

Middle-Income Trap: A Literature Review¹

Orta Gelir Tuzağı: Bir Literatür Taraması

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ÖZ

Çalışmanın amacı, ilk defa Gill ve Kharas (2007) tarafından ortaya atılan ve iktisat literatüründe görece yeni bir terim olan “Orta gelir tuzağı” kavramının teorik ve ampirik boyutlarını analiz etmektir. Orta gelir tuzağı kavramı genellikle belirli bir kişi başı gelir düzeyini aşmada çeşitli zorluklar yaşayan orta gelir düzeyine sahip ekonomilerle ilişkilendirilmektedir. Bu doğrultuda gelişmekte olan ülkeler üzerinde yoğunlaşan çalışmaların çoğu, teorik olarak bu kısır döngünün arkasındaki kilit faktörleri ele almaktadırlar. Bu göre söz konusu çalışmaların, ilgili ülkelere üretkenlik, eğitim kalitesi ve teknolojik ilerleme gibi faktörler ile ilgili tavsiyelerde bulunduğu görülmektedir. Ampirik çalışmalar ise çoğunlukla Tayland, Meksika, Brezilya ve Malezya gibi ülkelerin tuzaktan kurtulmak için verdiği mücadeleler üzerinde durmaktadır.

ANAHTAR KELİMELER

Büyüme Yavaşlaması, Orta Gelir Tuzağı, Gelişmekte Olan Ülkeler

ABSTRACT

The main aim of this paper is to analyze the theoretical and empirical dimensions of a relatively new phenomenon in economics literature, namely “Middle-Income Trap”, which was firstly discussed by Gill and Kharas (2007). In general, this phenomenon is related to middle-income economies which have several difficulties in exceeding a certain level of per capita income. In this regard, most of the studies focus on developing countries and theoretically scrutinize the key factors behind this vicious circle. Accordingly, these studies also offer policy implications associated with issues like productivity, quality of education and technological progress. On the empirical side, most of the studies draw more attention to Thailand, Mexico, Brazil and Malaysia as these countries desperately struggle to escape from this trap.

KEYWORDS

Growth Slowdown, Middle-Income Trap, Developing Countries

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INTRODUCTION

The concept “middle-income trap”, which was first introduced at the end of 2000s, is relatively new phenomenon in economics literature. Correspondingly, there is no consensus on its definition among economists, however, in general, this phenomenon is related to middle-income economies which have several difficulties in exceeding a certain level of per capita income.

Fundamentals of the concept of the middle-income trap are based on the development economics (particularly, on some economic growth theories). Initially, the development economy deals with “poverty trap” rather than “middle-income trap” in the development economics. However, it is seen that middle-income countries cannot sustain the economic growth after a certain level of per capita income. Henceforth, concern about the concept have continued to increase and has been discussed by many economists.

In order to discuss the concept of middle-income trap, the middle-income level should be determined at first. In the studies, it is seen that the per capita income classification of World Bank, which is generally calculated according to the atlas method, is used. Apart from this, some authors determine income thresholds and hence levels through their methods. These thresholds are fundamentally divided into two basic groups: “absolute” and “relative”. In other words, economists either use absolute thresholds, such as the World Bank classification, or thresholds that are determined as a relatively leader country in order to identify the trap.

Most of the studies focus on developing countries, including Latin American and Asian countries, and theoretically examine the main factors behind the middle-income trap. In addition, these studies offer many suggestions and policies for countries to avoid or escape from the trap. In addition, economists develop empirically various methods in these studies to determine whether countries are trapped.

In this study, it is aimed to investigate the theoretical and empirical literature on the middle-income trap. In the rest of this paper, the literature review is structured as follows: in section 2, the definition of the middle-income trap is presented, the reasons for countries to be trapped and actions to avoid the trap are discussed. In brief, theoretical literature is examined in the section. Section 3 presents the empirical literature and the various methods used to identify these countries. In other words, the trapped countries are determined empirically. Section 4 presents conclusions.

1.THEORETICAL LITERATURE

The development economics deals with “poverty trap” rather than “middle-income trap”. Because some poor economies haven’t been able to overcome the poverty for a long period of time (Kharas and Kohli, 2011: 281). However, it is seen that middle-income countries cannot also maintain the economic growth after a certain level of per capita income. The stagnation of middle-income economies is eventually realized, and the economists tend to investigate this issue.

Nevertheless, the theoretical foundations of the concept of middle income trap should be sought in the field of development economics. In particular, some economic growth theories like Solow’s neoclassical growth model, Malthusian trap or Malthusian equilibrium and, Lewis’s dual-sector model are claimed to support the trap (Cai, 2012: 50-51).

According to the neoclassical growth model, while labor and technology are fixed as determinants of output, capital increases output, but this increase is regressive. So, the economy cannot progress more through capital. Hence, it is claimed that this recession reflects the theoretical foundations of the middle-income trap (Dalgic et al., 2014: 117).

In addition, some authors associate the middle-income trap with the Malthusian trap or Malthusian balances. For example, Cai (2012) assert that trap is related to the state of a stable economic balance. In other words, when the effect of a factor that increases per capita income is balanced by the effect of a restrictive factor, the income per capita returns to its original level. Similarly, Malthus’s tarp or equilibrium reveals the equilibrium state that result from the relationship between population growth and economic development. This equilibrium state is related to the middle-income trap due to stopping of per capita income increase.¹

Furthermore, Lewis’s dual sector model is also asserted to be the basis for the concept of the middle-income trap. The dual economy is a transition phase between the Malthusian trap and the Solow neoclassical growth model. In other words, as the economy grows, the population also increases, and then, this increase of population returns the economy to subsistence level. Meanwhile, modern industries absorb much of the agricultural labor, from the Lewis landmark. Economic growth does not go beyond this point, because at this point there is no excessive labor. Ultimately, the Lewis landmark is about the middle-income trap (Cai, 2012: 51).

¹ Despite “middle-income trap” has been relatively a new term, the term “equilibrium trap” has used in development economics for a long time.

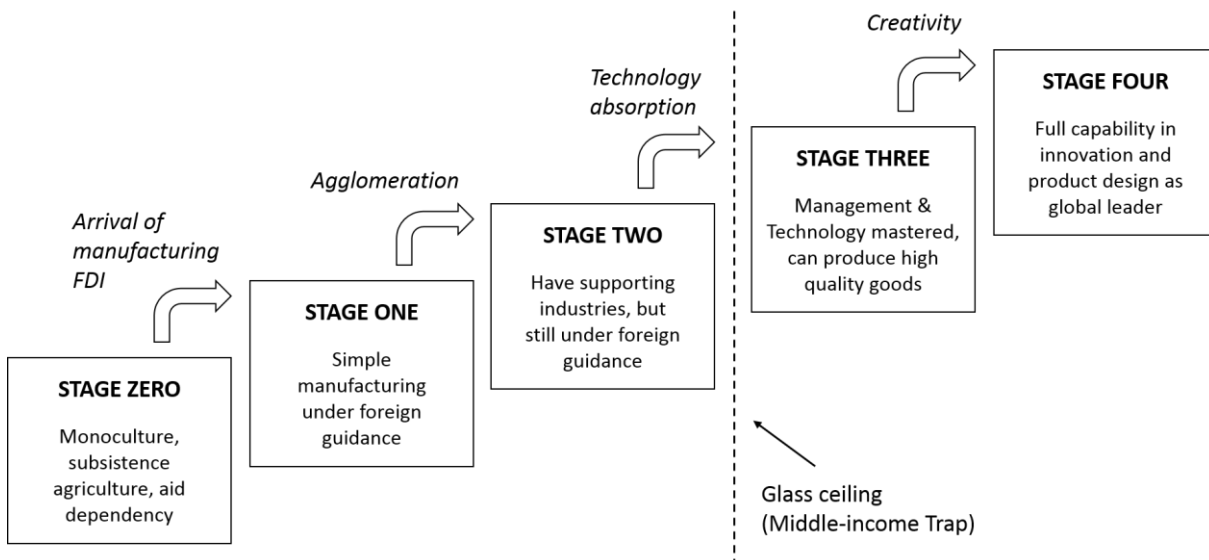
1.1. Definition of the Middle-Income Trap

There is no consensus on the definition of the term of the middle-income trap among economists. It was firstly discussed by Gill and Kharas (2007) in a report, *An East Asian Renaissance: Ideas for Economic Growth*, published by the World Bank. This report compares the success of East Asian countries, whose economies are based on radical technological improvements (electronics, computers and communication) with the Latin American countries and the Middle Eastern, which are stuck in MIT. Correspondingly, Asian Development Bank (2011) and Kharas and Kohli (2011) define the middle-income trap as countries which are not able to compete with both low-wage economies and highly skilled advanced economies. Paus (2012; 2014), who agrees on this definition, explains the reasons of this failure as relatively high wages and unskilled labor force.

In general, the middle-income trap is defined as the failure of middle-income countries to overcome the high-income level. In other words, middle-income countries reach a certain fortune, but this level of welfare is far from that achieved by high-income countries. The economies of these countries usually stagnate after reaching the middle-income level and remain at this level for a long time (Aiyar et al., 2013: 3; Kanchoochat, 2014: 3; MUSIAD, 2012: 96; Tho, 2013: 107-108; Yilmaz, 2014: 2).

From a different viewpoint, Ohno (2009) describes the middle-income trap by designating the stages of industrialization, which requires higher income, in Figure 1. According to this, in the stage zero, the economic structure of a low-income country is generally fragile if a country has social and political turmoil, socialist planning, and mismanagement of economy. Such countries, which have only subsistence resources and monoculture export, and depend on foreign aid, may create only a small internal value. The economies of these countries commenced to export light industrial products by means of foreign direct investment (FDI). In the first stage, these countries have very few valuable production factors. At the same time, design, technology, production and marketing are managed entirely by foreigners. In the second stage, the production expands, and then, local suppliers emerge, and assemblers become stronger. Meanwhile, internal value rises, however, foreigners manage and guide still basically to industries. In the next stage, local suppliers play an important role in the economy and have a strong presence in all areas of production. Human capital is quite advanced, and the countries can produce and export high-tech products. In the final stage, the countries have high level of creativity in the production and it is leader of the global market trends.² Ultimately, invisible “glass ceiling” between the second and third stage is described as the middle-income trap.³

Figure 1: Stages of Industrialization



Source: Ohno, 2009: 28

On the other hand, the terms “growth slowdowns” and “catching up” are used for the middle-income concept in the literature. Accordingly, Eichengreen et al. (2012; 2013) identify growth slowdowns i.e. middle

² According to Ohno (2009), Vietnam is in the first stage; Thailand and Malaysia are in the second stage; Korea and Taiwan are in the third stage; and Japan, the USA and some members of the E.U. are in the final stage.

³ Ohno (2009) expresses that a majority of Latin American countries are stuck in the middle-income trap while the Association of Southeast of Asian Nations (ASEAN) countries are not caught in it.

income trap as gradual slowdown in the high growth rate after the GDP per capita reached a certain level.⁴ In other words, the phenomena is described as the case which occurs after the average growth rate per capita GDP reaches 3.5% or more for seven-year period, it declines by at least average 2% points in the following seven year periods. In addition, Woo (2012) discusses this problem in terms of catching up approach. According to the author, this approach can be defined as the countries catch-up economically and technologically a leader country (generally, the United States of America (USA) or Japan).

1.2.Possible Causes of Middle-Income Trap

The vast literature on the middle-income trap has demonstrated that the reasons of the trap are quite varied. In an economy, comparative advantage in labor-intensive goods starts to decrease as real wages increase with the gradual absorption of excessive labor. For this reason, as Paus (2012) says, countries need to increase their capabilities such as knowledge, innovation and highly skilled human capital to produce high-tech goods. Otherwise, these countries cannot achieve comparative advantage in technology-intensive products, and the middle-income trap is likely impossible to overcome (Yilmaz, 2014: 2).

More precisely, the countries move from agricultural to labor intensive production in order to reach the middle-income level based on low-cost production. Thus, they can compete internationally. These developing countries, with the strategies based on imported technologies, increase productivity by transferring workers from the agricultural sector to the manufacturing sector. In the end, however, transfers of unqualified labor or labor-absorbing activities reach the summit. Then, real wages in manufacturing sector of urban areas increase rapidly or the market share is lost. In addition, the gains from foreign technology imports decrease rapidly. Thus, productivity growth provided from intersectoral allocation and technological progress is likely to terminate and; international competition erodes; and manufacture and growth slows. Therefore, the countries cannot reach high-income level and fall into the trap (Agenor and Canuto, 2015: 643).

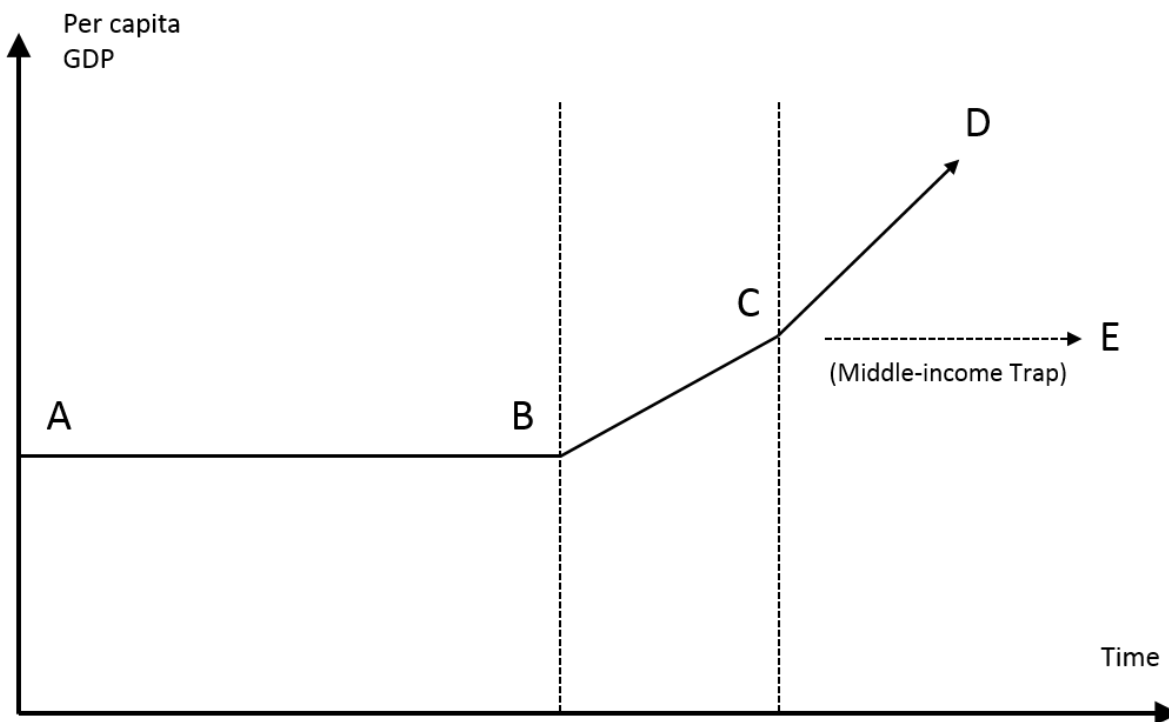
Tho (2013) tries to explain this phenomenon through Figure 2. The developmental stages of an economy are described and divided into three major stages. In the figure, B point represents group 1 (low-income countries), E point represents group 2 (middle-income countries experienced low growth or no growth for a long time), C point represents group 3 (middle-income level) and the middle-income stage and D point represents group 4 (high-income countries).⁵

According to this, agricultural economies turn into an industrial economy with other structural changes (B to C) and reach middle income level (C). After this point, the transition to high income level (C to D) requires high skills and knowledge. Therefore, this transition can be quite difficult for countries and may not be achieved for a long time (C to E)⁶ (Tho, 2013: 108-109). Most of the countries falling into the middle-income trap suffer from this inability.

⁴ The threshold of per capita GDP is two modes as around \$11,000 and \$15,000 (purchasing power parity (PPP)-adjusted / at 2005 constant prices). The growth slowdowns of per capita GDP are observed after these levels (Eichengreen, 2013: 7). See also page 9 for details.

⁵ According to Tho (2013), many Latin American countries belong to group 2; several ASEAN countries as well as China are included group 3; and members of the Organization for Economic Co-operation and Development (OECD) and several others belong to group 4.

⁶ This failure is called as the middle-income trap.

Figure 2: Development Stages of an Economy

Source: Tho, 2013: 109

In other words, countries in lower economic development stages have comparative advantages with richer labor resources in labor-intensive sectors, while countries in high economic development stages have comparative advantages in technology-intensive sectors (Cai, 2012: 52). Some middle-income countries are squeezed between these two comparative advantages and their economies have stagnated (Tho, 2013: 110). Consequently, as Felipe et al. (2012) say, one of the most important reasons for the middle-income trap is that the countries do not have the high skills and knowledge required for production and export of high-tech goods.

In addition to those mentioned above, Kanchoochat (2014) and Kanchoochat and Intarakumnerd (2014) indicate that there are two different approaches in the literature about the reasons of the countries' falling in the trap: (i) the low quality of education and institutions and (ii) the inappropriate and inadequate role of the state in the development path. For instance, Kharas and Kohli (2011) claim that the main reason for falling into the trap is that countries cannot change their growth policies after they reach the level of the middle-income group.

On the other hand, Eichengreen et al. (2013) associate growth slowdowns that is the middle-income trap with some demographic developments such as aging of the population, the excess of unproductive investment that have the low return on capital, and undervalued exchange rates that prevent technological progress. Similarly, Jankowska et al. (2012) list low productivity and lack of structural transformation in terms of employment as the most important reasons of the trap. Lastly, Lin and Treichel (2012) investigate reasons of the Latin American and the Caribbean countries falling into the middle-income trap. According to this, it is emphasized as these countries get stuck in middle-income trap, they cannot achieve the transition from low to high value-added products.

1.3. Avoiding the Middle-Income Trap

Economists offer many suggestions and policies for countries to avoid or escape from the trap. In this context, Kanchoochat (2014) and Kanchoochat and Intarakumnerd (2014) divided the literature on middle-income trap into three groups as a solution to the problem of "trap": (i) ensuring the provision of education and institutions correctly; (ii) change the export composition taking into account of comparative advantage (iii) upgrading the industry by defying the comparative advantage through a proactive state.⁷

⁷ Kanchoochat (2014) and Kanchoochat and Intarakumnerd (2014) argue that Malaysia, Thailand and the Philippines are caught in the middle-income trap while countries reaching high-income group such as Taiwan, Korea, and Singapore escape the trap.

On the other hand, ways of avoiding the middle-income trap are also listed by Kharas and Kohli (2011) as transitions from diversification to specialization of production, transitions from accumulation of factors to improvement of the productivity and transitions from centralized to decentralized economic management. Kharas and Kohli (2011) clearly demonstrate that governments (necessarily) have a set of public policies that must be maintained, as the government focuses on expanding the size of the middle class by improving income distribution and improving innovation. According to the authors, modern and more agile institutions are needed for property rights, capital markets, successful venture capital, competition and highly skilled people.

Similarly, Agenor and Canuto (2012) offer some proposals to avoid the middle-income trap for developing countries that suffer from it. Accordingly, trapped countries should target policies such as access to advanced infrastructure (e.g. broadband and other advanced information and communication technologies), protection of property rights and the reorganization of labor markets.

Besides, Yilmaz (2014) demonstrates that countries need structural transformation which can provide the high productivity and technology-intensive production in order to avoid the middle-income trap. The most important tool for this transformation is well-designed and high-quality education system due to accumulating knowledge and human capital. Similarly, Eichengreen et al. (2013) emphasize the importance of the secondary and tertiary education in terms of human capital and high-tech products concerning share of exports in order to avoid the trap. The authors also indicate that financial and political stability reduce the likelihood of growth slowdowns i.e. the middle-income trap.

Jankowska et al. (2012) argued that countries should follow the policies centered on access to education, infrastructure, innovation and finance to diversify and expand their export structure. In the same way, Felipe et al. (2012) proposes that countries make more efforts to achieve a comparative advantage in sophisticated and well-connected products to avoid the trap.

Furthermore, Lin and Treichel (2012) propose some recommendations for governments to avoid the middle-income trap. First, governments should support the activities of the private sector in cooperation with the public-private sector according to the theory of comparative advantages. Second, sustainable structural improvements should be made in sectors using intensive natural resources and unskilled labor to achieve dynamic growth. Finally, education and research and development (R&D) investments are required for all these.

It is seen that individual studies also provide recommendations for middle-income countries with the danger of falling into the middle-income trap. For instance, Cai (2012) offers policy suggestions for China associated with improvement in total factor productivity, increase of human capital, expansion of deepening of system and reforms required for government to function better. Woo (2012) emphasizes that China should pay attention to ineffective financial systems, administrative defects, environmental damage and trade protectionism.

Tho (2013) proposes a number of policies for ASEAN countries to avoid the trap by moving to higher income levels. These policies mainly focus on R&D activities, the quality of human resources and the institutional system that contributes to the private sector. It is also recommended to increase the total factor productivity for Vietnam to avoid the early emergence of the trap.

In addition, Ohno (2009) offers many suggestions for avoiding the middle-income trap for Vietnam, which is in the lower middle-income group according to the World Bank's classification and has the potential to generate a higher income. Accordingly, Vietnam must renew its industrial policies to protect the country's full potential. In this context, a new leadership style, a technocrat team directly under the top leader, and a strategic alliance with international partners for renewal of policies are proposed.

Finally, Flaaen et al. (2013) emphasize the need for extensive structural transformation for Malaysia. Accordingly, the authors made some empirical measurements for the goods and services sectors. It is revealed that the productivity growth in the service sectors have been significant for growth and escaping from the middle-income trap. In this context, some suggestions for policymakers are recommended.

According to these recommendations, policymakers should promote entrepreneurship and innovation to develop knowledge networks and provide skilled labor force. Another suggestion is that policymakers should attract high-yielding foreign firms to take place in production in Malaysia. Thus, governments have provided imported capital equipment and significant tax revenues. The final offer is to develop the service sector because these sectors provide an alternative growth source for middle-income countries like Malaysia. In this way, their country may avoid the middle-income trap if policymakers follow these recommendations (Flaaen et al., 2013: 23-24).

2. EMPIRICAL LITERATURE

Empirical studies are mostly made on the detection of the middle-income trap while theoretical studies investigate, as mentioned above, reasons and nature of the trap as well as ways of avoiding the trap in general. Many approaches are used to determine the trap empirically. Im and Rosenblatt (2013) clearly demonstrate this diversity when examining the middle-income trap. In other words, they stated that threshold selection had a great impact on the results of empirical studies. Thereby, it is inspired from Im and Rosenblatt (2013) while structuring the empirical part of this study. Growth slowdowns are examined under a separate heading due to its nature. Ultimately, in this study, empirical literature is examined under three headings as absolute threshold, relative threshold and growth slowdown (Empirical literature part of this study is summarized in Table 1).

2.1. According to Absolute Thresholds

Economists need primarily to identify income levels to debate over the middle-income trap. They either specify various income thresholds or use predetermined thresholds for this. For instance, the World Bank categorizes the countries according to their per capita income, calculated by “atlas method” that is the method of calculation of exchange rate. According to this categorization for the current 2016 fiscal year, the countries, which have per capita income of lower than \$1.045, are in the low-income group. While some countries, which have per capita income from \$1.045 to \$4.125, are in the lower-middle-income group, the others, which have per capita income from \$4.125 to \$12.736, belong to the upper-middle-income group. Finally, the countries, which have per capita income of more than \$12.736, is categorized as high-income level.⁸

Accordingly, Egawa (2013) examines whether income inequality is a cause of middle-income trap through sensitivity analysis. The study focused on countries such as China, Malaysia and Thailand from 1990 to 2011. As a result, it has been found that income inequality has a negative effect on growth rates and is one of the causes of the trap.

Similarly, Dalgic et al. (2014) investigated 56 middle-income countries from 1990 to 2013. Accordingly, factors affecting the probability of transition to high-income groups of middle-income countries were examined using probit regressions. As a result, it is emphasized improvements in human capital, technology, institutional quality and the increase of strong macro indicators to escape the middle-income trap.

In addition, Yiping et al. (2014) investigate whether China has used financial liberalization to escape the middle-income trap. For this purpose, 80 countries are examined and policy implications for China offered by comparing its experiences from 1980 to 2010. They stated that financial liberalization is critical for middle-income economies, but not for low-income economies. Moreover, it has been found that financial liberalization has a positive effect on high income economies.

On the other hand, Felipe et al. (2012) contributed greatly to the literature on middle-income trap by examining whether 124 countries were trapped between 1950 and 2010. Firstly, four income groups of per capita GDP (PPP-adjusted / at 1990 constant prices)⁹ are defined, drawing on estimates of Maddison (2010), as low-income below \$2,000; lower-middle-income between \$2,000 and \$7,250; upper-middle-income between \$7,250 and \$11,750; and high-income above \$11,750. According to this classification, 52 out of the 124 countries were in the group of middle-income (38 lower-middle-income and 14 upper-middle-income).¹⁰ Secondly, a certain number of years and the average growth rate of per capita income which is required for these years are determined to escape the middle-income trap. The lower-middle-income countries must sustain a growth rate of at least 4.7 percent of their annual average incomes and skip the upper-middle incomes in 28 years, and, on the other hand, the upper-middle-income countries must sustain an annual average income per capita growth of at least 3.5 percent and reach the high-income level within 14 years. Otherwise, these countries are unlikely to break out the trap (Felipe et al., 2012: 23-26). Finally, Felipe et al. (2012) claim that 35 out of 52 middle-income countries are caught in the trap. While 30 of those are in the lower-middle-income trap as the Philippines, Sri Lanka, Albania, Romania, Bolivia, Brazil, Colombia, the Dominican Republic, Ecuador, El Salvador, Guatemala, Jamaica, Panama, Paraguay, Peru, Algeria, Egypt, Iran, Jordan, Lebanon, Libya, Morocco, Tunisia, Yemen, Botswana, Congo Rep., Gabon, Namibia, South Africa, Swaziland, 5 of those are in the upper-middle-income trap as Malaysia, Uruguay, Venezuela, Saudi Arabia and Syria.

Besides, Bozkurt et al. (2014) examine whether Turkey falls into the middle-income trap by conducting the convergence and ARDL analysis for the period 1971-2012 (per capita income in 2005 constant prices). According to results, Turkey converge to high-income countries, and enrollment rate in the high education and

⁸ <http://data.worldbank.org/about/country-and-lending-groups> (date accessed: 28.01.2016)

⁹ Felipe et al. (2012) also use absolute thresholds but not World Bank classification.

¹⁰ While 40 out of remaining 72 countries were low-income countries, 32 countries were in the group of high-income.

domestic savings rates have a significant effect on per capita incomes. However, it is not sufficient to avoid the middle-income trap. Hence, the risk of de-industrialization ought to be eliminated.

2.2. According to Relative Thresholds

In this approach, which is often used by most economists, the economic situation of the countries is evaluated by comparison with an economically and technologically leading country (usually the USA or Japan). For example, Woo (2012) uses the catch-up index (CUI) to identify the middle-income trap and to determine the high-income, middle-income and low-income income status. The country's CUI score is the ratio of that country income to the level of USA income, and countries with 20% and less CUI score are in the low-income group; countries with 20% - 55% CUI score are in the middle-income group; and countries with 55% and greater CUI score belong to the high-income group.

Woo (2012) examined some countries using the Maddison (2010) data set for the period 1960-2008. According to the results of the study, Latin American countries such as Argentina, Brazil, Chile, Mexico and Venezuela, which have not been able to reach the US standard of living for more than 50 years, are trapped. On the other hand, Asian countries such as Taiwan and South Korea managed to catch the US level and escaped the trap.

Similarly, Robertson and Ye (2013) have aimed to define middle income trap statistically. For this purpose, the USA is determined as a reference country as it has a balanced growth rate for more than a century. Secondly, per capita income of several countries is evaluated according to the reference country (the USA, henceforth). In other words, the natural logarithm of per capita income of the USA is subtracted from the natural logarithm of per capita income of a country and, then, the per capita income of the country is analyzed to find out whether it catches the USA by using Augmented Dickey-Fuller (ADF) unit root test and, also, allowing for structural breaks. Finally, the countries whose per capita income level is between %8 and %36 of the GDP Per capita of the USA are labelled as in middle income group (according to this, 46 out of 189 countries are middle-income countries).

Robertson and Ye (2013) examine 46 countries, drawing on Penn World Tables (PWT) 7.1 (PPP-adjusted / at 2005 constant prices), for 1950-2010 to analyze whether they are caught in the trap. Consequently, 19 out of 46 middle-income countries as Botswana, Bulgaria, Costa Rica, El Salvador, Guatemala, Honduras, Iran, Iraq, Jordan, Lebanon, Mexico, Peru, Panama, Romania, South Africa, Syria, Thailand, Tunisia and Turkey fall into the middle-income trap.

Similarly, Yilmaz (2014) investigates 57 countries from 1960 to 2010 in terms of the middle-income trap (by using Robertson and Ye (2013) approach). In this respect, while only 8 out of 57 countries, Cyprus, Greece, Portugal, Hong Kong, Japan, Korea, Singapore and Taiwan escape the trap, other 28 out of 57 countries, as well as Turkey and the majority of Latin American countries (as Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru), Algeria, Fiji, Gabon, Iran, Jordan, Malaysia, Mauritius, Namibia, the Philippines, Romania, South Africa, Syria and Uruguay fall into the trap.

Moreover, with same method, however, by using additively unit root tests that consider structural breaks, Kocak and Bulut (2014) analyzed whether Turkey has been in the middle-income trap for the period between 1950 and 2010 (PPP-adjusted / at 2005 constant prices). According to results, Turkey has not been caught in the trap yet and it has tended to close the its income gap between the USA. However, it is noted that this trend depends on growth performance of Turkey's economy in the long term, and policymakers ought to be more careful about falling into the trap because of growth slowdown in Turkey's economy in recent years.

Besides, Jankowska et al. (2012) made a comparative analysis between Asian and Latin American countries 1963 and 2005, drawing on PWT 7.1 (PPP-adjusted), to investigate countries relationship with the middle-income trap. In this direction, the Product Space methodology is used for evaluating the structural transformation of countries in both regions. Ultimately, it is agreed that most Latin American countries are caught in the trap.

On the other hand, Bulman et al. (2014) investigate some countries in terms of the stagnation that is the middle-income trap. They divide primarily countries into three groups as low-income countries (with per capita incomes than less 10% of the USA), middle-income countries (with per capita incomes between 10% - 50% of the USA) and high-income countries (with per capita incomes over 50% of the USA), and then, middle-income countries into two groups as escapees (middle-income countries that successfully transitioned to high-income countries) and non-escapees (middle-income countries that fail to transition). The authors analyze these countries for the period of 1950-2009 by using cross-country growth regressions. According to this, it is

confirmed that growth in middle-income countries correlate positively with openness, industrialization and equity, but it does not correlate with education and innovation.

Besides, Ozturk (2015) explores the role of the middle-class for escaping the middle-income trap while examining the correlation between middle-class (between 75%-125% of the median income level in a country) and economic growth. In this regard, 76 countries are examined, drawing on CUI, for the period 1980-2012 in the paper. According to the results, middle-class plays an important role to escape from the trap for a country.

From a similar perspective, Paus (2012) analyzes on Chile, the Dominic Republic, Jordan, Ireland and Singapore by using capability-approach and suggests some proposals for these countries to escape from the middle-income trap. It is indicated that these countries ought to evaluate microeconomic behaviors and sectoral economic conditions in terms of macroeconomic concepts in order to escape the trap. Besides, Paus (2014) investigates some Latin American countries for 2000s by using the productive capability-focused approach. It is stated that Latin American countries are likely to escape the trap provided that they can achieve structural change and institutionalization.

Moreover, Panther and Flechtner (2015) discuss the middle-income trap in terms of global political economy perspective. For this reason, they used to fuzzy-set qualitative comparison analysis (fsQCA) for 67 middle-income countries, which were divided into four periods between 1976-1982, 1983-1991, 1992-2001 and 2002-2009 (in terms of world average per capita GDP). According to result of this analysis, global and domestic inequalities are biggest obstacles to growth. Their analysis of domestic inequalities suggests that economic equality is more important than political equality for the middle-income countries reaching high-income country position. Lastly, global inequalities that can direct a country less or more depending on an external power is factor of adequate provisions for convergence.

Unlike, Im and Rosenblatt (2013) try to reveal empirical evidence about the various definitions of the middle-income trap. Using the Maddison (2010) dataset (PPP-adjusted), the authors examine the historical transition stage in inter-country distribution of income to determine whether middle income tap has emerged in every level of income in 125 countries from 1950 to 2008. However, it is expressed that transition matrix analysis remain incapable for explaining the existence of the middle-income trap. In this regard, it is used analysis of cross-country growth patterns. And, according to result, this analysis provides significantly additional policy implications for governments.

Finally, Cherif and Hasanov (2015) discuss how Malaysia can escape from the middle-income trap. For this, they analyzed 167 countries (especially Chile, Thailand, South Korea and Taiwan, as well as Malaysia) from 1970 to 2010, using cross-country analysis. In addition, the authors use the relative threshold value definition per capita to the USA. They offer some suggestions for a sustainable growth strategy that policymakers need to organize high-value-added production and services, such as focusing on high-tech innovations.

2.3. According to Growth Slowdowns

Different methods are followed to determine whether countries fall into the middle-income trap. Eichengreen et al. (2013), who describe the middle-income trap as a slowdown in economic growth, analyze the countries empirically whose per capita GDP is greater than \$10,000 (PPP-adjusted / at 2005 constant prices) by drawing on PWT 7.1 which covers the period 1957-2010. Accordingly, using a Chow test for structural breaks and probit regressions, it was observed that there was a slowdown of about in the GDP per capita level \$ 11,000 and \$ 15,000 (PPP-adjusted / fixed prices 2005) (Eichengreen et al., 2013: 5-7).

Besides, Eichengreen et al. (2012) state that countries fall into the middle-income trap when per capita GDP reaches approximately 58 percent of the leader country (the USA); and the share of employment in the manufacturing reaches 23 percent of total employment. In line with this paper, Aiyar et al. (2013), defining the middle-income trap as a special case of growth slowdown, try to reveal the determinants of the trap by using probit regressions. They also used two Bayesian averaging techniques (the Bayesian Model Averaging (BMA) and the Weighted Averaging Least Squares (WALS)) to assess robustness of the results. 138 countries, the majority of which are Asian and Latin American countries are examined from 1955 to 2009 that dividend 11 periods, drawing on PWT 7.1 (at 2005 constant prices). The relationship of annual growth rate of per capita GDP with institutions, demography, infrastructure, macroeconomic environment and policies, the structure of production, the structure of trade and other variables is investigated. Consequently, the most important variables of the trap are determined as a sudden decrease in gross capital inflow and outflow as well as weak export diversity.

From a similar perspective, Agenor and Canuto (2015) use an overlapping generations (OLG) model that distinguishes two types of work skills as basic and advanced. In addition to this, they consider two types of infrastructure as basic and advanced infrastructure. They also calculate interaction between knowledge and

ratio of high ability (to population). As a result, investments in innovation and advanced infrastructure skills that provide marginal benefits for information dissemination and provide access to global information networks are important to maintain productivity growth and escape from the middle-income trap.

In addition, Chen and Dai (2014) offer a new explanation of the middle-income trap from the perspective of political economy. The authors provide a model, including trade-off between social welfare and political contributions for a period of 1976-1994 using a common agency model. Accordingly, when the economy moves into the new stage of development, in other words, when the efficiency of firms in the real sector is high enough, government or established companies tend to harm the policy. This distorted policy reduces social welfare and creates a trap by preventing the economy from making progress.

CONCLUSION

This paper tries to review the theoretical and empirical dimensions of the middle-income trap, which is a relatively new phenomenon in the economic literature. For this purpose, the literature on middle income trap is divided into two main sections as theoretical and empirical. We also classified the theoretical part of this study as the definition of the middle-income trap and the reasons for the trapped countries and the measures to be taken to avoid the trap. On the other hand, since the threshold selection had a significant impact on the results of empirical studies, the empirical part of this study was categorized according to the income thresholds (relative or absolute) and growth slowdown.

Correspondingly, there is no consensus on the definition of the term of the middle-income trap, however, in general, this phenomenon is related to middle-income economies which have several difficulties in exceeding a certain level of per capita income. In addition, the reasons for countries to be trapped are generally classified as low efficiency and quality of education, lack of technological progress and lack of structural transformation of states. Avoiding the trap is possible with overcoming these issues.

Consequently, most of the empirical studies draw more attention to the majority of Latin American countries like Brazil and Mexico and some Asian countries like Malaysia and Thailand as these countries desperately struggle to escape from the trap. In addition, according to the majority of the empirical studies, main determinants of middle-income trap are listed as gross capital inflow, gross capital outflow and weak export diversity. Besides, most of the empirical studies emphasize that countries should re-organize sectoral economic conditions according to microeconomic behaviors, re-structure institutions and arrange high value-added manufacturing and services in order to escape the middle-income trap. Also, most of the empirical studies find a significant relation between MIT and income inequality (-), financial liberalization (+), global and domestic inequalities (-) and economic equality (+).

APPENDIX: SUMMARY OF EMPIRICAL LITERATURE REVIEW

Table 1: Empirical Researches

	Paper	Data	Testee	Methodology	Conclusion
absolute	Felipe et al. (2012)	124 countries (1950-2010)	The existence of the middle-income trap	Original Method	35 out of 52 middle-income countries are caught in the trap. While 30 of those are in the lower-middle-income trap, 5 of those are in the upper-middle-income trap.
relative	Jankowska et al. (2012)	Asian and Latin American countries (1963-2005)	The existence of the middle-income trap	Comparative analysis with the Product Space methodology	Most Latin American countries are caught in the trap.
relative	Paus (2012)	Chile, the Dominican Republic, Jordan, Ireland and Singapore	Ways of escaping the middle-income trap	Capability-approach	Microeconomic behaviors and sectoral economic conditions are considered as a way of escaping the trap.
relative	Woo (2012)	Some countries (1960-2008)	The existence of the middle-income trap	The Catch-up Index	Argentina, Brazil, Chile, Mexico and Venezuela are caught in the middle-income trap.
g. slowdown	Aiyar et al. (2013)	138 countries (1955-2009)	The determinants of the middle-income trap	Two Bayesian averaging techniques as the Bayesian Model Averaging and the Weighted Averaging Least Squares	The most important variables of the middle-income trap are determined as sudden decrease in gross capital inflow and outflow as well as weak export diversity.
absolute	Egawa (2013)	China, Malaysia and Thailand (1990-2011)	The relationship between income inequality and the middle-income trap	Sensitivity Analysis	Income inequality has a negative impact on growth rates, and it is one of causes of the trap.
g. slowdown	Eichengreen et al. (2013)	The countries of which per capita GDP is greater than \$10,000 (1957-2010)	The emergence of slowdowns	Original Method	Slowdowns occur at two per capita GDP levels of around \$11,000 and \$15,000.

relative	Im and Rosenblatt (2013)	125 countries (1950-2008)	The existence of the middle-income trap	Transition matrix analysis and cross-country growth patterns	This analysis provides significantly additional policy implications for governments.
relative	Robertson and Ye (2103)	46 countries (1950-2010)	The existence of the middle-income trap	Original Method	19 out of 46 middle-income countries are caught in the middle-income trap.
absolute	Bozkurt et al. (2014)	Turkey (1971-2012)	The existence of the middle-income trap	The convergence and ARDL analysis	Turkey converges to high-income countries. But at the same time, the risk of de-industrialization ought to be eliminated to avoid the middle-income trap.
relative	Bulman et al. (2014)	Some countries (1950-2009)	The determinants of growth in different income levels	Cross-country growth regressions	Growth in middle-income countries correlate positively with openness, industrialization and equity.
g. slowdown	Chen and Dai (2014)	Some countries (1976-1994)	The relationship between political economy and the middle-income trap	A common-agency model	Distorted policy (by politicians) reduces social welfare, and it creates the trap while hindering economy from jumping next development.
absolute	Dalgic (2014)	56 middle-income countries (1990-2013)	Variables affecting growth of countries	Probit regressions	Improvements in human capital and technology, increase in institutional quality and robust macro indicators play an important role.
relative	Kocak and Bulut (2014)	Turkey (1950-2010)	The existence of the middle-income trap	Robertson and Ye (2103) Approach	Turkey has not been caught in the trap yet.
relative	Paus (2014)	Some Latin American countries (2000s)	Ways of escaping the middle-income trap	The productive capability-focused approach	If Latin American countries achieve structural change and institutionalization, they will escape the trap.
relative	Yilmaz (2014)	57 countries (1960-2010)	The existence of the middle-income trap	Robertson and Ye (2103) Approach	28 out of 57 countries are caught in the middle-income trap.

absolute	Yiping et al. (2014)	80 countries (1980-2010)	The role of financial liberalization in the avoiding the middle-income trap	Benchmarking	Financial liberalization is critical for all middle-income economies.
g. slowdown	Agenor and Canuto (2015)	Some countries	Ways of escaping the middle-income trap	An overlapping generations model	Innovation and advanced infrastructure and access to global knowledge networks are quite important to sustain productivity growth.
relative	Cherif and Hasanov (2015)	167 countries (1970-2010)	Ways of escaping the middle-income trap for Malaysia	Cross-country analysis	Policymakers should arrange high valued-added manufacturing and services such as concentrating on high-tech innovation.
relative	Ozturk (2015)	76 countries (1980-2012)	The role of middle-class in the avoidance of the middle-income trap	The Catch-up Index	Middle-class has an important role in getting rid of the trap.
relative	Panther and Flechtner (2015)	67 middle-income countries (1976-2009)	The relationship between political economy and the middle-income trap	Fuzzy-set qualitative comparative analysis	Global and domestic inequalities are biggest obstacles to growth. Economic equality is more important than political equality.

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