analysis of Escaping Income Trap Index

Growth is considered the enlargement of the country's economy with constant prices over the two subsequent periods as the development of a country can be considered as an improvement in many different indicators, such as economy, innovation, and social and human life, covering a period, which also involves growth. Countries have to apply multidimensional policies for their development so that the economic growth of the countries can be sustainable. MIT is a problem of the long-term economic growth of a MIC.

3.1. Country and Data Selection

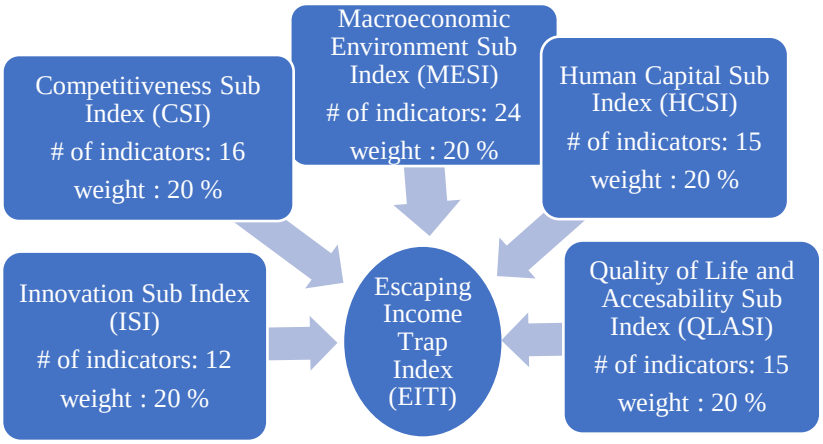
In the study, 65 countries, which of 38 HICs and 27 MICs (19 UMICs, 8 LMICs) were analysed. Panel data observation with the random effects model (REM) and fixed effects model (FEM) was applied for the 21 periods between 1993-1994 and 2013-2014 and cross-section data for the period 2013-2014. The countries had more than one million population.

The data for 82 indicators were collected from the WB and UNDP (Human Development Data) whereas IPC from the WB, the Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC) and IMF. While generating the Overall Index scores the oldest possible data for the countries were tried to collect to compare scores and rankings. There was a problem in finding retrospective data for some countries in the study because of the disintegration of the USSR, Yugoslavia and Czechoslovakia after 1990. To find valid data the index study started from the period of 1993-1994 and ended in the period of 2013-2014 covering 21 periods.

3.2. Methodology

The main axis of the study can be expressed as investigating the growth performance of economies in time and which economies have exceeded certain income levels while others have failed. For this purpose, with the help of the index created by taking 82 indicators, countries were examined in a multidimensional manner.

Figure 1: Sub-indices of EITI



Source: Author.

EITI, which was obtained by the equally weighted average of 5 sub-indices containing 82 indicators including the humanities, economy, competitiveness, innovation, quality of life and accessibility dimensions of the countries was established to measure economic performance and ability of the

countries in the study to avoid from failing to MIT (Figure 1). Thus, the development of the country's performance over time has been examined in terms of the relief of income. The generated overall index is also compared with other indices developed by international institutions and organizations.

Calculation of "Z" and "T" Scores of Indicators (Variables)

The data for the indicators have been turned into normalized values. For this method, the averages and standard deviations of each data are calculated.

Mean (μ)=$\frac{\text{Total value}}{\text{N (Number of countries)}}$, N: number of the countries (65)
[1]

standard deviation (σ)=$\sqrt{\sum_i^N \frac{(X_i- \mu)^2}{N}}$, i=1, 2, 3…65 (N), X_i: i.th country' score, μ: average
[2]

Using the mean and standard deviation, which were found in formulas [1] and [2], "z" scores for the indicators are calculated for each country with the help of the formula below.

Z score)=$\frac{X_i-\mu}{\sigma}$, i=1, 2, 3…65, X_i: i.th country's score, μ: average, σ: standard deviation of 65 countries [3]

Thus, for each indicator, how many times the standard deviation deviates from the mean is calculated. This scorecard of each country is called the "standard score," "z" score, and this method normalizes each indicator. When examining the two most important index studies, which were done on the competitiveness of countries, the World Economic Forum has normalized the country data for each indicator by the "Min-Max" method (World Economic Forum "WEF", 2014) whereas the IMD (2023) organization used the "Standard Deviation Method" in their index studies. "Z" scores have been turned into "T" scores according to the formula below. Thus, for each indicator of countries, raw data was converted to standard scores with an average of 50 and a standard deviation of 10.

T_i =50+10Z_i ; T_i =50+10($\frac{X_i-\mu}{\sigma}$) , i=1, 2, 3…65
[4]

Standard scores obtained according to the above formula will be converted to scores over 100 using the formula below (OSYM, 2015).

CS=$\frac{70+30*[2(T_{ii}-\mu_T)- \sigma_T]}{2*[Max(T) - \mu_T]- \sigma_T}$, i=1, 2, 3…65 [5]

CS = Country Score, T_i = "T" Score of the i.th Country, μ_T= "T" Scores Average, σ_T = "T" Scores' Standard Deviation, Max (T), = Maximum "T" Score (the biggest value of the T scores). It was previously calculated that μ_T= 50 and σ_T= 10 in the formula. Since the scores in the formula have equal weights for the indicators in each sub-index, the average of indicator scores was calculated and the sub-index scores were obtained. The obtained sub-index scores were ranked on a scale with the score of the country with the highest score being 100. Thus, for each indicator, a ranking was obtained for the sub-indices where the highest country has been scored as 100. The average scores for each sub-index were taken for each country for the same reason that they have equal weights. As a result, the score of "EITI", which consists of 82 indicators and 5 sub-indexes of each country, was obtained. The estimated index model in the study can be described as:

EITI = (0.20)*MESI + (0.20)*CSI + (0.20)*HCSI + (0.20)*ISI + (0.20)*QLASI [6]

3.3. Estimation and Analysis of the Results

The highest increase in average IPC growth was seen in eight LMICs at approximately 318 per cent, while the growth rate was 275 per cent in nineteen UMICs between 1993 and 2014. While the HICs

are nearly 159 per cent and the total world average is nearly 132 per cent, the average growth rate of 65 countries in the study is approximately 168 per cent. In addition, as the neo-classical growth model suggests, LICs have higher economic growth rates than the developed ones and converge to them in time. The IPC of Türkiye, which was about USD 3,181 in 1993, was approximately USD 10,543 in 2014. Türkiye has been 37th out of 65 countries in 1993 and dropped to 46th place in 2014 in the IPC ranking. Nine countries among the 65 countries, which have lower IPC than Türkiye have passed Türkiye in the 22 years.

Escaping Income Trap Index (EITI)

According to the results of the EITI, Switzerland has been identified as the country with the highest overall index score among the 65 countries in the last eight of twenty-one periods between 1993-1994 and 2013-2014 (**Table 1**).

It has also been ranked as the country with the best score in the last twenty periods of ISI and the last eight periods of the QLASI rankings. Compared with the 2012-2013 period the HCSI and CSI scores decreased from 2013 to 2014, whereas the MESI score increased. According to the results of the 2013-2014 period Switzerland has got a 92.68 EITI score. The contribution of the sub-indices to the EITI score was as; MESI was 19.51, CSI was 16.20; HCSI was 16.97; and ISI and QLASI were both 20.

Switzerland was followed by the USA, Norway, Germany and Sweden in the EITI rankings. The last five countries with the worst performances in the ranking were Indonesia, Morocco, Egypt, India and Nigeria. The top 10 countries account for nearly 35 per cent of the world's production with 27.8 trillion dollars and with a population of 538.5 million, establishing 7.5 per cent of the world's population. This lower population with high production amounts simply meant that the national IPC of the top-ranked countries was also high.

One of the goals of the EITI was to measure the progress or the recessions of the countries in time. 34 of the 38 HICs in the WB IPC ranking were ranked in the top 38 EITI rankings while Chile was ranked as 41st, Croatia as 43rd, Greece as 44th and Saudi Arabia as 47th. The poor performances of Greece, which was dealing with the country’s debt crisis, and Croatia, which joined the EU in 2013, have been remarkable. On the other hand, Bulgaria and Hungary, which were the UMICs, have shown good performance by rising in the rankings by benefiting their EU memberships. The positive performance of Hungary, which has been rising in the last three periods in the EITI rankings, has been confirmed by the WB raising to the HIC class due to the increase in the country’s IPC. Besides these, two UMICs of both Azerbaijan and China have shown good performance in EITI rankings

Azerbaijan, which was ranked 53rd in 1993-1994 and 35th in 2013-2014 periods in EITI rankings, was realized as the country with the most progress. Bulgaria, the Republic of Korea, Lithuania, Latvia, Hong Kong and China were the other countries with high progress following Azerbaijan. EU membership of Latvia and Lithuania in 2004 and Bulgaria in 2007 has seemed to reflect a positive effect on their economic development also in the EITI rankings. These are good examples of Türkiye's positive contribution to EU membership. Azerbaijan has evaluated the contribution of natural resources to the economy in a good way, and it has also risen in other indicators and has good performance in EITI rankings.

Table 1: EITI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Switzerland	3	2	2	2	1	1	1	1	1	1	1	1
USA	1	1	1	1	2	2	2	2	3	3	3	2
Norway	4	3	4	3	3	3	3	3	2	2	2	3
Germany	10	12	13	11	8	8	6	6	8	7	4	4
Sweden	6	4	3	4	4	4	4	4	7	9	10	5
Türkiye	61	61	62	61	61	60	61	61	58	59	59	59
Indonesia	58	59	63	60	59	58	59	58	59	60	60	61
Morocco	63	62	60	62	62	62	62	62	62	62	63	62
Egypt	62	63	61	63	63	63	63	63	63	63	62	63
India	64	64	64	64	64	64	64	64	64	64	64	64
Nigeria	65	65	65	65	65	65	65	65	65	65	65	65

Source: Author's calculation.

Human Capital Sub-Index (HCSI)

This sub-index, which shows the quality and quantity of human resources in the country, composed of 15 indicators, constitutes the human capital factor in the country's production. According to the results of the HCSI, Norway has been the country with the highest sub-index score in the 2013-2014 period (**Table 2**). Norway was followed by the United States, Lithuania, Estonia and Denmark. The last five countries in the ranking have been Türkiye, Nigeria, Morocco, Egypt and India respectively.

Table 2: HCSI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Norway	4	2	3	2	1	1	1	1	1	1	1	1
USA	1	1	2	3	3	3	3	3	3	3	2	2
Lithuania	19	13	13	8	6	5	6	4	4	4	5	3
Estonia	11	5	9	6	5	7	4	10	8	6	6	4
Denmark	8	10	8	7	8	9	5	9	9	7	3	5
Türkiye	61	63	62	63	63	63	62	61	61	61	61	61
Nigeria	62	62	61	61	61	61	61	62	63	62	62	62
Morocco	63	60	63	62	62	62	63	63	62	63	63	63
Egypt	65	64	64	65	65	64	64	64	64	64	64	64
India	64	65	65	64	64	65	65	65	65	65	65	65

Source: Author's calculation.

Macroeconomic Environment Sub-Index (MESI)

MESI has 24 indicators that show the production infrastructure and trade competence in the country and the overall outlook for the country's production and trade.

According to the MESI, Singapore has been ranked as the country with the highest index score among 65 countries, in seven periods of twenty-one periods starting from 1993-1994 and ending 2013-2014 (**Table 3**). Saudi Arabia and Azerbaijan have been ranked as the countries having got top scores in five periods of twenty-one periods and it has been parallel to positive developments in these countries' economic performances in recent years.

Singapore, which has been ranked as the first country in this sub-index for the 2013-2014 period, was followed by Hong Kong, Saudi Arabia, Switzerland and the Republic of Korea. Hong Kong has recently got a high score like Singapore. Switzerland, which has been ranked as the only European country in this sub-index is also a good indication of why it has been a reliable port for foreign capital

for a long time. The last five countries were Cyprus, Spain, Portugal, Greece and Ukraine respectively, whereas Türkiye was ranked 43rd in the MESI ranking

In the period of 2013-2014, Greece dealt with the debt crisis and agreed with the IMF, the ECB and the EU on debt repayment in 2015, Ukraine had a civil war and Russia is believed to be part of the civil war in Ukraine and has faced with the embargo imposed by western countries. These countries were ranked in the last five as expected.

Table 3: MESI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Singapore	1	2	5	5	6	5	5	3	2	4	5	1
Hong Kong	2	4	1	4	4	6	2	2	3	2	2	2
Saudi Arabia	32	58	33	2	2	2	3	4	1	1	1	3
Switzerland	6	3	2	3	3	3	4	6	6	10	3	4
Korea Rep.	5	10	6	12	10	12	9	7	5	8	11	5
Türkiye	37	50	62	60	55	58	64	65	44	33	54	43
Cyprus	29	36	44	44	34	34	24	47	29	39	41	61
Spain	33	31	26	23	17	25	21	45	60	62	61	62
Portugal	27	26	35	46	52	56	53	57	64	64	62	63
Greece	49	47	55	54	53	61	65	61	65	65	65	64
Ukraine	62	64	42	29	28	19	61	60	43	53	63	65

Source: Author's calculation.

Competitiveness Sub-Index (CSI)

The initiatives of the citizens are the variables which show the competitiveness of a country in foreign markets. This sub-index, which consists of 16 indicators, shows the ability of a country to sell goods and compete with other countries in foreign markets.

The United States which ranked top in the 2013-2014 period was followed by Hong Kong, Singapore, China and Germany. The country's CSI scores were close to each other such as that between Chile, which is ranked 34th and Vietnam, which is ranked 58th there is only a 4.58 index score difference. This shows that competition is intense and difficult in international markets. The last five countries were listed as Indonesia, Nigeria, Cyprus, Ukraine and South Africa, whereas Türkiye was ranked 54th in the CSI ranking (**Table 4**). Türkiye was ranked 5 times among the least competitive countries (among the least competitive five countries) in the 21 periods of CSI ranking.

Table 4: CSI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
USA	1	1	1	1	1	1	1	1	1	1	1	1
Hong Kong	10	3	4	3	2	3	4	2	2	2	3	2
Singapore	2	4	2	4	3	4	8	7	3	3	5	3
China	36	52	29	29	37	37	16	9	17	8	11	4
Germany	5	5	5	6	6	5	2	3	4	5	8	5
Türkiye	32	50	61	36	58	27	64	38	19	62	27	54
Indonesia	52	27	63	55	45	43	56	53	44	42	47	61
Nigeria	60	65	62	59	59	64	57	64	54	57	64	62
Cyprus	27	18	18	28	20	29	27	23	39	18	33	63
Ukraine	63	61	51	64	61	51	58	65	60	61	63	64
South Africa	56	55	48	53	49	44	65	57	62	65	51	65

Source: Author's calculation.

Innovation Sub-Index (ISI)

It is the sub-index that has 12 indicators, which show the infrastructure, the input and output of a Knowledge Economy. This sub-index demonstrates the ability to produce technology in the country.

In the 2013-2014 period, Switzerland was ranked at the top and was followed by the Republic of Korea, Denmark, Finland and Sweden in this sub-index (**Table 5**). The first five countries in the ISI rankings are among the first 12 countries in the overall index ranking. These five countries are all advanced (high-income) countries. The last five countries were listed as Saudi Arabia, Philippines, Malaysia, Indonesia and Venezuela, whereas Türkiye was ranked 41st in the ISI ranking.

It is seen that innovation has a key role in the development of a country and escaping from MIT. The last five countries in the ISI rankings are Saudi Arabia, Philippines, Malaysia, Indonesia and Venezuela. According to the results of 2013-2014, it is important to note that the Philippines, which was ranked among the top ten countries in the MESI and CSI rankings, has been recently ranked 63rd in the ISI rankings and 58th in the EITI rankings. This shows that the economic growth that is not supported by innovation could not be sustainable. As the neo-classical economists implied in the Law of Diminishing Returns theorem, if cheap labour, natural resources and capital accumulation-based production models are not supported by innovation, marginal production (returns) decreases.

According to the 2013 annual data of the World Intellectual Property Organization (WIPO), 29 per cent of the total number of patent applications made by citizens in the world and 15 per cent of patents made by foreigners were made by the countries in the top 10 in the ISI ranking.

Following an up-and-down pattern in the ISI ranking during the twenty-one periods, Türkiye has the lowest ISI score in the 1994-1995 period as 72.79 and the highest score in the 1993-1994 period as 79.04 and has been placed between the 32nd and 65th rankings.

Table 5: ISI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Switzerland	3	1	1	1	1	1	1	1	1	1	1	1
Korea Rep.	6	9	11	5	3	2	2	2	2	2	2	2
Denmark	8	7	6	6	6	6	6	5	4	4	4	3
Finland	4	3	3	2	4	4	3	3	3	3	3	4
Sweden	7	4	2	4	5	5	4	4	6	5	6	5
Türkiye	58	47	51	47	52	45	43	43	36	41	40	41
Saudi Arabia	51	59	61	62	63	64	64	59	48	48	52	61
Philippines	57	53	60	55	56	59	57	53	61	56	60	62
Malaysia	43	39	47	40	47	50	45	41	28	29	42	63
Indonesia	46	57	65	57	65	44	62	54	63	64	64	64
Venezuela	31	64	54	65	30	28	30	30	65	63	65	65

Source: Author's calculation.

Quality of Life and Accessibility Sub-Index (QLASI)

This sub-index, consisting of 15 indicators, shows the quality of the environment necessary to live, the level of access to social and technological facilities and to sustain commercial activities in the country. As the level of income increases, the life standards of the citizens in the country and the life expectancy at birth increase.

According to the results of the QLASI, the countries, which have been top ranked country in twenty-one periods between 1993-1994 and 2013-2014 are as, Switzerland 11 times, Sweden 9 times and Norway once (**Table 6**). The results of the 2013-2014 period show that Japan, Australia, France and Sweden followed the leader country Switzerland. In the 2013-2014 period of the QLASI ranking the

last five countries were listed as the Philippines, Indonesia, South Africa, India and Nigeria, whereas Türkiye was ranked 51st in the QLASI ranking.

To rise upward in the EITI rankings, new strategies should be established to identify and optimize indicators which have got low results, starting with HCSI and QLASI indicators in the first stage. Once the human capital becomes skilled and productive, and an environment is established in which human capital can develop its creativity, it is necessary to produce and develop technology to obtain high-tech products which were produced with advanced technology. The production of high-value-added products will not only expand both the economy and increase the IPC but will also make the economy ready to compete with countries whose economies are based on cheap labour force and with countries whose economies are based on high technology production in international markets. Thus, IPC which was stuck between USD 10,000-11,000 will increase and Türkiye will rise to the HICs class.

Table 6: QLASI country rankings

Country	1993-1994	1997-1998	2001-2002	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Switzerland	3	3	1	3	1	1	1	1	1	1	1	1
Japan	2	4	8	6	6	8	8	4	3	2	2	2
Australia	16	6	6	7	7	6	5	8	11	4	6	3
France	5	8	9	12	11	7	7	7	5	6	5	4
Sweden	1	1	2	1	2	2	2	2	4	3	3	5
Türkiye	56	52	48	46	48	48	49	49	50	51	51	51
Philippines	60	59	61	61	61	61	62	62	62	61	61	61
Indonesia	63	63	63	62	62	62	61	61	61	62	62	62
South Africa	61	62	62	63	63	63	63	63	63	63	63	63
India	64	64	64	64	64	64	64	64	64	64	64	64
Nigeria	65	65	65	65	65	65	65	65	65	65	65	65

Source: Author's calculation

3.4. Analysing the EITI Results for MICs

The table below shows the EITI rankings of the countries which were classified as MICs (UMICs and LMICs are examined together) at the time of studying according to the WB (2014a) country classification for the 2013-2014 period. In the **Table 7**, the rankings and the change in the index scores of MICs between 1993-1994 and 2013-2014 can be seen considering 65 countries and 27 MICs.

Table 7: EITI rankings of MICs

Country	2013-2014 EITI Ranking Among 27 MICs	2013-2014 EITI Ranking Among 65 Countries	Change in Index Scores (difference between last and first period)	Country	2013-2014 EITI Ranking Among 27 MICs	2013-2014 EITI Ranking Among 65 Countries	Change in Index Scores (difference between last and first period)
Argentina	6	40	- 3.92	Hungary	1	30	- 0.86
Azerbaijan	3	35	3.71	Malaysia	5	39	- 3.86
Brazil	11	49	- 3.80	Mexico	13	51	- 2.96
Bulgaria	4	36	2.84	Egypt	25	63	- 6.74
China	2	32	2.74	Nigeria	27	65	- 2.45
Ecuador	18	56	- 2.52	Panama	10	48	- 2.99
Indonesia	23	61	- 7.64	Peru	12	50	- 1.80
Morocco	24	62	- 3.67	Romania	9	46	- 1.56
Philippines	20	58	- 2.02	Thailand	17	55	- 5.93
South Africa	22	60	- 7.22	Türkiye	21	59	- 1.87
India	26	64	- 8.99	Ukraine	15	53	- 3.77
Kazakhstan	7	42	0.45	Venezuela	19	57	- 7.28
Colombia	16	54	- 0.42	Vietnam	14	52	- 1.22
Costa Rika	8	45	- 1.34				

Source: Author's calculation by the WB and EITI data.

In the table above, the rankings of Azerbaijan, Bulgaria, China and Hungary are remarkable. Although there are 38 HICs and 27 MICs involved in the study, these four MICs are ranked in front of four HICs (Chile, Croatia, Greece and Saudi Arabia).

Among the 65 countries, Türkiye was ranked 59th in the EITI rankings and 21st among the 27 MICs, passing only six countries. It was noteworthy that Türkiye even has a worse EITI score than the three LICs (Philippines, Ukraine "has got civil war" and Vietnam). South Africa and Türkiye have been among the worst-performing countries among 17 UMICs. These two countries, which were carrying the risk of falling into the MIT, have needed improvement on indicators that they were weak.

When EITI scores for the first and last periods were compared, the fastest decline in the index scores was in India, Indonesia, Venezuela and Egypt, respectively, with the fastest increase in index scores have been in Azerbaijan, Bulgaria and China.

3.5. Comparison of the Escaping Income Index with other Indices Generated by International Institutions

Türkiye, which was the 18th largest economy considering the Atlas Method, 2005 constant USD, and 17th largest economy considering 2011 fixed PPP USD, according to the WB (2014b) the national income data rankings with a GDP of approximately USD 800 billion has made great progress in competitiveness. It was ranked 58th in 2006 in the GCI, which was published yearly by WEF and rose to 45th place in 2014 (moving up 13 levels). In the World Competitiveness Yearbook which was generated by the Swiss-based institution "Institute for Management Development (IMD)" in the field of competitiveness and was also another important competitiveness, Türkiye was ranked 48th of 55 countries in 2008 and was ranked 40th of 61 countries in 2015 (IMD, 2016).

Global financial crisis, which started in 2007, has affected the whole world in 2008 and has caused most of the European Union members to fall in debt crisis. Türkiye strengthened the financial system with the reforms made after the financial crisis of 2001. Türkiye was the only OECD member that has not provided public assistance to the banking sector in the ongoing

When 32 different index values, which are generated by various international organizations and institutions, are taken into consideration, the average ratio of Türkiye's index values to the countries'

values, which was ranked at the top of the ranking lists, was found nearly 65 per cent. When the average ratio of Türkiye's country score to the first country score was compared in EITI rankings in the study, it was seen that the average ratio was nearly 60 per cent.

3.6. Testing the EITI Results

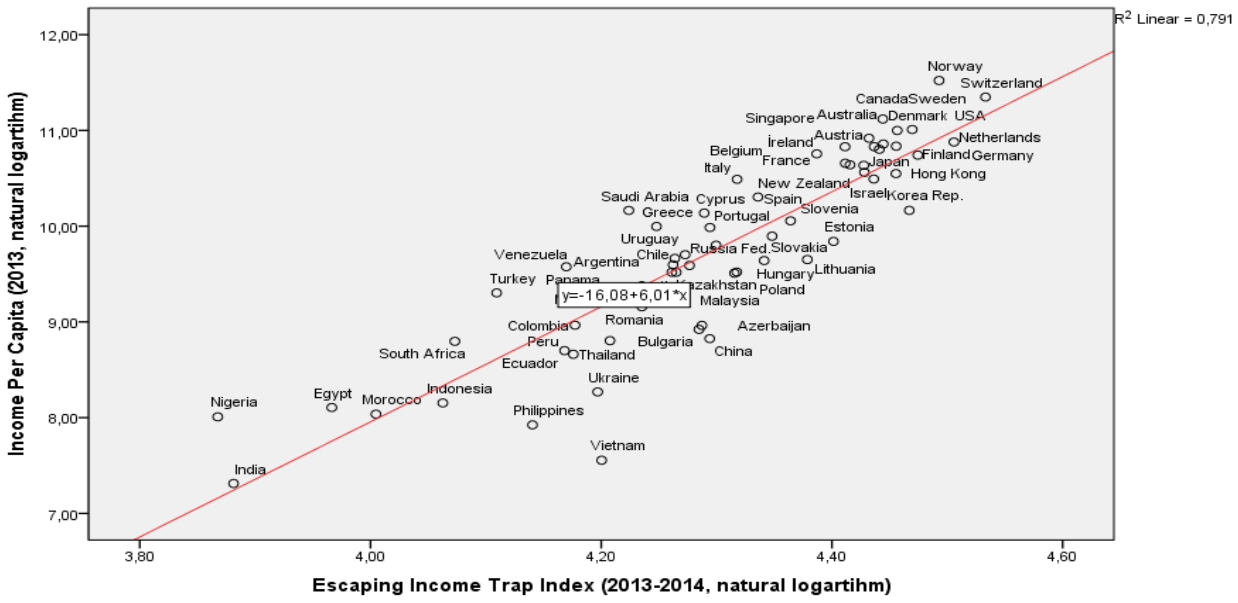
The results of the index have been tried to be tested taking into consideration the test methods used in the GCI study published by WEF. Thus, both cross-section and panel data regression and graphical representation methods have been used to test whether the values of the EITI of the countries have a relationship with the IPC of the countries. The relationship between the EITI and the IPC was examined by the cross-sectional data method for the period of 2013-2014 and the panel data method for the 21 periods covering the periods of 1993-1994 and 2013-2014.

In this section, the calculated EITI will be tested in different ways, taking into consideration test methods in the GCI study published by the WEF. Thus, it will be tested to determine whether the countries' EITI scores are directly proportional to their national income per capita by panel data, cross-section data and graphical representation methods. Although it seems that, the WEF study focuses only on the competitiveness level of the countries, the GCI similar to the multi-dimensional EITI that is calculated in this study since it consists of three sub-indices and a total of 12 dimensions and 114 indicators.

Cross-Sectional Data Analysis of EITI Scores

The figure below shows the relationship between the EITI (natural logarithm) scores for the 2013-2014 period that were calculated in the study and the National Income Per Capita (natural logarithm) values that were obtained from the WB for 2013 for 65 countries. It is seen that the countries which obtained high value in the index study are also at the top of the IPC ranking. This shows that the 82 indicators used in the index, the 5 sub-indices and the EITI that is a combination of these sub-indexes are important determinants of the economic growth of countries. Considering IPC and EITI in the figure, it seems that Switzerland and Norway are the leading countries whereas Nigeria and India are the last two ones in the study.

Figure 2: The Relationship between the EITI and IPC (Natural Logarithmic Values, Cross Section Data Model)



Source: Author's calculation by the WB and EITI data.

When the relationship between EITI scores (natural logarithm) and IPC (natural logarithm) described in the figure above is expressed as a regression, the following equation is obtained (**Table 8**). One unit increase in the EITI scores causes an increase of about six units in the IPC of the countries.

$\ln (IPC_{2013}) = -16.08 + 6.01 * \ln(EITI_{2013\text{-}2014})$, ln: natural logarithm [7]

The Table 9 results show that nearly 79 per cent of the changes in income per capita are expressed by EITI scores. The statistical values of the coefficients of the regression are statistically significant ($p < 0.05$ and the absolute values of the coefficients' t statistic values are outside the threshold values of the critical t value, "2", with d.f. 65).

Table 8: The Relationship between the IPC Values (Natural Logarithmic) and the EITI (Cross Section Data Model)

Dependent Variable: LN_IPC_2013_
Method: Least Squares
Date: 06/30/15 Time: 15:45
Sample: 1 65
Included observations: 65

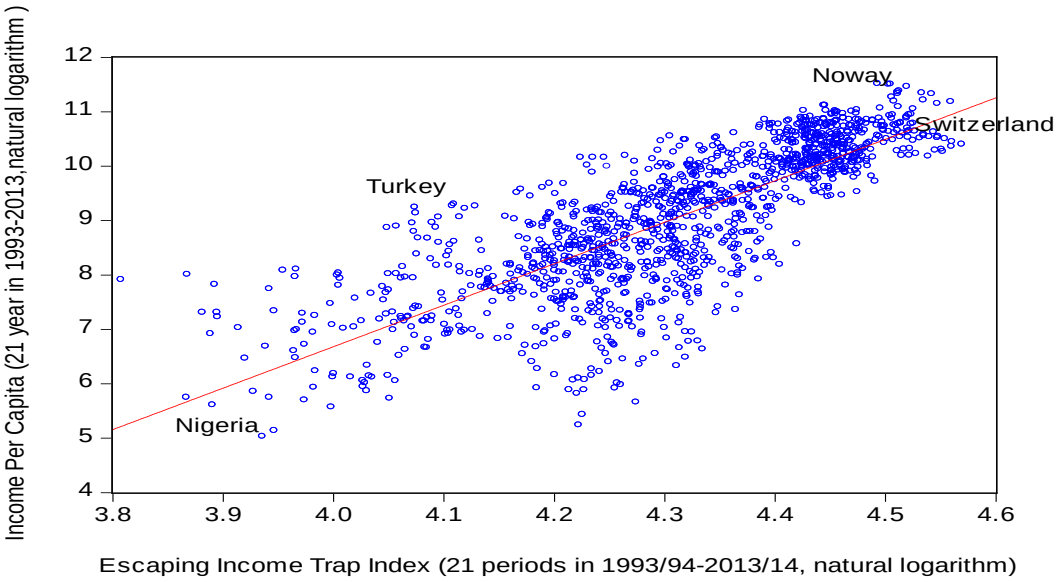
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-16.07923	1.671535	-9.619436	0.0000
LN_EITI	6.009007	0.389020	15.44653	0.0000

R-squared	0.791111	Mean dependent variable	9.725244
Adjusted R-squared	0.787795	S.D. dependent variable	0.995141
S.E. of regression	0.458419	Akaike info criterion	1.308220
Sum squared residual	13.23932	Schwarz criterion	1.375124
Log likelihood	-40.51713	Hannan-Quinn criteria	1.334618
F-statistic	238.5952	Durbin-Watson stat	2.080510
Prob(F-statistic)	0.000000		

Source: Author's calculation by the WB and EITI data.

Panel Data Analysis of Escaping Income Trap Index Scores

Figure 3: The Relationship between the EITI and IPC (Natural Logarithmic Values, Panel Data Model)



Source: Author's own calculation by the World Bank and EITI data.

In the figure above the relationship between the Income Per Capita (natural logarithm) and the Escaping Income Trap Index scores (natural logarithm) of 65 countries in the study covering the period between 1993-1994 and 2013-2014 can be seen. It is clear that as the EITI scores of the

countries increase, the income per capita values also increase. Considering the period of twenty-one periods, it can be said that Norway and Switzerland are leading countries among the 65 countries. It appears that countries have been spread along the regression line expressing the relationship between two variables. It has also been found that Nigeria is in the last place in ranking. The following equation is obtained when the relationship between EITI scores (natural logarithm) and IPC (natural logarithm) as shown in the figure is desired to be expressed by a Random Effects Model (REM) regression (**Table 9**). An increase of 1 unit in the EITI scores causes an increase of about 4.5 units in the income per capita of the countries.

$$\ln (IPC_{1993\text{-}2013}) = -10.45 + 4.52 \ln (EITI_{1993\text{-}94/2013\text{-}14})^{3}$$

Table 9: The Relationship between the National Income Per Capita Values (Natural Logarithmic) and the Escaping Income Trap Index (Panel Data Model-REM)

Dependent Variable: LN_IPC
Method: Panel EGLS (Cross-section random effects)
Date: 07/01/15 Time: 01:23
Sample: 1994 2014
Periods included: 21
Cross-sections included: 65
Total panel (balanced) observations: 1365
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.45170	1.633528	-6.398235	0.0000
LN_EITI	4.524115	0.378549	11.95121	0.0000

Effects Specification		
	S.D.	Rho
Cross-section random	0.610882	0.5945
Idiosyncratic random	0.504542	0.4055

Weighted Statistics			
R-squared	0.091396	Mean dependent var	1.605095
Adjusted R-squared	0.090730	S.D. dependent var	0.540055
S.E. of regression	0.514973	Sum squared resid	361.4633
F-statistic	137.1038	Durbin-Watson stat	0.104545
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.520690	Mean dependent var	9.049241
Sum squared resid	1117.324	Durbin-Watson stat	0.033821

Source: Author's own calculation by the World Bank and EITI data.

The regression above shows that about 9% of the changes in the IPC of the countries are expressed by the EITI scores of them. When the statistical values of the coefficients of the regression are examined; The EITI coefficient (slope) and the constant coefficient are statistically significant ($p < 0.05$ and the absolute values of the coefficients' t values are outside the threshold value of the t distribution). The relationship between the IPC values and EITI scores of the countries obtained by

[3] Pooled Ordinary Least Squares model is as; **$\ln (IPC_{1993\text{-}2013}) = -23.93 + 7.65 \ln (EITI_{1993\text{-}94/2013\text{-}14})$**

using the cross-sectional data method is also confirmed by the IPC values and EITI values of the countries obtained using the panel data method.

If the validity of the Random Effects Model which shows the relationship between EITI scores and IPC values obtained with the EViews 9 program above is wanted to be test with the Hausman Test:

H_0: Random Effects Model (REM) can be appropriate to be applied,
H_1: Fixed Effects Model (FEM) can be applied.
The Hausman test below also shows that; zero hypothesis must be strictly rejected that is the probability of getting a X^2 of 57.93 or greater is almost zero (**Table 10**). Because X^2(chi-square) with 1 d.f. (degrees of freedom) is quite significant. As a result, REM is rejected and Fixed Effect Model (FEM) is selected.

Table 10: The Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	57.939964	1	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LN_EITI	2.058703	4.524115	0.104906	0.0000

Cross-section random effects test equation:
Dependent Variable: LN_IPC
Method: Panel Least Squares
Date: 07/01/15 Time: 01:25
Sample: 1994 2014
Periods included: 21
Cross-sections included: 65
Total panel (balanced) observations: 1365

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.175321	2.147515	0.081639	0.9349
LN_EITI	2.058703	0.498202	4.132264	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.858146	Mean dependent var	9.049241
Adjusted R-squared	0.851048	S.D. dependent var	1.307296
S.E. of regression	0.504542	Akaike info criterion	1.516811
Sum squared resid	330.6766	Schwarz criterion	1.769154
Log likelihood	-969.2238	Hannan-Quinn criter.	1.611262
F-statistic	120.8971	Durbin-Watson stat	0.084174
Prob(F-statistic)	0.000000		

Source: Author's own calculation by the World Bank and EITI data.

According to the Hausman test results above, the relationship between EITI and IPC has to be calculated by FEM instead of REM (it is noteworthy that the regression R^2 obtained by this model is very low) from panel data methods (**Table 11**). According to this model obtained by FEM, an increase of 1 unit in the EITI scores causes an increase of about 2.06 units in the IPC of the countries.

$\ln (IPC_{1993\text{-}2013}) = 0.175 + 2.06 \ln (EITI_{1993\text{-}94/2013\text{-}14})$

Table 11: The Relationship between the National Income Per Capita Values (Natural Logarithmic) and the Escaping Income Trap Index (Panel Data Model-FEM)

Dependent Variable: LN_KBDMG
Method: Panel Least Squares
Date: 07/01/15 Time: 01:26
Sample: 1994 2014
Periods included: 21
Cross-sections included: 65
Total panel (balanced) observations: 1365

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.175321	2.147515	0.081639	0.9349
LN_GTKE	2.058703	0.498202	4.132264	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.858146	Mean dependent var	9.049241
Adjusted R-squared	0.851048	S.D. dependent var	1.307296
S.E. of regression	0.504542	Akaike info criterion	1.516811
Sum squared resid	330.6766	Schwarz criterion	1.769154
Log likelihood	-969.2238	Hannan-Quinn criter.	1.611262
F-statistic	120.8971	Durbin-Watson stat	0.084174
Prob(F-statistic)	0.000000		

Source: Author's own calculation by the World Bank and EITI data.

According to the regression obtained by FEM, it is seen that nearly 86% of the changes in IPC of countries are expressed by the IPC scores of the countries (the value obtained by REM was 9.1%). When the statistical values of the coefficients of the regression are examined; while the EITI coefficient (slope) is statistically significant ($p < 0.05$ and the coefficient's absolute value of t statistics is outside the thresholds of the critical t values), the constant coefficient is not statistically significant ($p > 0.05$ and the absolute value of the coefficient's t is smaller than critical t value).

4. Conclusion

The status that a country could not reach a certain income per capita threshold, which is called the Income Trap in the economic literature, has been recently debated for Türkiye too. The EITI, which was generated in the study and was consisting of 82 indicators and 5 sub-indices covering 65 countries are examples of successful economic development and competitors of Türkiye in international markets, helping the countries to be analyzed multi-dimensionally.

The countries in the study were chosen considering more than 1 billion population and to have weight in the world economy and to be the WB and IMF members, which can be compared with Türkiye to compete in international markets.

In the study, it was determined that Türkiye did not perform well in the first period (61st) and the last period (59th) of the multidimensional EITI. Türkiye, which is carrying the MIT risk, needs to take the

necessary steps as soon as possible, identify strategies and take initiatives to implement them. Taking as an example the Republic of Korea which has carried out its development in a planned manner and which has raised to the rank of the HIC level, it is recommended that all these actions must be controlled from a single centre.

In the table below, there are the countries, which are ranked at the top 10 and bottom 10 considering five sub-indices generated in the study and EITI, which is a combination of an equal-weighted average of five sub-indices. MICs, which ranked at the bottom of EITI, are the countries, which could not rise to the HIC class and will be at MIT risk. At the table Ecuador, South Africa and Türkiye are the countries in the MIT or at risk of falling[4].

Table 12: First and Last Ten Countries in EITI and Sub-Indices Rankings (2013-2014)

Rank	HCSI	MESI	CSI	ISI	QLASI	EITI
1	Norway	Singapore	USA	Switzerland	Switzerland	Switzerland
2	USA	Hong Kong	Hong Kong	Korea Rep.	Japan	USA
3	Lithuania	Saudi Arabia	Singapore	Denmark	Australia	Norway
4	Estonia	Switzerland	China	Finland	France	Germany
5	Denmark	Korea Rep.	Germany	Sweden	Sweden	Sweden
6	Canada	China	United Kingdom	Austria	Germany	Korea Rep.
7	Sweden	Vietnam	Ireland	Japan	Norway	Hong Kong
8	New Zealand	Azerbaijan	France	Germany	Netherlands	Denmark
9	Australia	Malesia	Italy	Netherlands	Belgium	Netherlands
10	Germany	Philippines	Canada	İsrael	Austria	Canada
56	China	Latvia	Croatia	Peru	Kazakhstan	Ecuador
57	Ecuador	Venezuela	Ecuador	Uruguay	Vietnam	Venezuela
58	Philippines	Russia Fed.	Vietnam	Nigeria	Morocco	Philippines
59	Saudi Arabia	Italy	Venezuela	Vietnam	Egypt	Türkiye
60	Indonesia	Argentina	Bulgaria	Ecuador	Thailand	South Africa
61	Türkiye	Cyprus	Indonesia	Saudi Arabia	Philippines	Indonesia
62	Nigeria	Spain	Nigeria	Philippines	Indonesia	Morocco
63	Morocco	Portugal	Cyprus	Malaysia	South Africa	Egypt
64	Egypt	Greece	Ukraine	Indonesia	India	India
65	India	Ukraine	South Africa	Venezuela	Nigeria	Nigeria

Source: Author's calculation

CONTRIBUTION OF AUTHORS

All sections of this study were created by a single author.

CONFLICT OF INTEREST DECLARATION

There is no financial conflict of interest with any institution, organization, or person, and there is no conflict of interest among the authors.

[4] Venezuela raised to HIC class in 2015 whereas Indonesia, Morocco, Philippines, India, Egypt and Nigeria are members of LICs.

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