



3rd GLOBAL CONFERENCE on BUSINESS, ECONOMICS, MANAGEMENT and TOURISM,
26-28 November 2015, Rome, Italy

What Are the Demographic Determinants of Savings? An Analysis on Transition Economies (1993-2013)

A. Cansin Doker^{a*}, Adem Turkmen^a, O.Selcuk Emsen^b

^aErzincan University, Erzincan, 24000, Turkey

^bAtaturk University, Erzurum, 25000, Turkey

Abstract

In recent years, there have been many discussions about savings and growth especially for developing countries. The saving concept has an important and crucial place in all economies. Indeed, the importance of savings leads to the discussion of determinants of savings in the literature. Moreover, with an awareness of the determinants of savings, the government have to put effort for increasing savings with using policies and precautions on their institutions. In this point, raising the savings of a household, which is an important element of economic life, has gained an crucial role. However, it is clear that all factors which have impacts on it should be known to solve this issue. Narrowing into transition economies, which transitioned from a planned economic system to market economy, the structure of savings has changed from public funds to private savings. It is clear that saving habits cannot change or adapt in the short term, in fact this paper aims to put forward recommendations to policymakers in transition economies. In this paper, it has been investigated how demographic determinants are effective on saving ratios using panel data analysis between 1993 and 2013 on 20 transition economies. The chosen demographic and economic variables are dependency ratio (total, youth and old), GDP per capita growth, population density, urban population of percentage of total population, female participation of labour force, unemployment rate.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Organizing Committee of BEMTUR- 2015

Keywords: Demographic Determinants, Transition Economies

1. Introduction

Savings accumulation and economic impacts of individual savings behaviours are two of the most fundamental

* A. Cansin Doker. Tel.: +90 555 718 2616.

E-mail address: acdoker@erzincan.edu.tr

concepts in economics, as discussed throughout economic history. The schools shaping the economic thought have tried to add different interpretations of these concepts by drawing from different points. Classical economic thought states that savings, as the source in capital accumulation and in growth models, are among the reasons for either growth or the recession. In contrast, the neo-classical model focuses on investments in directly supporting the effect of the savings and the savings are still placed as the source of growth. In this context, the differential point of Keynesian economics from Classical school can be defined as the paradox of savings, which is defined such that an increase in individual savings has individual benefits whereas in contrast an increase in national savings can cause a leak in the economy. Contrary to Keynes, Nurkse (1966) evaluated the results of the lack of savings, which means the fate for poor countries is a lack of savings in the least developed countries creates a vicious circle of poverty. According to Nurkse, low income level causes inadequate savings; relatedly this brings low-investments, which then turns to failure of production, employment, income and savings (Nurkse, 1966). The studies based on individuals' savings are placed in the literature under the consumption theories. One of the first studies on this subject belongs to Irving Fisher (1930). Fisher, in his study, revealed that savings identified with the resolution of the two-term intertemporal optimization problems for the consumer who lived two periods including present and future (Fisher, 1930). Fisher expressed current savings as giving up present consumption and current debt as an abandonment of future consumption.

According to the absolute income hypothesis (1936) by Keynes, who linked savings with income, savings and consumption are caused by disposable income and both are positively correlated with it. In other words, while disposable income increases, consumption also increases, but it will increase less than income. Therefore, with revenue growth and average consumption the trend is correlated negatively and the average saving trend is correlated positively with income (Keynes, 2008). The Keynesian approach about average consumption trends decreasing over time can be described as a saving paradox in the context of pushing the economy into recession with an aggregate demand contraction. Simon S. Kuznets (1946), after testing absolute income hypothesis in the long run, claimed that the average consumption trend is a steady state, not decreased. In light of this finding, this is called in the literature the consumption puzzle. In this aspect, he stated that later it is used as the assumption that the theory of consumption is smoothing into the absolute income hypothesis (Kuznets, 1946). James S. Duesenberry (1949), in his study based on the relationship between income and savings he found that individuals specify their consumption decisions depending on income of the society in which they live, namely the relative income of consumers. This situation can be explained with the Veblen effect for consumption decision, and additionally Duesenberry indicated that income distribution can also be effective on decisions of saving and consumption (Colak and Ozturkler, 2012). Moreover, Duesenberry, in his paper called relative income hypothesis, added that in the face of the income decline, individuals adapt their consumption with delay while in the face of increase they will immediately adapt their consumption, which is called the ratchet effect. In respect of savings this can be written that savings fall faster than consumption with a decline of income, while savings rise slower than consumption with an increase of income (Duesenberry, 1949).

The life cycle income hypothesis developed by Franco Modigliani and Richard Brumberg (1954) mentions that the demographic impacts of savings and the life time consumption of individuals, who consider consumption flattening, is related with their life time income. In this concept, individuals will be indebted for consumption which they need in their retirement. The negative savings they owe will be financed with their positive savings by earnings income from their working period of time. Therefore, in terms of individual savings, the increased efficiency of the dependent population is negative, while an increase in the active working population will affect positive savings (Modigliani, 2006). After Modigliani and Brumberg, demographers improved their life cycle scheme, and childhood as well as retirement is added to the life cycle (Coale and Hoover, 1958). Economists have also expanded the model by including an individual's micro economic behaviours. Tobin (1967) added other variables such as a positive interest rate, probabilistic life span, income profiles for men and women and two periods of dependency with dissaving. Coale and Hoover (1958) also suppose that mortality and fertility may have an effect on life cycle savings behaviour. Three main conclusions from this hypothesis are; first, national savings behaviour is connected with the growth rate of the economy, second, pension plan while the level of wealth in the economy and hence the determination of national savings and third, another important factor that determines the national economy is the demographic structure of the population (Colak and Ozturkler, 2012).

The permanent income hypothesis by Milton Friedman (1957) was built on consumption being a continuous

function of income. This hypothesis put forward that temporary income has no effect on the permanent consumption, referred to as consumption smoothing, affecting factors of permanent income would be effective on savings and consumption pattern. In this respect, variables such as human capital, wealth, age and income distribution may act among savings and consumption by affecting permanent income (Friedman, 1957). In a wider perspective, the life cycle hypothesis is supported by “Ricardian Equivalence Theory”. According to this concept, developed by Ricardo and reinterpreted by Barro, taxation and debt have the equivalent effect to finance the public deficit. Present tax cuts and decreases in public savings increase the private sector's savings, because rational individuals making provisions due to the tax burden will increase in the future. According to the hypothesis, although public debt may seem like sources of wealth for today's generation, it is clearly a source of debt for future generations (Barro et al, 1974). Robert Hall (1978) put forward the Random Walk hypothesis, eliminating income expectations from adaptive expectations and modifying it to rational expectations. He stated that there is no functional relationship between consumption/savings and unexpected income. According to this hypothesis, unexpected changes in income will arise over the unknown or unpredictable random results over consumption/savings (Hall, 1978).

In the literature on savings from other studies placed outside consumption theories is the McKinnon-Shaw Hypothesis (1973), which claims that increases in interest rates and financial market liberalization positively affects savings (McKinnon, 1973 and Shaw, 1973). Another approach, the Harberg on-Laursen-Metzler effect, emphasizes the relationship between the terms of trade and savings and also claims that improvement in terms of trade causes rising in savings and results positive influence on current account balance (Harberger et.al., 1950).

Jared Diamond (1997) tried to explain the economic and sociologic impacts of savings instead of building his study on economics theory, he used a real life sample of two different groups of people who lived in two separate islands in New Zealand. One of the island communities could only use hunting and gathering to provide their livelihoods owing to the conditions of the island, while the other community are in agricultural production due to a favourable climate, and are able to produce more than the basic needs - they have savings - so they have the craft connoisseurs, and could feed the half-time soldiers. The second community, which has savings, can both feed enough troops and could also develop technologically more than a community that cannot save. Moreover, it can rapidly increase its population (Diamond, 1997). Within this example, Diamond moved the discussion about savings a step forward; he represented that the fundamental difference between the economies of the developed world and the underdeveloped world today is savings. Acemoglu and Robinson partially agreed with in Diamond's opinion (2012) when they stated that mostly not only which hand collected the increase in savings which start with the transition from hunters and gathering to sedentary life but also this brings a kind of colonialism which is sourced by the income rise due to savings increase. Although two studies follow a different process about the stages of human development and the resulting accumulation of community savings due to sources of income, they seem to agree about the importance of national savings for this development.

Other distinctions, along with discussions which are centred on savings to the development process of human society, brought about new discussions about the determinants of savings. Theoretical studies and discussions also give the signal that it is intended to be losing its topicality but still need to focus on this issue. From the planned economic system in which there was the absence of private ownership, without the need to structure private savings, public savings oriented, to market economic system which has private property based on the structure and private savings in the building-block nature of the economic system, savings in transition economies gain importance because of their transition process. In this context the saving determinants, which were introduced in the theoretical framework above, will be examined in transition economies differs with their own specific structure. In the literature section, in addition to theoretical discussions of the demographic determinants of savings, the economic impacts of it is placed. In the analysis part of the study, the panel data analysis will be conducted with the chosen transition countries which have available and accessible time series of specific variables in the 1992 and 2013 time period to identify what the determinants of savings are.

2. Literature Review

There are many studies and discussions about the optimum saving ratio and business cycle; these theoretical and empirical frameworks will be discussed in this section. This study aims to investigate the effect of demographic and

social indicators on saving ratios in transition economies. Within this aspect, first the macro-economic indicators on saving ratio findings will be explained, then the demographic dependent saving studies will be discussed.

In their study, Chinn and Prasad (2002) used the annual data of 18 industrial and 71 developing countries between 1971 and 1995. From this paper, middle-term variations in current accounts are used instead of short term; their results are also supported by the stages of development hypothesis. Additionally, they stated that there are negative correlations between current account balances and international trade, and also current account balances are highly positively correlated with government budget balance and initial shocks of foreign net assets. One of the key point for saving as a concept is financial development and institutions, applied as a framework or “saving glut”, in which higher financial developments may well cause higher savings (Bernanke, 2005). Chinn and Ito (2007), In light of the anomalous behaviours of the US current account, they compared this with other primarily industrialized countries' experiences and the motivation of their study was Bernanke's points for higher savings which are legal and financial developments' importance. Using 19 industrial and developing countries over the period of 1971 and 2004, the estimations showed that there is a positive relationship between current account and government budget balances for all country groups and the coefficients also differ between countries' sub-groups. The legal structures of the countries have been placed in the study as corruption, law and order and bureaucracy quality. Analysis showed that legal variables have negative coefficient and the crucial point is the parameters are the same, with budget balance variable. Another paper investigated the determinants of private savings in 20 OECD countries between 1999 and 2007, using private savings ratio, credits for private sector, current account balance and inflation rate. Yarasir and Yilmaz (2011) found that the determinants of saving ratio are previous year's saving ratio, inflation rate, the current account balance, usage of private sector credit and government savings. However, there is no significant relationship between private savings and real interest rate and the speed of growth. There are also many studies based on life-cycle hypothesis and Ricardian equivalence. One of them examined whether private savings in Turkey are compact with life-cycle theory using quarterly data between 1987 and 2007 with the determinants of the private savings identified as a function of public savings, which are money supply, interest rate, rate of inflation and foreign savings. The results show that, with the exception of foreign savings and real interest rate, all variables have negative correlation with private savings. Having a negative coefficient of interest rate reveals that Ricardian equivalence is invalid for the sample of Turkey. Serres and Pelgrin (2002) examined how non-wealth determinants such as old age dependency and labour productivity affect the private savings rate in 15 OECD countries during the period of 1970-2000, with annual data. After the 1990's there is a sharp decrease on private savings, especially in developing countries. On the other hand there are remarkable increases on public savings within this aspect. Their analysis placed an important point in the literature; the findings recommend that to lose fiscal policy might well effect on private consumption (Serres and Pelgrin, 2002). After the discussion of macro-economic indicators of savings above, the place of demographic and social determinants will be discussed in this part of the literature review. In recent years, the importance of social indicators in economics has been rising remarkably. After the worldwide economic crisis, it is clear that householder's behaviours, including their social status, age and other demographic indicators, have more effect on macro-economic variables such as saving and consumption than theoretical expectations. After the 2008 global economic crisis in the US, the number of papers based on savings ratios and financial institutions increased and was placed widely in the literature. Parasad and Chamon (2006) discussed Chinese Householders' saving behaviours using Urban Household Surveys between 1990 and 2005 in China. There are two key findings from the analysis: firstly, age of participants showed that young age groups have a higher saving rate than older age groups; secondly, around 45 years old individuals' savings are decreasing remarkably. The explanation of the findings can be written that health expenditure and education expenditure act as the major roles on determining saving behaviours, so in China, individuals' savings behaviours expressed that health expenditure is more effective than education expenditure (Parasad and Chamon, 2006). Bosworth and Reich (2006) examined whether demographic changes affected the growth of savings using annual data between 1960 and 2005 for 85 countries. In this study, scarcity of saving growth and on the other hand pressures of higher real interest rates may well be affected by the structure of the population. The findings pointed out that aging has a negative impact on saving ratios, and also Asian economies have stronger demographic effects on saving ratio. For industrial countries there is no evidence of demographic influences. Leff (2005) stated that with high birth rates it is not possible to achieve higher savings for underdeveloped countries, using 47 underdeveloped, 20 developed and 7 communist countries' data. Lee et.al. (2000) indicates that demographic transition might well cause high saving ratio and an

increase in capital per worker, using Taiwanese demographics and macro-economic data between 1976 and 1990. This paper's findings included 2050 procession. He concluded that householders identified their savings depending on their life expectancy. This study was built on demographic transition and the chosen variables were population growth rate, number of children per family, fertility rate and mortality rate, life expectancy and age decomposition data (Lee et.al, 2000).

Ozcan, Gunay and Ertac (2010) reconsidered the theoretical approach for savings with their political environment argument, which included the uncertainty in politics system. Their study used the framework of the life cycle hypothesis and the chosen non-economic variables are political instability, age dependency and population decompositions in Turkey during 1968-1994. Moreover, old age dependency and political instability have a negative impact, while other variables have a positive impact on savings. It can be concluded that economic and political crises may well be placed at the centre of the savings behaviour in Turkey (Ozcan, Gunay and Ertac, 2010).

Another study investigated saving among dependency ratio and the determinants of development by Kelley and Schidmt (1996). They discussed Mason and Leff modeling together using 88 countries and growth periods between 1960 and 1990 and also there was a comparison between them. Interesting results were, despite there being no relationship between dependency ratio and savings in the literature, this study showed that in the chosen time period the major indicator of saving contains demographic terms (Kelley and Schidmt, 1996). Yasin (2007) used 14 North African and Middle Eastern 4 countries as a cross section and between 1960 and 2001 as the time section for a panel data analysis of the life cycle hypothesis, using demographic variables. He divided the population's data within three groups, respectively children (under 14), working group (15-65), and retired (over 65), and the findings show that there are negative savings in the retired and children groups of populations, and positive effects on savings appeared only in the working group (Yasin,2007)..

3. Data Analysis and Empirical Results Data Analysis and Empirical Results

In this study, demographic and socio-economic variables are used for 20 transition economies between 1993 and 2013 using panel data. Savings per capita is chosen as predictor variable took place in Classical savings function. Five different models are estimated in this study. The models can be written as;

$$\text{MODEL I: } \text{savings} = \beta_0 + \beta_1 \text{ GDPPC} \quad (1)$$

$$\text{MODEL II: } \text{savings} = \beta_0 + \beta_1 \text{ GDPPC} + \beta_2 \text{ FEMLAB} + \beta_3 \text{ URBAN} + \beta_4 \text{ UNEMP} + \beta_5 \text{ DEPTOT} \quad (2)$$

$$\text{MODEL III: } \text{savings} = \beta_0 + \beta_1 \text{ GDPPC} + \beta_2 \text{ FEMLAB} + \beta_3 \text{ URBAN} + \beta_4 \text{ UNEMP} + \beta_5 \text{ DEPOLD} \quad (3)$$

$$\text{MODEL IV: } \text{savings} = \beta_0 + \beta_1 \text{ GDPPC} + \beta_2 \text{ FEMLAB} + \beta_3 \text{ URBAN} + \beta_4 \text{ UNEMP} + \beta_5 \text{ DEPYOU} \quad (4)$$

$$\text{MODEL V: } \text{savings} = \beta_0 + \beta_1 \text{ GDPPC} + \beta_2 \text{ FEMLAB} + \beta_3 \text{ URBAN} + \beta_4 \text{ UNEMP} + \beta_5 \text{ POPDEN} \quad (5)$$

In the analysis, demographic variables and those explanations are in the table below. The reason of estimating five different models can be put forward as how much important or effective demographic and wealth variables in the model separately. Three macro-economic variables are in the model to provide life cycle hypothesis for transition economies. Data is provided by World Bank data source and since the sample of study is transition economies, researchers faced a critical data providing problem, especially with time period, and therefore elimination of some lack of data years has been conducted.

Panel data analysis, if there is a specific country group or special cross-section, fixed effect model will be the best fitting method for the estimation (Yerdelen, 2012). In this study fixed and random effect models estimated and after Hausmann testing results the fixed modelling is chosen by researchers.

Hausmann test for panel data analysis gives the opportunity to decide between fixed and random models. The hypothesis are such that;

$$H_0 : \text{Random Effect Model [} E(ai | xi) = 0 \text{]} \quad (6)$$

$$H_1 : \text{Fixed Effect Model [} E(ai | xi) <> 0 \text{]} . \quad (7)$$

After testing the results, the null hypothesis is rejected so fixed model is chosen by researchers. Moreover all econometrics assumptions were tested and satisfied.

Table 1. Variables and Notations Source: World Development Indicators

NOTATIONS	VARIABLES
DEPTOT	Age dependency ratio (% of working-age population)
DEPOLD	Age dependency ratio, old (% of working-age population)
DEPYOU	Age dependency ratio, young (% of working-age population)
GDPPC	GDP per capita growth (annual %)
S/GDP	Gross domestic savings (% of GDP)
FEMLAB	Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate)
UNEMP	Unemployment, total (% of total labor force) (modeled ILO estimate)
POPDEN	Population density (people per sq. km of land area)
URBAN	Urban population (% of total)

In this study the cross section sample is identified 20 transition economies in Table 2 below.

Table 2. Chosen Transition Economies with available date (Alphabetic Order)

Country Name		Country Name	
1	Albania	11	Macedonia, FYR
2	Azerbaijan	12	Moldova
3	Belarus	13	Poland
4	Bulgaria	14	Romania
5	China	15	Russian Federation
6	Czech Republic	16	Slovak Republic
7	Georgia	17	Tajikistan
8	Hungary	18	Ukraine
9	Kazakhstan	19	Uzbekistan
10	Kyrgyz Republic	20	Vietnam

First panel data analysis the pooled data estimation is required by checking with the theoretical expectations. The results of the pooled data analysis are shown in Table 3.

In this paper the analysis is shaped by pooled data because of the cross section and time series shortage and common expectations from economic theory. Fixed model and pooled model have same sign of coefficients so that there is the estimations result placed below in Table 3,

Table 3. The estimation results of the pooled data analysis

Variables	Model I	Model II	Model III	Model VI	Model V
	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
C	-167.2453	-2741.693	-1664.823	-3182.184	-2020.832
GDPPC	0.290047	0.295039	0.293995	0.299859	0.295743
FEMLAB	-	33.36062	23.58935	32.77624	33.35228
URBAN	-	10.78556	26.75905	16.9835	6.28396
UNEMP	-	-12.69886	-19.01583	-13.8417	-14.36469
DEPTOT	-	6.202901	-	-	-
DEPOLD	-	-	-66.56482	-	-
DEPYOU	-	-	-	12.69292	-
POPDEN	-	-	-	-	-1.662423
R-squared	0.927425	0.921634	0.943515	0.927425	0.923977
Prob(F-stat)	0.00000	0.00000	0.00000	0.00000	0.00000
DW stat	1.881225	0.281225	1.917619	2.202608	1.908672

From the cross sections saving per capita graphical analysis it can be said that, with the exceptions of Moldova, Tajikistan and Kyrgyz Republic, there is an upward trend for all samples during the chosen time period. For those three countries, it can be mentioned that wars and political instabilities have resulted in losing saving habits on

individuals. After Hausmann test results fixed effect model hypothesis cannot be rejected so there is five fixed model estimation in Table 4.

Table 4. The results of the fixed effect model

Variables	Model I	Model II	Model III	Model VI	Model V
	Coefficients	Coefficients	Coefficients	Coefficients	Coefficients
C	-308.0926	-3083.843	-3446.265	-3462.412	-5116.909
GDPPC	0.326364	0.355433	0.335291	0.352858	0.331626
FEMLAB	-	37.63083	34.16701	40.46946	35.46507
URBAN	-	44.14346	55.58052	26.75905	38.16775
UNEMP	-	-8.464355	-7.681581	-19.01583	-9.041358
DEPTOT	-	-32.32488	-	-	-
DEPOLD	-	-	-106.1539	-	-
DEPYOU	-	-	-	-33.91845	-
POPDEN	-	-	-	-	-10.24454
R-squared	0.947721	0.960905	0.959663	0.961334	0.958499
Prob(F-stat)	0.00000	0.00000	0.00000	0.00000	0.00000
DW stat	1.781225	0.281225	1.917619	2.202608	1.908672

In model I, GDPPC is the chosen independent variable to estimate savings and it is significant with 5 per cent and positively correlated to savings, so expectation from the theory is satisfied for transition economies. In other words, for transition economies when GDPPC increase, savings will also increase, however the important point is that the coefficient is too small so interpretation of this can be said that after planned economy still individuals haven't caught up to market economy speed. In Model II, FEMLAB, DEPTOT, UNEMP, URBAN, GDPPC took place with all of them are significant at 5 per cent. Findings from Model II showed that female participation of labour force has positive effect on savings; in this context it can be said that this situation supports total income and improve saving skills for householders. For the sample, the coefficient of FEMLAB is far greater than others claimed to be more efficient on savings. Dependency ratio in total has a positive impact on savings which is not expected for the theory. Yasin (2007) has found negative correlation between dependency and savings. From our findings, rising dependency ratio, an individual will feel more pressures to herself and save more. Moreover, another variable URBAN proved that as urbanization increases, the fears to survive and for the future with high cost of living and expectations also increase; related with this, saving rates result will increase.

In Model III, DEPOLD is replaced with DEPTOT and the sign of coefficient is changed by negative sign, this result is supported by Parasad and Chamon (2006). There are also some behavioural similarities between the samples of Asian economies and transition economies, and in this reason the linkage is expenditure context, understanding of the savings could well change one to another sample with an increase in old age dependency, health expenditure will increase and relatively savings will decrease. The difference in transition economies is not to have a savings habit after changing economic system, people got used to have public spending and saving behaviours and not to act any private savings role in the economic cycle transformation process on their economic life habits has been continuing for the current time period. Within this result, the life cycle hypothesis might well be acceptable for transition economies.

In Model IV and V, DEPYOU and POPDEN is placed in the estimation and the sign of coefficients positive and negative respectively significant with 5 per cent. Crucial remark appears at this model, population density people effect on savings has negative coefficient, meaning urbanization has reached the signal of the metropolitan type of urbanization level, so the cost of living and also fear for living applies negative savings. In this case, increasing in population can cause negative externalities from individuals to individuals. Dependency of youth has also positive correlation to saving; it can be interpreted that people who have young dependent individuals have to have more savings than older people because of education costs, and additionally urbanization forces people to save more to be able to guarantee their children's futures.

The main difference between pooled data and fixed effect results occurred in dependency ratio and population density with sign differences. Dependency ratio in fixed models is satisfied with negative correlation to savings. It can be interpreted such that as the number of the dependent population increases, savings will decline relative to income decreases. Expenditure effects dependency negatively so there is actually income decline and with the health and education expenditure, there is negative savings as expected. Population density coefficient is also negative but far greater than the pooled model so the metropolitan urbanization signal is clear in the fixed effect models more than the pooled model.

4. Conclusion and Recommendations

Every country needs productive investments for economic growth and development. In economics literature many studies show that the source of investments is savings. With this given mission to savings, indirectly in today's world, savings is becoming a necessity for households in emerging economies which are turning to the consumption community. In terms of savings capability, some variables can have a more important place than other variables. In economics literature, it is generally accepted that one of the main determinants of savings is income, so the interaction of those two variables has been discussed. Despite savings habits moving together within the structural features of society, it includes common attitudes in terms of human nature. With living long term in a planned economic system for long years, a social structure can create a number of overlaps between them, in transition economies particularly; it can be assumed that there are similar characteristics in terms of determinants of savings for a chosen group of countries. In this study related to demographic variables were selected among the common characteristics. Life cycles, indicating that the hypothesis of demographic variables determine savings, though so far the theory is quite expanded in a number of variables located in a common denominator. In this regard, in transition economies as common determinants of savings chosen variables; dependency ratio (in total, youth and old), female participation in the labour force, urbanization, population density, the effects on transition economies of variables is in agreement with theoretical expectations. From the analysis, except for unemployment rate, dependency in old age and population density, all other indicators of savings have positive correlation with our dependent variable savings. The unemployment rate coefficient has negative sign with savings; it is clear that unemployment brings lowering income and ergo savings. Another significant finding from this paper can be said that population density's negative correlation gives a signal about metropolitan urbanization for transition economies. In other words, the population density - if there is a metropolitan urbanization signal - might well cause negative externalities in the economic system; these externalities would be from consumer to consumer. Since savings has a key role to complete developmental stages in the transition process to market economy, it is crucial that increasing savings should be the primary economic policy plan for policymakers in transition economies. Although this study is conducted specifically in transition economies, savings determinants should be identified as soon as possible in all developing economies and it is necessary to put forward long term, appropriately increasing saving plans according to each country's economy and social structure. For further studies, there are still many economic, social and politic indicators not used in this analysis, so it can be recommended that interest rate and freedom and democracy should be placed as the determinants of the classical savings function. This could give the opportunity to provide an encompassing interpretation for the researchers.

References

- Acemoglu, D. and Robinson, J. A. (2014), "*Ulusların Dususu ve Yoksullugun Kokenleri*", (Çev. F. R. Velioglu), Dogan Kitap, Istanbul.
- Baltagi, B. H., (2001). "Econometrics Analysis of Panel Data", John Wiley & Sons Ltd, New York.
- Barro, Robert, (1974), Are Government Bonds Net Wealth?, *Journal of Political Economy*, 82, ss.1095-1117.
- Bernanke, Ben S., (2005). The Global Saving Glut and the U.S. Current Account Deficit, Speech given at Sanridge Lecture, Virginia Association of Economics. Richmond, VA.
- Bosworth and Chodorow-Reich, (2006). Saving and Demographic Change: The Global Dimension, Prepared for the 8th Annual Joint Conference of the Retirement Research Consortium, Pathways to a Secure Retirement, Washington, DC.
- Chamon and Prasad, (2005). Determinants of Household Saving in China, Research Department, IMF Washington, DC 20431.
- Chinn and Pasarad, (2003). Medium-term determinants of current accounts in industrial and developing countries: an empirical exploration, *Journal of International Economics*, 59:47-76.

- Chinn and Ito, (2007). Current Account Balances, financial development and institutions: Assaying The World Saving Glut, *Journal of International Money and Finance*, 26: 546-569.
- Coale, A.J. and E.M. Hoover, (1958). *“Population Growth and Economic Development in Low Income Countries”*, Princeton, NJ: Princeton University Press.
- Colak, O. and Ozturkler, H., (2012). Tasarrufun Belirleyicileri: Kuresel Tasarruf Egiliminde Degişim ve Türkiye’de Hanehalkı Tasarruf Egiliminin Analizi, *Bankacilar Dergisi*, 23/82: 3-44.
- Diamond, Jared, (1997). *“Guns, Germs, And Steel: The Fates Of Human Societies”*, W.W. Norton & Co, New York,.
- Duesenberry, J., (1949). *“Income, Saving, and the Theory of Consumer Behavior”*, Harvard University Press, Cambridge.
- Fisher, I, (1930). *“The Theory of Interest”*, MacMillan, New York.
- Friedman, M., (1957). *“A Theory of the Consumption Function”*, Princeton University Press, Princeton.
- Hall, Robert E.,(1978). Stochastic Implications of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence, *Journal of Political Economy*, 86/67.
- Harberger, A., (1950). Currency Depreciation, Income and the Balance of Trade, *Journal of Political Economy* 58: 47-60.
- Kelley and Schmidt, (1996). Saving, dependency and development, *Journal of Population Economics*, 9:365-386.
- Keynes, J. M., (1936). *“The General Theory of Employment, Interest, and Money”*, Macmillan, London.
- Ozcan, K. M., Gunay, A., Ertac, S., (2003). Determinants of private savings behaviour in Turkey, *Applied Economics*, 35:12, 1405-1416.
- Kuznets, S., (1946). National Product Since 1869, National Bureau of Economic Research, New York.
- Laursen, S. and L. Metzler, (1950). Flexible Exchange Rate and the Theory of Employment., *Review of Economics and Statistics* 32: 281-99.
- Lee, J., Chinn, M., (1998). The current account and the real exchange rate: a structural VAR analysis of major currencies, NBER Working Paper No. 6495.
- Lee, R. D., (1993). Modeling and forecasting the time series of U.S. fertility, *International Journal of Forecasting*, 9(2): 187-202.
- Lee, R. D. and Lawrence R. C., (1992). Modeling and forecasting U.S. mortality, *Journal of the American Statistical Association*, 87(419): 659-671.
- Lee, R., Mason, A., and Miller, T., (1997). Saving, wealth, and the demographic transition in East Asia, East-West Center Working Papers: Population Series, No. 88-7. Honolulu: East-West Center.
- Leff, (1969). Dependency Rates and Savings Rates, *The American Economic Review*, Vol. 59, No. 5, pp. 886-896.
- Lin, C. C., (1982). Labor Force Age Composition and the Age-Earning Profile in Developing Countries: The Case of Taiwan, Ph.D. dissertation, University of Hawaii.
- Mason and Miller, (2000). Life Cycle Saving and the Demographic Transition: The Case of Taiwan, *Population and Development Review*, Vol. 26, pp. 194-221.
- Mason, (1988). Saving, Economic Growth, and Demographic Change, *Population and Development Review*, Vol. 14, No. 1, pp. 113-144.
- McKinnon, Ronald L., (1973). *“Money and Capital in Economic Development”*, Washington D.C., The Brookings Institution.
- Modigliani, F., (2006). *“The Collected Papers of Franco Modigliani”*, The MIT Press, London.
- Nurkse R., (1966). Azgelismis Ekonomilerde Buyume, cev: Tunca Toskay, Iktisadi Buyume ve Gelisme: Secme Yazilar, Istanbul Universitesi Yayinlari, No: 1193, Istanbul.
- Paxson, C., (1996). Saving and Growth: Evidence from Micro Data, *European Economic Review*, Vol. 40, pp. 255-88.
- Prasad, E.S., (1999). International trade and the business cycle, *The Economic Journal*, 109, pp. 588-607.
- Quah, D., (1996). Convergence empirics across economies with (some) capital mobility, *Journal of Economic Growth*, 1, pp. 95-124.
- Serres and Pelgrin, (2002). The Decline in Private Saving Rates In The 1990s In OECD Countries: How Much Can Be Explained By Non-Wealth Determinants? *Economics Department Working Papers* No. 344.
- Shaw, Edward, (1973). *“Financial Deepening In Economic Development”*, Oxford University Press, New York.
- Tobin, J. , (1967). A Life Cycle Savings and Balanced Growth, *“Chapter 9 in Ten Economic Studies in the Tradition of Irving Fisher”*, W. Fellner, et al. (eds), New York, NY: Wiley, pp. 231-256.
- Worldbank, World development indicators, (10.07.2015), <http://data.worldbank.org/data-catalog/world-development-indicators>
- Yarasir and Yilmaz, (2011). OECD Ulkelerinde Ozel Tasarruflar: Bir Bakis (1999-2007), *Maliye Dergisi*, sayi 160.
- Yasin, (2007). Demographic Structure and Private Savings: Some Evidence from Emerging Markets, Twenty –Seventh Annual Meeting of The Middle East Economic Association (MEEA) Allied Social Sciences Association (ASSA) Chicago, Illinois, January 4-7, 2007.
- Yerdelen, (2012). *“Panel Veri Ekonometrisi”*, Beta Yayinlari, Istanbul.