

## WORLD IN 2023: ESTIMATION BY POPULATION, CAPITAL MARKETS AND ECONOMIC SIZE

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### ABSTRACT

This study focuses on two aims. First aim of the study is to determine the relationship between change in population, poor population and capital markets development with change in GDP. The second aim is to forecast the position of countries in 2023 by using determined relations. To determine the relationships, data of 135 countries between 1980 and 2010 were analyzed. Analysis results revealed that population changes and capital market development have a statistically significant effect on GDP. In addition, there is a statistically significant relationship between population growth and poverty. In addition, it is stated that development of E7 countries will become higher than the development of G7 countries.

**Keywords:** GDP, Poverty, Population, Capital Markets.

**JEL Classification:** I32, D53, E01, P50

## 2023'DE DÜNYA: NÜFUS, SERMAYE PİYASALARI ve EKONOMİK BÜYÜKLÜK İLE TAHMİN EDİLMESİ

### ÖZ

Bu çalışma iki amaca odaklanmaktadır. Çalışmanın ilk amacı; nüfusta, yoksul nüfusta ve sermaye piyasalarının gelişiminde meydana gelen değişim ile GSYİH'de meydana gelen değişim arasındaki ilişkiyi belirlemektir. Çalışmanın ikinci amacı ise belirlenen ilişkileri kullanarak ülkelerin 2023 yılındaki durumunu tahmin etmektir. İlgili değişkenler arasındaki ilişkileri belirlemek için 135 ülkenin 1980 ile 2010 yılları arasındaki verileri analiz edilmiştir. Analiz sonuçları, nüfustaki değişim ile sermaye piyasasındaki gelişimin GSYİH üzerinde istatistiki olarak anlamlı bir etkiye sahip olduğunu ortaya koymuştur. Ayrıca, nüfustaki artış ile yoksulluk arasında da istatistiki olarak anlamlı bir ilişki bulunmuştur. Bunun yanında; E7 ülkelerinde beklenen gelişimin, G7 ülkelerindeki beklenen gelişimden daha fazla olduğu ortaya konulmuştur.

**Anahtar Kelimeler:** GSYİH, Yoksulluk, Nüfus, Sermaye Piyasaları.

**JEL Sınıflandırması:** I32, D53, E01, P50

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## 1.Introduction

61. Government of Republic of Turkey declares two basic policies (one of these is official and the other one is informal) in almost every platform. First of these policies concentrates on making Istanbul as an international finance center in the next ten years to form a new environment for developing capital markets<sup>1</sup>. The second policy focuses on increasing young population. Declaration “each family must have at least three children” is the implementation route of the policy<sup>2</sup>. According to Election Declaration of AK Party for 12 June 2011 Election, Turkey’s economical target is to join ten top economies of the world in 2023. It is expected that the formation of these two policies contributes to the economical target of the government.

From the theoretical sense, in the less developed economies, low GDP causes insufficient savings, so investment capacity can not be improved and production becomes insufficient. Then, insufficient production causes a vicious cycle by reducing the total GDP. Consequently, Each country which wants to develop needs to increase their savings. However, if there is not a mechanism to gather the savings or this mechanism is not enough, the volume of the total savings can not exhibit an important role. At this point, necessity of capital markets is appeared for economical development. Capital markets contribute to the development of economies by increasing the volume of domestic savings and investment, providing the efficient use of resources, increasing the liquidity of investments and reducing the risk. (Aksoy & Tanrıöven, 2007). As a result, there is a correlation between the economical development with capital markets’ volume, diversification of products and institution development (Aksoy & Tanrıöven, 2007).

The relationship between population and economic growth is explained by Malthusian, revisionist and transition theory approaches. According to Malthusian theory, policies to reduce birth rate in areas where have the high population is important for the sustainability of economic growth. However, revisionist approach argues that the steps taken to prevent the population growth will negatively affect economic growth. According to transition theory, adverse economic conditions lead to population growth (Darrat & Al-Yousif, 1999: 301). In addition, Keynesian and Post-Keynesian models argues that population growth has a positive effect on economic growth. Keynesian approach also suggests that population growth will increase investments (Telatar & Terzi, 2010: 198-199).

This study aims to analyze the success chances of mentioned policies by using 135 countries’ 30 years data to determine the relationship between change in the

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<sup>1</sup> Election Declaration of AK Party for 12 June 2011 Election. [www.akparti.org.tr](http://www.akparti.org.tr)

<sup>2</sup> Because of the idea of waiting for an elderly population in Turkey in 2037, this proposal have been expressed in meetings, conferences, and even a variety of media, such as wedding ceremonies by the Prime Minister of the State of TC (<http://www.sabah.com.tr/Yasam/2011/09/09/basbakan-yine-3-cocuk-dedi>, 09/09/2011).

population and capital markets with change in economic magnitude. The second implication of the study will focus on the prediction of Turkey and world economy in 2023 (100th year of Republic of Turkey) if there is a statistically significant relationship between the variables.

In the second section of the study, relevant studies in the literature will be summarized. Then, third, fourth and fifth sections of study will allocate to application, results and conclusion respectively.

## **2.Literature Review**

### **2.1.The Relationship between Population and Economic Size**

The effect of population movements on economical process will force the governments to produce medium and long term political solutions for problems caused by population movements. Demographic transformation is described as the change of countries' population structure in a certain time period and its effects on the demography and economics (Seyhun, 2006). According to the theory of Thomas Malthus in 1798, development in economy will lead to population increase and recession will lead to population reduction. However, in today's world, population growth continues even in times of recession as distinct from this theory (Currais, 2000). Demographic transformation differentiates countries' age groups by affecting the low fertility and mortality rates of populations. These results generate direct or indirect effects on the economy. Most of these effects occurs macroeconomic dimension (McKibbin, 2006). On the other hand, the econometric analyses which deal with macroeconomic effects of demographic transformation reveal different results. In certain studies which deal with the effect of demographic transformation on economic growth, it is stated that there is positive correlation between per capita of GDP and change in working-age population, furthermore there is a negative correlation between per capita GDP and change in old-age population.(Lee, 2003).The study of Bloom and others (2005) claim that there is not a clear relationship between the demographic transformation and economic growth. According to study, the relationship between the variables differs by region and country, so to associate these variables significantly cannot be possible. According to the study of Deliktaş (2001), by using 75 countries 1960-1995 period data, a negative relationship between growth rate of real income per capita and population growth has been identified. According to Costello (2005), reduction in the workforce and the decline of productivity lead to economic shrinkage. It is stated that the effect of demographic structure on the economy is closely related with institutional and political structure of the countries (Williamson, 2001; Lee & Miller, 1997).

### **2.2.The Relationship Between Development Of Capital Markets And Economic Size**

About the direction of the relationship between capital markets and economic growth, Patrick (1966) established the bi-directional causality theory. According to

bi-directional causality theory, capital market development is prior the process of economic growth and initiates the economic growth. This situation is defined as supply-leading hypothesis. Also the process of economic growth accelerates the capital market development by leading to an increase in the demand for financial services offered by the capital markets (called as demand-following hypothesis). Patrick (1966) revealed that causality relationship can be change the direction in the process of economic development: In the real growth process, supply-leading effect begins to dwindle and demand-following effect proceeds (Patrick, 1966). According to Levine (1991) and Benchivenga, Smith and Starr (1996), capital markets enable individual investors to control their savings by creating liquidity and also serve firms by creating a continuous financing opportunity with stock issue. By capital markets, investors have confidence because they sell shares at any time they want and so they can invest to long-term investment projects easily. Thus, financing of high efficiency projects may be possible and may accelerate economic growth by organizing effective sharing of potential funds. Levine and Zervos (1996) tested the existence of the relationship between financial deepening and economic growth by applying regression analysis with 41 countries 1976-1993 period time series data. One of the measures of financial deepening used in the study is stock market development index which includes stock market capitalization, liquidity and risk diversification. In the study, very strong positive relationship between development of capital market and economic growth was found. Devereux & Smith (1994) and Obstfeld (1994) have shown that risk diversification function of capital markets makes possible to finance high-risk and high efficient investments. This function is too significant. Because the liquid, large and efficient capital markets enable to finance large projects by accelerating saving process and support the development of real sector. (Greenwood & Jovanovich, 1990). However, some researches in literature introduced that high level risk diversification results to slow down economic growth by reducing saving rate (Devereux & Smith, 1994). Alövsat (1998) stated that there is a strong correlation between the capital market development and real economic indicators in developing countries. The study of Bekaert and Harvey (2001) showed that 30 percent of economic growth will be explained by financial liberalization. Caporale, Howells & Soliman (2004) used seven countries 1977-1998 period data and revealed the significant impact of capital markets on economic development.

### **3. Hypotheses, Data and Methodology**

#### **3.1. Hypotheses**

In this study, the following hypotheses will be tested to predict economic magnitude and social situations of world's major economies, especially for Turkey in 2023. Then necessary estimations will be forecasted.

*Hypothesis 1:* Ceteris paribus, there is a statistically significant relationship between the change of population parameters (total population, working-age population or the population dependency ratio) and the change of economic magnitude.

*Hypothesis 2:* Ceteris paribus, there is a statistically significant positive relationship between the development (growth) of capital markets and the change of economic magnitude.

*Hypothesis 3:* Ceteris paribus, there is a statistically significant relationship between the change of population parameters (total population, working-age population or the population dependency ratio) and the change of poor individual population.

### 3.2.The Survey Data

The data used in this study, is different for each hypotheses. The limitation to access available data of each country related to models which created to test hypotheses causes this situation. In order to test first hypothesis, annual data of 135 countries between the years 1980 and 2010 has been reached<sup>1</sup>, although for testing the second hypothesis, only 78 countries' annual data's between the years 1990 and 2010 has been attained. To test the third hypothesis, six regions (East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, the Middle East

<sup>1</sup> For example, to test the first hypothesis, 30 data of each country are collected for each variable (except dummy variables). So collected data number from 135 countries for 4 variables is 16200. Countries used in the study are:

Algeria	Congo, Dem. Rep.	Iceland	Morocco	South Africa
Argentina	Congo, Rep.	India	Mozambique	Spain
Australia	Costa Rica	Indonesia	Namibia	Sri Lanka
Austria	Cote d'Ivoire	Iran, Islamic Rep.	Nepal	St. Lucia
Bahamas, The	Cuba	Ireland	Netherlands	St. Vincent and the G.
Bahrain	Cyprus	Israel	New Zealand	Sudan
Bangladesh	Denmark	Italy	Nicaragua	Suriname
Barbados	Dominican Republic	Jamaica	Niger	Swaziland
Belgium	Ecuador	Japan	Nigeria	Sweden
Belize	Egypt, Arab Rep.	Jordan	Norway	Switzerland
Benin	El Salvador	Kenya	Oman	Syrian Arab Republic
Bhutan	Ethiopia	Korea, Rep.	Pakistan	Thailand
Bolivia	Fiji	Kuwait	Panama	Togo
Botswana	Finland	Lesotho	Papua New Guinea	Tonga
Brazil	France	Liberia	Paraguay	Trinidad and Tobago
Brunei Darussalam	Gabon	Luxembourg	Peru	Tunisia
Bulgaria	Gambia, The	Macao SAR, China	Philippines	Turkey
Burkina Faso	Germany	Madagascar	Portugal	Uganda
Burundi	Ghana	Malawi	Qatar	United Arab Emirates
Cameroon	Greenland	Malaysia	Rwanda	United Kingdom
Canada	Grenada	Maldives	Samoa	United States
Central African Republic	Guatemala	Mali	Saudi Arabia	Uruguay
Chad	Guinea-Bissau	Malta	Senegal	Vanuatu
Chile	Guyana	Mauritania	Sierra Leone	Venezuela, RB
China	Honduras	Mauritius	Singapore	Vietnam
Colombia	Hong Kong SAR, China	Mexico	Slovak Republic	Zambia
Comoros	Hungary	Mongolia	Solomon Islands	Zimbabwe

and North Africa, South Asia and Sub-Saharan Africa) were pooled and their average annual data's in 1981, 1984, 1987, 1990, 1993, 1996, 1999, 2002 and 2005 were used. All of the data used in the study was reached from the official site of The World Bank.

### 3.3. Methodology

The data obtained within the scope of the study is firstly subjected to the panel data analysis in order to test the above hypothesis, then analyzed the position of Turkey and other countries in 2023<sup>1</sup>. Regression models created to test hypotheses are as follows:

$$GDP_{it} = \beta_0 + \beta_1 P_{i,t-1} + \beta_2 ADR_{i,t-1} + \beta_3 PWA_{i,t-1} + \beta_4 \dots 137 \text{countries}_{i=1\dots 134,t-1} + \varepsilon_{it} \quad (1)$$

$$GDP_{it} = \beta_0 + \beta_1 MC_{i,t-1} + \beta_2 MC^2_{i,t-1} + \beta_3 \dots 79 \text{countries}_{i=1\dots 77,t-1} + \varepsilon_{it} \quad (2)$$

$$POR_{it} = \beta_0 + \beta_1 P_{i,t-1} + \beta_2 ADR_{i,t-1} + \beta_3 PWA_{i,t-1} + \beta_4 \dots 9 \text{regions}_{i=1\dots 5,t-1} + \varepsilon_{it} \quad (3)$$

$$POR_{it} = \beta_0 + \beta_1 GDP_{i,t-1} + \beta_2 P_{i,t-1} + \beta_3 ADR_{i,t-1} + \beta_4 PWA_{i,t-1} + \beta_5 \dots 10 \text{regions}_{i=1\dots 5,t-1} + \varepsilon_{it} \quad (4)^2$$

$$GDP_{it} = \beta_0 + \beta_1 P_{i,t-1} + \beta_2 ADR_{i,t-1} + \beta_3 PWA_{i,t-1} + \beta_4 MC_{i,t-1} + \beta_5 MC^2_{i,t-1} + \beta_6 \dots 82 \text{countries}_{i=1\dots 77,t-1} + \varepsilon_{it} \quad (5)^3$$

The notation  $GDP_{it}$  in the above hypotheses shows the logarithmic<sup>4</sup> variation of gross domestic product per capita according to purchasing power parity in the country  $i$  at time  $t$  denominated in U.S. dollars. According to Dornbusch and Fischer (1998), gross domestic product (GDP) is a fundamental indicator that reflects the economic size, economic performance and income levels of countries. However, GDP per capita is affected by the population size. Therefore, in this study GDP per capita that have been showing the average economic size of countries is used.  $P_{i,t-1}$  reflects the logarithmic variation of total population of country  $i$  at time  $t-1$ ;  $ADR_{i,t-1}$  reflects the logarithmic variation of population dependence ratio of country  $i$  at time  $t-1$ . Population dependence ratio is calculated by divided the sum

<sup>1</sup> The reason for selecting 2023 as the predicted year of study is that this year is 100th year of Turkey Republic.

<sup>2</sup> Unlike the 3rd regression equation, GDP variable is added to 4th regression equation in order to test income distribution justice. Namely increase in GDP per capita results to decrease in poor population in theory (Kaya & Bozkurt, 2011). Otherwise, if increase in GDP per capita and increase in poor population become together, it will not be able to talk about justice.

<sup>3</sup> Equation 5 is formed due to the low coefficient  $R^2$  of the regression equations 1 and 2. Thus, the first and second hypothesis can be tested by this equation.

<sup>4</sup> As known as by calculating the logarithmic change of variables, generated series is closed to normal distribution.

of under 15 years population and above 64 years population with the population between 15 and 64 years  $\left( \frac{(15age > P) + (64age < P)}{15age \leq P \leq 64age} \right)$  (Worldbank, 2011). At this point, the expected theoretical situation is a negative relationship of this rate and GDP.  $PWA_{i,t-1}$  reflects the logarithmic variation of working age population in country  $i$  at time  $t-1$  and  $POR_{it}$  shows the logarithmic change of the number of poor population in county  $i$  at time  $t$ . Poor population represent the persons with less than 1.25 \$ daily income according to purchasing power parity in 2005 (Worldbank, 2011).  $MC_{i,t-1}$  is used to measure the development of capital markets<sup>1</sup> and shows the logarithmic variation of total stock market value of companies as U.S. dollar (stock market capitalization) listed on the stock markets in country  $i$  at time  $t-1$ .  $MC^2$  is used to determine the linearity of relationship and calculated by taking the square  $MC_{i,t-1}$ . Capital markets and money markets, together, form the financial markets. In practice, there is a very close relationship between capital markets and money markets (Başoğlu, Ceylan & Parasız; 2009). So,  $MC_{i,t-1}$  variable is used in regression models to measures the impact of capital markets and partially financial markets on economic size. Numerous studies in the literature investigated the questions of which one contributes the other one, economic growth or capital market development<sup>2</sup>. Although there are different results of these studies, common result reveals the positive correlation between economic size and capital market or financial markets. In this study, to determine the dependent and independent variables, primarily Panel Granger Causality Test applied, and then a regression model like equation 2 is formed. Granger causality Panel Test results are given in Table 1.

**Table 1: Granger Causality Test Results**

Null Hypothesis ( $H_0$ )	F-statistic	Probability (P)
MC does not Granger Cause GDP	4.71589	0,00909*
GDP does not Granger Cause MC	1.62377	0,19752

\* The result of the analysis with 1404 data reveals that there is an one-way causal relationship from MC to GDP. According to this result, MC accepted as independent variable and GDP accepted as dependent variable.

<sup>1</sup> "Market capitalization" are shown as significant indicator of capital markets development in many studies ( Caporale & Howells,2003; Kunt & Levine,2004 etc.), so in this study this variable is also considered as the same indicator.

<sup>2</sup> Some of the studies related to this subject are Robinson (1952), Patrick (1966), Goldsmith (1969), Jung (1986), Lucas (1988), Odedokun (1989), Greenwood & Javanovic (1990), Boyd & Smith (1992), Wood (1993), Bencivenga & Smith (1993), Lyons & Murinde (1994), Demetriades & Hussein (1996), Levine & Zervos (1996), Greenwood & Smith (1997), Darrat (1999), Shan, Morris & Sun (2001), Schich & Pelgrin (2002) and Christopoulos & Tsionas (2004).

Finally, countries and regions notations in regressions are dummy variables. The purpose of dummy variables is to determine whether the relationship between variables differs by countries or regions. As is known, a number of dummy variables in regression model are the "n-1". Consequently, 134 dummy variables are used in equation 1, 77 in equation 2 and 5, 6 in equation 3 and 4. The dummy variable is given a value of 1 if the data obtained belongs to this country and a value of 0 if not. Due to "n-1", U.S. dummy variable is excluded from all models. Because United States data is relatively too normal and almost in all variables U.S. data is the highest, so the other dummy variables are formed depending on United States.

#### **4.Results**

##### **4.1.Descriptive Statistic**

In 135 countries, between 1980-2010 China with 10.41%, Maldives with 9.5%, Slovak Republic with 9% and Korea with 8.4% have the highest GDP growth rate respectively; while Republic of Congo with -3.27%, Liberia with -2.3% and Zimbabwe with -1.4% have the lowest GDP growth rate. Average annual GDP growth rate was realized in U.S. as 4.5%, while in Turkey as 6.22%.

In the same period, the average annual population growth rate was highest in Qatar with 6.8%, the United Arab Emirates with 6.7% and Bahrain with 4%; while Bulgaria(-0.5%), Hungary(-0.2%) and Guyana(-0.09%) were listed in last orders respectively. This rate was 1% in United States and 1.7% in Turkey.

Like as the average annual population growth rate, Qatar (8%), United Arab Emirates (7.2%) and Bahrain (4.7%) had the highest average annual working-age population increase ratios. The countries with lowest ratios were Bulgaria with -0.35%, Hungary with 0.001 and Japan with 0.1%. This ratio has been 1.09% in U.S. and 2.4% in Turkey.

The population dependence ratio, another variable of the study, was as follows: 0.04% in Japan, 0.0304% in Mali and 0.019% in Niger (the highest positive changes between 135 countries); -3.7% in Qatar, -2.56% in Oman and -2.55% in Iran (the highest negative changes). The change in U.S. was -0.16% while -1.6% in Turkey.

Finally, in 78 countries between 1990 and 2010, the annual average changes in the value of countries' stock market capitalization is highest in China with 39%, in Colombia with 29% and in Bulgaria with 23.7%; while is lowest in Japan with -1.3%, in Ireland with -2% and in Iran with -3%. The change was occurred as 7.2% in U.S. and 17.5% in Turkey.

##### **4.2.Results of Unit Root Tests**

To determine the stationary of panel data used in regression models, primarily panel unit root test was performed. According to this test, if a series is non-

stationary, first or second difference of this series was created and this variable become stationary. The results are shown in Table 2 briefly.

Stationary of the series is important for later analysis. Because results of analysis with non-stationary series are completely invalid or partially true.(Köse, 1998).

**Table 2: Panel Unit Root Test Results**

Variables	Regression model That Variables Belong to	Panel Unit Root Test Result (Level)	Panel Unit Root Test Result (1st difference)	Panel Unit Root Test Result (2nd difference)
GDP	Equation 1	Stationary	-	-
GDP	Equation 2 and 5	Stationary	-	-
GDP	Equation 3 and 4	Non-stationary	Stationary	-
P	Equation 1	Stationary	-	-
P	Equation 3 and 4	Non-stationary	Stationary	-
P	Equation 5	Stationary	-	-
ADR	Equation 1	Non-stationary	Non-stationary	Stationary
ADR	Equation 3 and 4	Stationary	-	-
ADR	Equation 5	Stationary	-	-
PWA	Equation 1	Stationary	-	-
PWA	Equation 3 and 4	Non-stationary	Non-stationary	Stationary
PWA	Equation 5	Stationary	-	-
MC	Equation 2 and 5	Stationary	-	-
MC <sup>2</sup>	Equation 2 and 5	Stationary	-	-
POR	Equation 3 and 4	Stationary	-	-

#### 4.3. Results of the Regression Analysis Based on Panel Data

The analysis results of panel data regression models are shown in Table 3 and in Table 4. Before mentioning the results of hypotheses tests, several issues related to the explanatory power of models will be discussed. The first of these issues is that there is a low adjusted coefficient of determination (Adj. R<sup>2</sup>) that shows the impact degree of independent variables (together) on dependent variable in first and second equations.<sup>1</sup> Secondly, F-statistic (measurement of the compatibility between the regression model and the data) show that all models are significant at 1% significance level. Finally, D.W. statistics have a high value almost in all models.<sup>2</sup> After addressing the overall conclusions of the structure of panel data regression models, findings related to the hypothesis tests will be explained:

<sup>1</sup> Gujarati (2001: 212) emphasized that high R<sup>2</sup> is satisfactory for an model, However if R<sup>2</sup> is calculated as low, this will not prove that the model is ineffectual.

<sup>2</sup> As is known, this result reveals that there is not autocorrelation. This result is one of the necessities of the successful regression analysis.

**Hypothesis 1:**

The first regression equation that is formed to test the first hypothesis showed that there is statistically significant and negative relationship between changes in population of countries and change in GDP per capita. The same equation reveals the statistically significant and positive effect of the change in working-age population on GDP per capita. The first dummy variable “country” did not change the results of this model<sup>1</sup>. So, rather than changes in total population, changes in working-age population has a positive effect on economic size, even so first hypothesis is partially accepted (any relationship with the population dependence ratio was not detected).

**Hypothesis 2:**

Hypothesis 2 that is tested by the second regression equation is accepted. As it can be seen in Table 3, market value of the companies listed on stock exchanges in a country has statistically significant and positive effect on GDP per capita of that country. 30-years trend has shown that 10% increase in countries’ stock exchanges total capitalization leads to 0,8% increase on GDP per capita (by disregarding the constant term). However, statistically significant  $MC^2$  notation states that the relationship between capital markets and economic size is not linear, it is curvilinear<sup>2</sup>.

**Hypothesis 3:**

When the data belonging to third equation in Table 3 examined, different results in term of statistical significance has been observed whether dummy variables are included the analysis or not. However, all of these results reflect the expected situation. For example, when dummy variables of region are not included the analysis, change in not working age population to working age population ratio (PWA) has a statistically significant and positive effect on poverty<sup>3</sup>; however, if region dummy variables are included the analysis, the effect of change in working-age population on poverty becomes statistically significant and negative. Namely, 1% increase in working-age population results to average 8% decrease on poverty. However, this analysis results also reveals that there is a statistically significant and

<sup>1</sup> However, in some countries (Barbados, Burundi, China, Congo, Dem. Rep, Luxembourg, Saudi Arabia and Zimbabwe) the relationship between population change and economic size change differed from United States. Regression equation 1 is  $[GDP = 0.047 + (-2.88P) + 2.37PWA]$  for United States while this equation is  $[GDP = 0.047 + 0.05 + (-2.88P) + 2.37PWA]$  for China.

<sup>2</sup> The relations obtained by the analysis of second regression equation were shown to vary according to United States when the dummy variable “country” is added to model. These countries are Chile, China, El Salvador, Ireland, Jordan, Panama, Slovak Republic and Sri Lanka. All of these countries differentiated as positive from United States. The differentiation of there, previous and comings may be another working subject for researchers.

<sup>3</sup> As a result of the inclusion of dummy variables to the model, all regions are differentiated into a negative sense from Europe and Central Asia.

positive relationship between the change in total population with the change in the number of poor people. As a result, this hypothesis is accepted.

When the fourth regression equation is examined, the statistically significant and negative relationship between the change in GDP per capita and change in the number of poor people is determined. This result reveals not only the negative relationship between the GDP per capita and poverty, also reveals that income distribution in the world has been equitable on average at 24-years period<sup>1</sup>.

Finally, the regression equation number 5 in Table 4 are examined, the following relationships are determined:

- Statistically significant and negative relationship between change in total population and change in GDP per capita
- Statistically significant and negative relationship between change in population dependency ratio and change in GDP per capita
- Statistically significant and positive relationship between change in working-age population and change in GP per capita
- Statistically significant and positive relationship between change in magnitude of capital markets and GDP per capita.

These results support the earlier results of the study generally. However, it should be noted that 1% change in total population and 1% change in working-age population cause  $\mp$  19% change in GDP per capita. This result shows the need of working-age population rather than the total population in order to increase GDP per capita.

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<sup>1</sup> The reason related to this matter is given earlier in the study.

**Table 3: Estimation Results (Of Eq.1, Eq.2, Eq.3 and Eq.4)**

	Eq. (1) Without Country		Eq.(1) With Country		Eq. (2) Without Country		Eq.(2) With Country		Eq. (3) Without Region		Eq.(3) With Region		Eq. (4) Without Region		Eq.(4) With Region	
	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t
GDP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
POR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Constant	0.0486	10.743 <sup>*</sup>	0.04751	8.6911 <sup>*</sup>	0.0438	13.59 <sup>*</sup>	0.0304	11.72 <sup>*</sup>	0.2095	1.403	0.1443	2.891 <sup>+</sup>	0.2484	5.2061 <sup>*</sup>	0.1713	3.8941 <sup>*</sup>
P	-2.946	-5.871 <sup>*</sup>	-2.8866	-4.267 <sup>*</sup>	-	-	-	-	-1.523	-0.903	4.8907	2.450 <sup>+</sup>	-1.996	-3.285 <sup>+</sup>	3.6538	2.0748 <sup>*</sup>
ADR	0.5467	1.381	0.5164	1.3040	-	-	-	-	3.4867	1.8611 <sup>+</sup>	0.2046	0.211	2.6696	4.273 <sup>*</sup>	-0.641	-0.746
PWA	2.1237	4.706 <sup>*</sup>	2.3707	4.1083 <sup>*</sup>	-	-	-	-	-1.064	-0.252	-8.311	-5.94 <sup>*</sup>	-5.736	-3.116 <sup>*</sup>	-12.47	-9.371 <sup>*</sup>
MC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MC <sup>+</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COUNTRY	Barbados	-	-	-0.0203	-1.803 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	Burundi	-	-	-0.0514	-2.766 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	Chile	-	-	-	-	-	-	0.0385	1.821 <sup>+</sup>	-	-	-	-	-	-	-
	China	-	-	0.0519	3.1040 <sup>*</sup>	-	-	0.0764	4.556 <sup>*</sup>	-	-	-	-	-	-	-
	Congo Dem. Rep.	-	-	-0.0613	-1.763 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	El Salvador	-	-	-	-	-	-	0.0297	2.752 <sup>+</sup>	-	-	-	-	-	-	-
	Ireland	-	-	-	-	-	-	0.0297	1.682 <sup>+</sup>	-	-	-	-	-	-	-
	Jordan	-	-	-	-	-	-	0.0234	1.654 <sup>+</sup>	-	-	-	-	-	-	-
	Luxembourg	-	-	0.03523	1.7248 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	Panama	-	-	-	-	-	-	0.0181	1.667 <sup>+</sup>	-	-	-	-	-	-	-
	Saudi Arabia	-	-	-0.0438	-1.735 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	Slovak Republic	-	-	-	-	-	-	0.0646	3.163 <sup>*</sup>	-	-	-	-	-	-	-
	Sri Lanka	-	-	-	-	-	-	0.0414	3.609 <sup>*</sup>	-	-	-	-	-	-	-
	Zimbabwe	-	-	-0.0732	-2.882 <sup>*</sup>	-	-	-	-	-	-	-	-	-	-	-
	East Asia & Pacific	-	-	-	-	-	-	-	-	-	-	-0.564	-7.036 <sup>*</sup>	-	-0.523	-7.401 <sup>*</sup>
	Latin America & Caribb.	-	-	-	-	-	-	-	-	-	-	-0.471	-4.856 <sup>*</sup>	-	-0.436	-5.113 <sup>*</sup>
	Middle East & Nrt Afr.	-	-	-	-	-	-	-	-	-	-	-0.457	-3.144 <sup>*</sup>	-	-0.425	-3.323 <sup>*</sup>
South Asia	-	-	-	-	-	-	-	-	-	-	-0.424	-4.009 <sup>*</sup>	-	-0.369	-3.958 <sup>*</sup>	
Sub-Saharan Africa	-	-	-	-	-	-	-	-	-	-	-0.483	-3.676 <sup>*</sup>	-	-0.398	-3.438 <sup>*</sup>	
Adj. R <sup>2</sup>	0.027183		0.033315		0.09268		0.15208		0.182037		0.436726		0.309307		0.5288	
DW	1.7468		1.755210		1.7844		1.8269		1.9337		1.8519		1.8376		1.7596	
F-test	26.952 <sup>*</sup>		4.719742 <sup>+</sup>		157.236 <sup>*</sup>		102.717 <sup>*</sup>		34.42091 <sup>+</sup>		30.5288 <sup>*</sup>		19.59221 <sup>+</sup>		21.26165 <sup>+</sup>	
Observation (after adius.)	3,780.00		3,780.00		3,560.00		3,560.00		36.00		36.00		36.00		36.00	
Cross-sections included	4.00		138.00		3.00		80.00		4.00		9.00		5.00		10.00	
Total Pool Observation	15,120.00		521,640.00		4,680.00		124,800.00		144.00		324.00		180.00		360.00	

(<sup>\*</sup>) statistically significant at 1% significance degree; (<sup>+</sup>) statistically significant at 5% significance degree; (<sup>+</sup>) statistically significant at 10% significance degree. Note: The only statistically significant dummy variables are included to the table.

**Table 4: Estimation Results (Of Eq.5)**

	Eq. (5) Without Country		Eq.(5) With Country	
	$\beta$	$t$	$\beta$	$t$
GDP	-	-	-	-
Constant	0.037572	17.90583 <sup>a</sup>	0.02845	3.64336 <sup>a</sup>
P	-17.32981	-11.12798 <sup>a</sup>	-19.52228	-3.29184 <sup>a</sup>
ADR	-6.811735	-12.31075 <sup>a</sup>	-7.557403	-3.44884 <sup>a</sup>
PWA	17.0667	11.39508 <sup>a</sup>	19.59756	3.51750 <sup>a</sup>
MC	0.084067	30.52334 <sup>a</sup>	0.083077	6.691716 <sup>a</sup>
MC <sup>2</sup>	-0.013785	-12.13986 <sup>a</sup>	-0.014266	-2.99339 <sup>a</sup>
<b>COUNTRY</b>				
Barbados	-	-	-0.025850	-2.013951 <sup>b</sup>
China	-	-	0.057015	3.261800 <sup>a</sup>
El Salvador	-	-	0.044957	3.296379 <sup>a</sup>
Hong Kong SAR, China	-	-	-0.029820	-1.804924 <sup>c</sup>
Jordan	-	-	0.056206	3.168505 <sup>a</sup>
Pakistan	-	-	0.032749	2.055490 <sup>b</sup>
Panama	-	-	0.020536	1.669223 <sup>c</sup>
Philippines	-	-	0.30466	1.859193 <sup>b</sup>
Slovak Republic	-	-	0.039016	0.07730 <sup>b</sup>
Sri Lanka	-	-	0.037674	2.756817 <sup>a</sup>
Venezuela, RB	-	-	0.056545	1.685128 <sup>c</sup>
Adj. R <sup>2</sup>	0.110881		0.30208	
DW	1.818443		1.858502	
F-test	116.5904 <sup>a</sup>		236.2281 <sup>a</sup>	
Observation (after adjus.)	1,560.00		1,560.00	
Cross-sections included	6,00		83,00	
Total Pool Observation	9,360.00		129,480.00	

(<sup>a</sup>) statistically significant at 1% significance degree; (<sup>b</sup>) statistically significant at 5% significance degree; (<sup>c</sup>) statistically significant at 10% significance degree.

Note: The only statistically significant dummy variables are included to the table.

#### 4.4. Turkey and World in 2023

In this part of study, economic size and poverty of countries especially Turkey in 2023 will be forecasted by using regression models created above. Regression model 5 is used to estimate countries' economic sizes in 2023 and regression model 4 is used to estimate poverty levels of countries.<sup>1</sup>

The data used to make estimations for 2023 and 2023 estimations are given in Table 5. According to forecast results, expected growth rates in developing countries become higher than the expected growth rates of developed seven countries. The same result is seen on the expected decrease of number of poor population. This situation is interpreted as that the world's economic and social structure may change in near future.

It is estimated that Turkey like other developing countries will exhibit an economic development. According to models created in this study, annual average increase in GDP per capita is will be 11% for Turkey (about 39.000\$ for 2023). For Turkey, decrease in the poor people population is estimated as the same ratio. Economic growth rate for India that has the highest expected population growth rate will be lower than other developing countries. This is because the population dependency

<sup>1</sup> The reasons of such a choice between regression models are that the explanatory power of the models is relatively high, and all of the estimated parameters is statistically significant.

ratio in India has been estimated to fall relatively little. Mexico has been determined as the country that will have the highest change expected GDP per capita. However, development of capital markets will be largest in India.

The highest change of GDP per capita will be estimated for Japan in the developed seven countries. Despite the expected fall of total population, little increase expectation of working-age population and decrease of population dependency ratio cause this situation. Although a similar situation is estimated for Italy, its expected excessive growth of capital markets will differ from Japan. The least expected growth rate is estimated for United Kingdom in developed seven countries.

**Table 5: GDP per Capita and Poor Population at 2023.**

(1) Countries	Independent Variables Estimated For 2023.					2023 Estimation		
	(2) P	(3) ADR	(4) PWA	(5) MC	(6) MC <sup>2</sup>	(7) GDP (\$)	(8) POR	
USA (G7)	0.09	-0.07450	0.105788	0.845491	1.0890836	92,593	(% 5.320)	- % 6.223
Japan (G7)	-0.05	-0.05324	0.00672	0.227836	0.5374899	109,993	(% 7.400)	- % 3.508
Germany (G7)	-0.006	-0.02205	0.005595	1.069872	1.895439	60,103	(% 3.080)	- % 0.445
United Kingdom (G7)	0.07	-0.01882	0.076809	0.743285	1.0467766	48,958	(% 2.370)	- % 3.432
France (G7)	0.05	-0.02214	0.069819	1.227135	1.0283148	66,103	(% 4.050)	- % 3.832
Italy (G7)	-0.003	-0.07034	0.019217	2.920569	11.378613	70,395	(% 5.780)	- % 3.441
Canada (G7)	0.1	-0.00022	0.117037	0.668988	0.5830152	65,474	(% 2.730)	- % 4.719
Turkey (E7)	0.13	-0.37105	0.132137	0.367176	0.3809846	39,509	(% 11.06)	- % 11.539
China (E7)	0.06	-0.29497	0.09381	0.118289	-0.188284	17,294	(% 11.12)	- % 10.323
Brazil (E7)	0.08	-0.28493	0.141927	0.229295	0.0303294	47,338	(% 12.11)	- % 11.472
India (E7)	0.16	-0.1521	0.209235	0.719928	0.5363204	4,735	(% 9.380)	- % 10.636
Mexico (E7)	0.08	-0.40167	0.153027	0.411186	0.2144753	50,710	(% 14.06)	- % 13.188
Indonesia (E7)	0.11	-0.39689	0.138635	-0.0023	-0.138007	13,547	(% 12.45)	- % 12.320

The countries shown in first column are G7 and E7<sup>1</sup> countries. The data in 2nd, 3rd, 4th, 5th and 6th column are independent variables that show the change ratio from 2010 to 2023. The data shown in 7th column reveals the estimated level of countries GDP per capita as US Dollar in 2023 and annual average percentage change from 2010 to 2023. Finally, in column 8, annual average percentage change of poor population from 2010 to 2023 is shown.

NOTE: To calculate change in "P" parameter, data of population estimation of OECD is used ([http://www.oecd.org/document/0,3746,en\\_2649\\_201185\\_46462759\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/0,3746,en_2649_201185_46462759_1_1_1_1,00.html)). In addition, in order to calculate the change of "ADR", "PWA", "MC" and "MC<sup>2</sup>" parameters, time series regression analysis that are formed by using previous 30 years data are utilized

## 5. Conclusion

In this study, firstly effect of change in population and capital market development on countries' economic size is studied. Secondly, by using relationship between variables, 2023 predictions for countries are created. All hypotheses are verified by test results in the first phase of the study. The study results briefly reveal the following matters:

- Although an increase in total population and population dependency ratio cause a decreasing effect on country's economic size, an increase in working-age population make a contribution to country's economic size.
- Development of capital markets also creates an enhancing effect on the economic size of countries. However this effect is not linear, but curvilinear.

<sup>1</sup> However, Russia which is among E7 countries is not included because its data is not available between 1980 and 2010.

- Although increasing working-age population has a decreasing effect on the poor population, increasing total population lead to increasing on poor population. The important point is that the effect of working-age population on poverty is more powerful.

Due to these relationships as a result of testing the hypothesis of the study, two policies of 61. Government of Turkish Republic (one is official and other one is unofficial) will become successful in coming years. However, a number of policies related to these policies must be addressed.

The first of these policies relates to change in population. This policy is included in the Government's economic program. Increase in working-age population and also solutions for unemployment problem allow individuals to contribute to the country's economic growth. This point is highly essential for economic growth. At the same time, a necessity to create an education system that enables the working-age population to gain productive capacities should be considered. The study of Mumcu & Çağlar (2006) shows that if education level of Turkey is equal to the European Union's average level, GDP per capita in Turkey will be higher as 10%. Population dependency ratio should also be addressed. Mumcu & Çağlar (2006) argued that in less developing countries, lack of technology and agricultural production cause to families with many children. In these countries, infant mortality also increases due to poor health and nutritional conditions. When the countries develop and their economic conditions improve, infant mortality rate starts to decline and life expectancy becomes longer. Due to higher probability of survival of children, families decrease their children numbers in order to create better opportunities for them. Thus, in developing countries population is gathered between 15-64 years and population dependency ratio starts to decline. Also this situation will provide a positive contribution to the economic size.

Second policy is related with the positive effect of capital market development on economic size. Necessity to more effort for development of capital markets can be observed clearly when the relationship between these variables is considered. In recent years, the relevant institutions have encouraged the SMEs<sup>1</sup> to provide funds from capital markets. However, the study of Saraç & Bozkurt (2011) addressed some of the missing aspects of these efforts and emphasized the insufficiency of SMEs' awareness-raising activities. At this point, this and other similar studies will be investigated in order to complement the missing points. This is an important activity to route for capital markets development, so for economic growth. In addition, making Istanbul as an international finance center is targeted and majority of transactions in this market will become international. To reach these goals, it is recognized that features of capital market such as free entry and exit to market, finan-

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<sup>1</sup> SMEs in the OECD member countries compose 90% of the businesses and also serve 60-70% employment opportunities and generate 55% of GDP (World Business Council for Sustainable Development [WBCSD], 2007).

cial product diversification, and property right protection affect the improvement of the markets. So studies should be done in this direction. In addition, making capital markets as an international center is very important for Turkey because of its high current account deficit. According to Bruno (2004), current account deficit is only sustainable as long as financed by foreigners. In order to attract foreign investors to Turkey, attractive investment opportunities and coherent rate of return from investment should be served by capital markets.

The third and final issue is related with the poverty. This study reveals that poverty is not only related with population, but also in a relationship with economic size. In other words, increase in poverty can be explained by the weakening in economy. By a consequent of this situation, in the study the greatest decrease in poverty was estimated for countries with higher expected economic growth. On the other hand, increases in population cannot enough for decrease poverty, because less educated and unskilled people might not find jobs that respond their expectations. This is an issue that should be taken into consideration for the future of the country.

Finally, mentioning on several issues related with the 2023 estimation of the study will benefit. The study estimates that in 2023, EU member states will shrink economically compared to developing countries. (If there is not a war that changes the economic, political and military structure of the world before 2023). Therefore, growth forecasts for Turkey are a case not to be disregarded by EU. At least, it can be said that Turkey will bring dynamism to EU thanks to its young population. Idea at this point is briefed as that not only Turkey but also EU should desire a strong membership with all aspects.

### References

AKSOY, Ahmet, and Cihan TANRIÖVEN (2007), *Sermaye Piyasası Yatırım Araçları ve Analizi*, 3<sup>rd</sup> edition, Ankara: Gazi Kitabevi.

ALÖVSAT, Müslümov (1998), "Stock Markets And Economic Growth: A Causality Test", Boğaziçi University.

BAŞOĞLU, Ufuk, CEYLAN, Ali, and İlker PARASIZ (2009), *Finans, Teori, Kurum, Uygulama*, Bursa: Ekin Basım Yayın Dağıtım.

BEKAERT, Geert, and Campbell HARVEY (2001), "Economic Growth and Financial Liberalization", Duke University, Durham, NC and Research Associate in the NBER's Program on Asset Pricing.

BENCHIVENGA, Valerie R., and Bruce D. SMITH (1993), "Some Consequences of Credit Rationing in an Endogenous Growth Model", *Journal of Economic Dynamics and Control*, 17(1-2): 97-122.

BENCHIVENGA, Valerie R., SMITH, Bruce D., and Ross M. STARR (1996), "Equity Markets, Transaction Costs, and Capital Accumulation: An Illustration", *The World Bank Economic Review*, 10 (2): 241-265.

BOYD, John H., and Bruce D. SMITH (1992), "Intermediation and the Equilibrium Allocation of Investment Capital: Implications for Economic Development", *Journal of Monetary Economics*, 30: 409-432.

BLOOM, David E., CANNING, David and Jaypee SEVILLA (2005), "Growth and the Demographic Transition", M.I.T. National Bureau Of Economic Research, Working Paper, No: 8685.

CAPORALE, Guglielmo M., HOWELLS, Peter G.A. and Alaa M. SOLIMAN (2003), "Stock Market Development And Economic Growth: The Casual Linkage", *Journal Of Economic Development*, 29 (1):33-50.

CHRISTOPOULOS, Dimitris K., and Efthymios G. TSIONAS (2004), "Financial Development and Economic Growth: Evidence from Panel Unit Root and Co-Integration Tests", *Journal of Development Economics*, 73: 55-74.

COSTELLO, Declan (2005), "Europe After The Enlargement", *The Economic and Budgetary Implications of Ageing Populations Conference*, Warsaw.

CURRAIS, Luis (2000), "From The Malthusian Regime to the Demographic Transition: Contemporary Research and Beyond", *Economica*, 2(3): 75-101.

DARRAT, Ali (1999), "Are Financial Deepening and Economic Growth Causally Related? Another Look at the Evidence ," *International Economic Journal*, 13(3): 19-35.

DARRAT, Ali, and Yousif K. AL-YOUSIF (1999), "On the Long-Run Relationship Between Population and Economic Growth: Some Time Series Evidence for Developing Countries", *Eastren Economic Journal*, 25(3): 301-312.

DELIKTAŞ, Ertuğrul (2001), "Malthusgil Yaklaşımdan Modern Ekonomik Büyümeye", *Ege Akademik Bakış*, 1 (1).

DEMETRIADES, Panicos O., and Khaled A. HUSSEIN (1996), "Does Financial Development Cause Economic Growth? Time Series Evidence from 16 Countries." *Journal of Development Economics*, 51: 387-411.

DEVEREUX, Michael B., and Gregor W. SMITH (1994), "International Risk Sharing and Economic Growth", *International Economic Review*, 35(4): 535-550.

DORNBUSCH, Rudi, and Stanley FISCHER (1998), *Makroekonomi Birinci Basım, Çeviri. İstanbul: McGraw-Hill –Akademi Ortak Yayını.*

GREENWOOD, Jeremy, and Boyan JOVANOVIC (1990), "Financial Development, Growth, and the Distribution of Income", *Journal of Political Economy*, 98: 1076-1107.

GREENWOOD, Jeremy, and Bruce D. SMITH (1997), "Financial Markets in Development, and The Development of Financial Markets", *Journal of Economic Dynamic and Control*, 21: 145–181.

GOLDSMITH, Raymond W. (1969), *Financial Structure and Development*. New Haven, CT: Yale University Press.

GUJARATI, Damodar N (2001), *Basic Econometrics*. Interpreters: Ümit Şenesen & Göktürk Senesen. 2<sup>nd</sup> edition. İstanbul: Literatür Publications.

[http://api.worldbank.org/datafiles/sp.pop.dpnd\\_indicator\\_metadata\\_en\\_excel.xls](http://api.worldbank.org/datafiles/sp.pop.dpnd_indicator_metadata_en_excel.xls) from 07.11.2011

<http://iresearch.worldbank.org/PovcalNet/povDuplic.html> from 07.11.2011

[http://www.oecd.org/document/0,3746,en\\_2649\\_201185\\_46462759\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/0,3746,en_2649_201185_46462759_1_1_1_1,00.html) from 20/11/2011.

<http://www.sabah.com.tr/Yasam/2011/09/09/basbakan-yine-3-cocuk-dedi> , 09/09/2011. from 06/11/2011.

JUNG, Woo S (1986), "Financial Development and Economic Growth: International Evidence", *Economic Development and Cultural Change*, 34(2): 333-346.

KAYA, Muhammed V., and İbrahim BOZKURT (2011), "Unemployment, Per Capita Income (Poverty), Crime Rate And Green Card: The Case of Turkey Between The Years 1993 – 2009", *Dumlupınar University Journal of Social Sciences*, 30: 133-139.

KÖSE, Nezir (1998), "Granger Nedensellik Testinin Duyarlılığı Üzerine Bir Araştırma: Döviz Kuru-Enflasyon İlişkisinden Ampirik Kanıtlar", *DİE Araştırma Sempozyumu Bildiri Özetleri*, 152-159

KUNT, Aslı D., and Ross LEVINE (2004), *Financial Structures and Economic Growth: A Cross-Country Comparison of Banks, Markets and Development*. Cambridge: First MIT Pres.

LEE, Ronald (2003), "The Demographic Transition: Three Centuries of Fundamentals of Change", *Journal of Economic Perspectives*, 17 (4): 167-190.

LEE, Ronald, and Timothy MILLER (1997), *The Life Time Fiscal Impacts of Immigrants and Their Descendants: Project on the Economic Demography of Interage Income Reallocation*. The New Americans.

LEVINE, Ross, and Sara ZERVOS (1996), "Stock Markets, Banks and Economic Long-Run Growth." *The World Bank, Policy Research Department, Working Paper No 1690*: 1–44.

LEVINE, Ross (1991), "Stock Markets, Growth, and Tax Policy", *Journal of Finance*, 46 (4): 1445-1465.

LUCAS, Robert E. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22: 3-42.

LYONS, Susanna E., and Victor MURINDE (1994), "Cointegration And Granger-Causality Testing Of Hypotheses On Supply-Leading And Demand-Following Finance", *Economic Notes*, 23(2): 308-316.

MCKIBBIN, Warwick J. (2006), "The Global Macroeconomic Consequences of a Demographic Transition." The Australian National University Cama Working Paper, No:6

MUMCU, Onur, and Esen ÇAĞLAR (2006), Türkiye'nin Nüfusu Zenginlik Kaynağı Olabilir mi?. TEPAV Ekonomi Politikaları Araştırma Enstitüsü.

OBSTFELD, Maurice (1994), "Risk-taking, Global Diversification, and Growth", *American Economic Review*, 84 (5): 1310-1329.

ODEDOKUN, M.O. (1989), "Causalities Between Financial Aggregates and Economic Activities in Nigeria: The Results from Granger's Test", *Savings and Development*, 23(1): 101-111.

PATRICK, Hugh T. (1966), "Financial Development and Economic Growth in Underdeveloped Countries", *Economic Development and Cultural Change*, 14 (2): 174-189.

ROBINSON, Joan (1952), *The Rate of Interest and Other Essays*. London: Macmillan Press.

SARAÇ, M. & İ. BOZKURT (2011), "KOBİ'lerin halka açılma eğilimleri ve gelişen işletmeler piyasası'nın KOBİ'lerin halka açılma istekleri üzerine etkisi: Çankırı-Kastamonu-Sinop bölgesi örneği", *The Journal of Accounting and Finance*, vol. 49, pp. 89-98.

SCHICH, Sebastian, and Florian PELGRIN (2002), "Financial Development and Investment: Panel Data Evidence for OECD Countries from 1970 to 1997", *Applied Economics Letters*, 9: 1-7.

SEYHUN, Ömer K. (2006), "Avrupa Birliğindeki Demografik Dönüşümün Türkiye'nin Avrupa Birliği'ne Üyeliği Çerçevesinde İşgücü Piyasalarına Yansımaları", *Uzmanlık Yeterlilik Tezi*, TCMB, Ankara.

SHAN, Jordan Z., MORRIS, Alan G. and Fiona SUN (2001), "Financial Development and Economic Growth: An Egg and Chicken Problem?", *Review of International Economics*, 9(3): 443-454.

TELATAR, Osman M. and Harun TERZI (2010), "Nüfus ve Eğitimin Ekonomik Büyümeye Etkisi: Türkiye Üzerine Bir İnceleme", *Atatürk University Journal of Economics and Administrative Sciences*, 24(2) : 198-199.

WILLIAMSON, Jeffrey G. (2001), Demographic Change, Economic Growth, and Inequality. Population Matters. Chapter 5. New York : Oxford University Press.

WOOD, Anthony (1993), "Financial Development and Economic Growth In Barbados: Causal Evidence", Savings And Development, 17(4): 379-390.

WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (2007), Promoting small and medium enterprises for sustainable development. Retrieved June 09, 2010, from <http://www.wbcd.org>

[www.akparti.org.tr](http://www.akparti.org.tr)