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Review Article

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Understanding the Impact of Savings on Growth: A Case Study of Yemen's Economic Challenges

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Abstract

This paper examines the impact of savings on economic growth, a critical topic in economic theory with differing views from classical and Keynesian perspectives. Classical economic theory posits that savings drive economic growth by providing funds for investment, while Keynesian theory argues that savings can reduce aggregate demand and slow growth. The study also looks at factors that influence saves behavior, such as income, interest rates, and cultural views, as well as different types of savings, such as personal, corporate, and government savings. The findings show that savings are critical to long-term economic growth because they fuel investments and stabilize economies during downturns. However, the relationship between saves and growth is complicated, as excessive savings can stifle growth if not properly channeled toward productive investment. The study suggests that savings' function in economic development significantly depends on how they are used and handled within an economy. Future research should focus on the importance of saves in various economic settings, as well as the efficacy of policies aimed at increasing the influence of savings on growth.

Keywords: Savings, Economic Growth, Capital Formation, Investment, Keynesian Economics, Classical Economics.

1. Introduction

Savings play a pivotal role in the economic development of any country. Whether at an individual, corporate, or national level, savings represent a crucial aspect of financial stability and economic growth. Saving is crucial for both individuals and economies. For individuals, saving provides financial security, enables investment in opportunities that can improve quality of life, and ensures a stable future. For economies, saving is essential for funding investments that drive growth, innovation, and development. High levels of saving can also help mitigate the impact of economic shocks and contribute to long-term financial stability. Understanding the concept and types of saving is fundamental to managing personal finances, making informed investment decisions, and comprehending broader economic trends. Whether on a personal or corporate level, saving is a key component of financial health and economic resilience. This article explores the significance of savings, the factors that influence saving behavior, and their impact on the broader economy. Savings refer to the portion of income that is not spent on immediate consumption but is set aside for future use. These can take various forms, such as money deposited in bank accounts, investments in financial instruments, or other assets like real estate. Savings can be classified into two major types: (personal savings and national savings)

- Personal Savings: These are the savings accumulated by individuals or households. They are essential for meeting future financial goals, such as purchasing a home, funding education, or securing retirement.

- National Savings: This refers to the aggregate savings of a nation, which includes the savings of households, businesses, and the government. National savings are vital for funding investment, which is crucial for economic growth [1]. Numerous empirical studies have explored the relationship between savings and economic growth, often yielding conflicting results. For example: Konya (2005): A panel study among 84 different groups of countries found varied results regarding causality between savings and growth. In some countries, such as Finland, France, and Japan, causality ran from growth to savings. In others, like Ireland and Mauritania, savings were found to drive growth. In many cases, no clear causality was established. Alomar (2013): A study on the Arab Gulf States revealed that in countries dependent on natural resource exports, economic growth tends to drive savings, while in others, savings lead to growth [2].

Hypothesis

- (H_0) There is no significant difference between the means

of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".

- (H_1) There is a significant difference between the means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- (H_0) There is no significant correlation between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- (H_1) There is a significant correlation between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- (H_0) The variances of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" are equal.
- (H_1) The variances of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" are not equal.
- (H_0) The difference in means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" is zero.
- (H_1) The difference in means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" is not zero.

1.2 Objectives

- To analyse the difference in means between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017.
- To assess the correlation between "Years" and "Yemen's Gross Savings Rate.
- To evaluate the equality of variances between "Years" and "Yemen's Gross Savings Rate.

2. Literature Review

The research paper titled *"The Global Rise of Corporate Saving"* by Peter Chen, Loukas Karabarbounis, and Brent Neiman delves into the significant shift in global saving patterns over the last few decades, particularly the rise in corporate saving [3]. The paper provides a comprehensive analysis of how corporate saving has increasingly dominated global saving, overtaking household saving as the primary source of investment funding. This shift has critical implications for global economic dynamics, particularly in terms of investment, consumption, and financial stability.The main idea of the research paper is to explore and explain the dramatic rise in corporate saving globally since the 1980s. The authors note that while household saving traditionally financed most global investments, recent decades have seen a shift where nearly two-thirds of global investments are now funded by corporate saving. The paper investigates the factors driving this shift and its broader economic implications. The authors employed empirical analysis and general equilibrium modeling to explore the determinants and implications of rising corporate saving. The empirical analysis involved constructing a dataset from national income accounts covering more than 60 countries over several decades. This dataset allowed the authors to measure and compare corporate saving across different countries and industries. The paper also uses firm- level data to examine the behavior of corporate saving at the microeconomic level. This includes analysing firm profits, dividends, taxes, and other financial metrics to understand the drivers of corporate saving. Additionally, the authors developed a dynamic general equilibrium model that incorporates product and capital market imperfections to simulate the effects of various economic changes on corporate saving.

The document you've provided is a research paper titled "Domestic Savings and Economic Growth: The Case of South Africa" by Abis Getachew [4]. It explores the relationship between domestic savings and economic growth in South Africa, covering the period from 1960 to 2013. The paper investigates whether domestic savings lead to economic growth or vice versa. The research uses various econometric tools like the Johansen co-integration test and the Granger causality test to determine the nature of this relationship. The study also includes Gross Fixed Capital Formation (GFCF) as an exogenous variable to understand the dynamics between savings and growth better. The study concludes that South African policymakers should promote economic growth and savings to enhance capital formation. Further research is suggested to identify other determinants of economic growth in South Africa. This article provides valuable insights into the dynamics between savings and economic growth, which can be applicable in similar economic contexts.

2.1 Theories on the Relationship Between Savings and Economic Growth

The relationship between savings and economic growth has been a central topic in economic theory, with varying perspectives offered by different schools of thought. Classical economics views savings as a vital source of funds for investment, which drives economic growth. In contrast, Keynesian economics argues that savings can leak from the economy, potentially dampening growth by reducing aggregate demand. These differing viewpoints have led to ongoing debates and empirical research aimed at understanding the true impact of savings on economic development.

2.2 Classical Economic Theory of Savings and Economic Growth

- Classical Perspective: Classical economic theory posits that savings are a major source of economic growth by stimulating investment. The theory is grounded in the idea that savings, which represent the aggregate supply of loanable funds, equals the aggregate demand for these funds, primarily in the form of investment. The funds pooled from savings are channeled into investment spending, leading to higher economic growth. According to classical economics, savings enhance the rate of economic growth.
- Loanable Funds Theory: This theory, associated with classical economics, suggests that the equilibrium in the money market is achieved when the aggregate savings (supply of loanable funds) equals aggregate investment (demand for loanable funds). The investment funded by savings leads to capital accumulation, which in turn drives economic growth.

2.3 Keynesian Economic Theory of Savings

1) Keynesian Perspective: In contrast, Keynesian economics views savings not as a source of growth but as a potential leakage from the economy. According to Keynesian theory, savings reduce current consumption, which in turn reduces aggregate demand. A fall in aggregate demand leads to a reduction in production, lower investment, and hence, a decline in economic growth. Consequently, Keynesian economists argue that saving has a

negative impact on economic growth.

2) Savings as Leakage: From a Keynesian standpoint, when individuals save a portion of their income, the immediate effect is a reduction in consumption. This decrease in consumption can cause aggregate demand to fall below aggregate supply, leading to price declines. As prices drop, producers may cut back on production, resulting in reduced investment and economic growth. This process can also lead to higher unemployment, further dampening economic growth [5].

2.4 The Role of Savings in Economic Growth

- Savings are fundamental to economic growth for several reasons
- Capital Formation: One of the most direct ways savings contribute to economic growth is through capital formation. When individuals or businesses save money, these funds can be invested in productive ventures, such as building infrastructure, starting new businesses, or expanding existing ones. This investment in capital goods leads to increased production capacity, which is a key driver of economic growth.
- Funding for Investments: Savings provide the necessary funds for investment in various sectors of the economy. Banks and financial institutions use the deposits from savers to provide loans to businesses and individuals. These loans are then used to invest in new technologies, expand operations, or launch new products, all of which contribute to economic growth.
- Economic Stability: High levels of savings can provide a buffer against economic shocks. In times of economic downturns or recessions, savings can help stabilize consumption and investment levels, mitigating the impact of the downturn. This stability is crucial for maintaining long-term economic growth.
- Interest Rates and Inflation: Savings also influence interest rates and inflation. When a significant portion of income is saved, it reduces the demand for goods and services, which can help control inflation. Moreover, a large pool of savings in the economy can lead to lower interest rates, making borrowing cheaper and encouraging investment.
- Government Savings and Fiscal Health: National savings also include government savings, which are essential for maintaining fiscal health. Governments that save during periods of economic growth can use these funds to finance public investments or cover budget deficits during downturns, reducing the need for external borrowing and helping to maintain economic stability [6].

2.5 Factors Influencing Savings

Several factors determine the level of savings in an economy:

- Income Levels: Higher income generally leads to higher savings, as individuals and households have more disposable income after meeting their consumption needs.
- Interest Rates: Interest rates play a crucial role in influencing savings behavior. Higher interest rates offer greater returns on savings, encouraging individuals to save more. Conversely, low-interest rates may discourage savings and encourage spending or investment.
- Economic Expectations: Expectations about future income, inflation, and economic stability can influence savings behavior. If people expect economic uncertainty or a decrease in future income, they are more likely to save.
- Cultural Factors: Cultural attitudes towards savings and consumption also play a role. In some cultures, there is a strong emphasis on saving for the future, while in others, there is a greater focus on present consumption.
- Government Policies: Tax incentives, subsidies, and social security programs can influence savings behavior. For instance, tax-advantaged retirement accounts can encourage long-term savings [7].

2.6 Understanding Saving: Concept and Types

Saving is a fundamental economic concept crucial in individual financial planning, national economic stability, and global financial systems. It involves setting aside a portion of current income or earnings for future use, rather than spending it immediately. This act of deferring consumption is essential for financial security, investment opportunities, and overall economic growth. [8].

2.7 The Concept of Saving

Saving refers to the portion of disposable income not spent on current consumption but set aside for future use. The primary motivation behind saving is to provide a financial cushion for unexpected expenses, plan for significant future expenditures, or invest in income-generating assets. From an economic standpoint, saving contributes to the capital available for investment, which is vital for economic growth and development. In personal finance, saving is often associated with frugality and financial responsibility. It involves making conscious decisions to limit spending and prioritize the future over immediate gratification. The concept of saving is closely linked to various financial goals, such as building an emergency fund, purchasing a home, funding education, or preparing for retirement [9]. On a macroeconomic level, saving is a key determinant of the availability of funds for investment in an economy. Higher saving rates generally lead to greater funds available for businesses and governments to borrow and invest in capital projects, which in turn drive economic growth.

2.8 Types of Saving

Saving can be categorized into various types based on different criteria, such as the purpose of saving, the method of saving, and the entity that is saving. The main types of saving include personal saving, corporate saving, and government saving.

2.8.1 Personal Saving

- Emergency Savings: These are funds set aside to cover unexpected expenses or financial emergencies, such as medical bills, car repairs, or job loss. Emergency savings are typically kept in easily accessible accounts, like savings or money market accounts.
- Goal-Oriented Savings: This type of saving is directed toward specific financial goals, such as buying a house, funding a

child's education, or vacationing. Goal- oriented savings are usually held in accounts or investment vehicles that match the timeline and risk tolerance of the goal.

- Retirement Savings: Retirement savings involve setting aside funds for use after retirement. These savings are often accumulated in retirement accounts like 401(k)s, IRAs, or pension plans, which may offer tax advantages to encourage long-term saving.

2.8.2 Corporate Saving

- Retained Earnings: This is the portion of a company's profits that is not distributed to shareholders as dividends but is retained within the company for reinvestment in the business or to strengthen the company's financial position. Retained earnings are a significant source of corporate savings.

- Depreciation Reserves: Companies set aside funds to replace or maintain their capital assets, such as machinery, equipment, or buildings, as they depreciate over time. These reserves ensure that the company can continue operations without financial strain.
- Precautionary Saving: Similar to individuals, companies also save to protect themselves against future uncertainties, such as economic downturns or unexpected expenses. This type of saving is often held in cash or other liquid assets.

2.8.3 Government Saving

- Budget Surpluses: When a government spends less than it earns through taxes and other revenues, the surplus is a form of saving. Budget surpluses can be used to pay down debt, fund future expenditures, or invest in public projects.
- Sovereign Wealth Funds: Some governments set up sovereign wealth funds, which are state-owned investment funds composed of surplus revenues. These funds are typically used to manage national savings, stabilize the economy, or generate wealth for future generations.

2.8.4 National and Global Saving

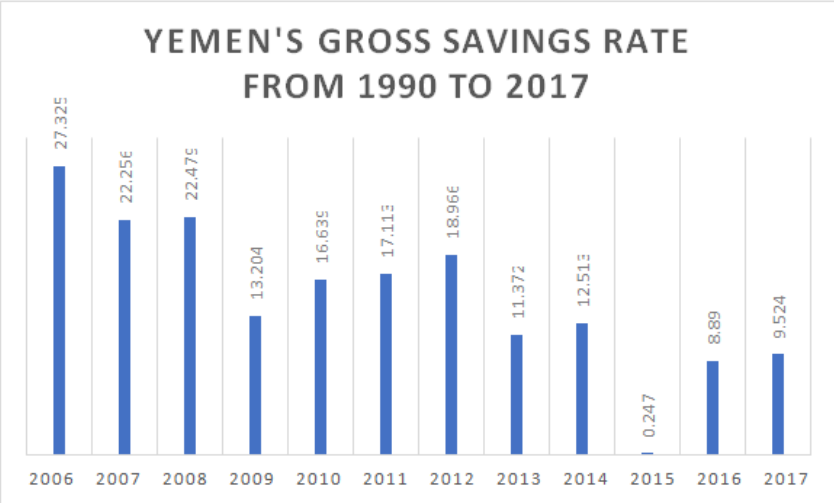
- National Saving: National saving is the sum of savings by households, businesses, and the government. It represents the total savings available within a country for investment in productive assets. High national saving rates are often associated with strong economic growth.
- Global Saving: On a global scale, saving trends reflect the combined savings of all countries. These trends influence global capital flows, investment patterns, and economic stability. The balance between saving and investment at the global level can affect interest rates, exchange rates, and international trade [10].

Years	Yemen's Gross Savings Rate from 1990 to 2017
2006	27.325
2007	22.256
2008	22.479
2009	13.204
2010	16.639
2011	17.113
2012	18.966
2013	11.372
2014	12.513
2015	0.247
2016	8.89
2017	9.524

Table 1: Yemen's Gross Savings Rate from 1990 to 2017 (world bank)

3. Data Analysis

From 2006 to 2017, Yemen's gross savings rate experienced significant fluctuations, reflecting the country's economic instability. In 2006, the savings rate was at its highest, at 27.325%, but by 2007 it had already fallen to 22.256%. The rate showed slight recovery in 2008 at 22.479%, only to drop sharply to 13.204% in 2009. A modest improvement occurred in 2010 with a rise to 16.639%, followed by a slight increase to 17.113% in 2011 and 18.966% in 2012. However, 2013 marked the beginning of a steep decline, as the savings rate fell to 11.372% and continued to drop to 12.513% in 2014. In 2015, Yemen saw its lowest savings rate at just 0.247%, largely due to the outbreak of civil conflict. The following two years showed some recovery, with the rate rising to 8.89% in 2016 and 9.524% in 2017, although it remained well below pre-conflict levels. Overall, the data indicates a downward trend, punctuated by brief periods of recovery, and highlights the significant economic toll of the civil war, especially after 2015.



Correlation

	Column 1	Column 2
Column 1	11.91667	
Column 2	-20.3805	49.24087

The correlation coefficient between Column 1 and Column 2 is approximately -0.841, indicating a strong negative correlation. This means that as values in Column 1 increase, values in Column 2 tend to decrease, and vice versa.

Anova: Single Factor

SUMMARY				
Groups	Count	Sum	Average	Varianc e
Years	12	24138	2011.5	13
Yemen's Gross Savings Rate from 1990 to 2017	12	180.52 8	15.044	53.7173 2

ANOVA						
Source of Variation	SS	df	MS	F	P- value	F crit
Between Groups	2391501 9	1	2391501 9	716905. 9	3.82E- 51	4.3009 5
Within Groups	733.890 5	22	33.3586 6			
Total	2391575 3	2				

The ANOVA results comparing "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" indicate a highly significant difference between the two groups. With a sum of squares between groups of 23,915,019 and within groups of 733.8905, the F-value is an extremely large 716,905.9, far exceeding the F critical value of 4.30095. The p-value is virtually zero (3.82E-51), strongly rejecting the null hypothesis and confirming that the differences between the groups are statistically significant. This means the variation observed between the years and Yemen's gross savings rates is not due to random chance, reflecting a clear distinction between these two factors.

t-Test: Paired Two Sample for Means		
	Variable 1	*Variable 2*
Mean	2011.5	15.044
Variance	13	53.71732
Observations	12	12
Pearson Correlation	-0.84135	
Hypothesized Mean Difference	0	
df	11	
t Stat	655.8877	
P(T<=t) one-tail	6.5E-27	
t Critical one-tail	1.795885	
P(T<=t) two-tail	1.3E-26	
t Critical two-tail	2.200985	

The results from the **paired t-test** comparing "Variable 1" (with a mean of 2011.5) and "Variable 2" (with a mean of 15.044) show significant differences between the two groups. The test was performed with 12 observations for each variable. The Pearson correlation between the two variables is **-0.84135,** indicating a strong negative correlation. The calculated **t-statistic** is 655.8877, which is extremely high. The corresponding **p-value for the one-tailed test is 6.5E-27**, and for the **two-tailed test** it is **1.3E-26,** both of which are much smaller than any conventional significance level (e.g., 0.05). This suggests that the differences between the means are highly significant. **The critical t-value** for the one-tailed test is **1.795885**, and for the two-tailed test, it is **2.200985.** Since the calculated t-statistic (655.8877) is far greater than both critical values, we reject the null hypothesis that the means of the two variables are equal.

Column 1		***Column 2***	
Mean	2011.5	Mean	15.044
Standard Error	1.040833	Standard Error	2.115761
Median	2011.5	Median	14.9215
Mode	#N/A	Mode	#N/A
Standard Deviation	3.605551	Standard Deviation	7.32921
Sample Variance	13	Sample Variance	53.71732
Kurtosis	-1.2	Kurtosis	0.297495
Skewness	-4.8E-17	Skewness	-0.27748
Range	11	Range	27.078
Minimum	2006	Minimum	0.247
Maximum	2017	Maximum	27.325
Sum	24138	Sum	180.528
Count	12	Count	12
Largest(1)	2017	Largest(1)	27.325
Smallest(1)	2006	Smallest(1)	0.247
Confidence Level(95.0%)	2.290858	Confidence Level(95.0%)	4.656758

For years, the mean is 2011.5, which represents the period's midway. The standard deviation of3.61 suggests a moderate spread in the data during the 12 years studied, with a span of 11 years (2006–2017). The skewness is essentially zero (-4.8E-17), showing a fully symmetric distribution, whereas the kurtosis is -1.2, indicating a more flat distribution than a normal distribution. The 95 percent confidence interval for the mean is 2.29, indicating a range in which the true mean is expected to fall.

The mean savings rate for Yemen's Gross Savings Rate is 15.044 percent, with a bigger standard deviation of 7.33 percent, indicating significant variability in savings rates over time. The savings rate range is 27.08 percent, from 0.247 percent in 2015 to 27.325 percent in 2006. The skewness is -0.28, indicating a modest negative skew, implying that a few lower values are pushing the distribution leftward. The kurtosis of 0.30 indicates a distribution closer to normal. The 95 percent confidence interval for the mean is 4.66, indicating a greater degree of ambiguity in determining the true savings rate

F-Test Two-Sample for Variances		
	Years	Yemen's Gross Savings Rate from 1990 to 2017
Mean	2011.5	15.044
Variance	13	53.71732
Observations	12	12
df	11	11
F	0.242008	
P(F<=f) one-tail	0.013374	
F Criticalone-tail	0.35487	

The F-test results comparing "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" focus on the variance between the two variables. Here's a summary of the findings:

- The mean for "Years" is 2011.5, and for "Yemen's Gross Savings Rate," it is 15.044.
- The variance for "Years" is 13, while for "Yemen's Gross Savings Rate," it is 53.71732. Both variables have 12 observations, and each has 11 degrees of freedom (df). F-test:
- The F-value is 0.242008, calculated as the ratio of the variances.
- The p-value for the one-tailed test is 0.013374, which is lower than the conventional significance level of 0.05. This indicates that the variance between the two groups is significantly different.
- The critical F-value (F Critical one-tail) is 0.35487. Since the calculated F-value (0.242008) is smaller than the critical value, we accept the null hypothesis for this F-test, meaning the variances are not significantly different.

4. Result of Hypothesis Testing

- (H_0) There is no significant difference between the means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- (**H_1**) There is a significant difference between the means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- The t-statistic is 655.8877, with a p-value (two-tailed) of 1.3E-26, which is much lower than 0.05. **Therefore, Reject** the null hypothesis. There is a significant difference between the means of "Years" and "Yemen's Gross Savings Rate".
- (**H_0**) There is no significant correlation between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- (**H_1**) There is a significant correlation between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017".
- The Pearson correlation coefficient is -0.84135, indicating a strong negative correlation. Reject the null hypothesis. There is a strong negative correlation between "Years" and "Yemen's Gross Savings Rate".
- (**H_0**) The variances of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" are equal.
- (**H_1**) The variances of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" are not equal.
- The F-value is 0.242008 with a p-value of 0.013374, and the F Critical one-tail is 0.35487. **Accept the null hypothesis**. The F-value is less than the critical value, indicating that the variances are not significantly different.
- (**H_0**) The difference in means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" is zero.
- (**H_1**) The difference in means of "Years" and "Yemen's Gross Savings Rate from 1990 to 2017" is not zero.
- P-value of 1.3E-26 is highly significant. **Reject the null hypothesis.** The difference in means is significantly different from zero.

5. Conclusion

Based on the statistical tests conducted, several significant findings were observed regarding the relationship between "Years" and "Yemen's Gross Savings Rate from 1990 to 2017." The paired t-test revealed a significant difference between the means of the two variables, with the large t- statistic and extremely small p-value confirming that this difference is not due to chance.

Additionally, the Pearson correlation coefficient showed a strong negative correlation, indicating that Yemen's gross savings rate generally declined as the years progressed. The F-test for equality of variances suggested that the variances between the two groups are not significantly different, meaning that despite their means, the data spread within each group is relatively consistent. Lastly, the t-test also confirmed that the difference in means between the two groups is significantly different from zero. In summary, strong statistical evidence supports that "Years" and "Yemen's Gross Savings Rate" are related, with notable differences in their means and a strong negative correlation. However, the variances of the two variables do not differ significantly. This analysis highlights the economic trends and challenges in Yemen over the years.

References

1. ESE, Y. A., & Opschoor, S. J. A. (2015). The Effects of Saving on Economic Growth.
2. Gersovitz, M. (1988). Saving and development. *Handbook of development economics, 1,* 381-424.
3. Chen, P., Karabarbounis, L., & Neiman, B. (2017). The global rise of corporate saving. *Journal of monetary economics, 89,* 1-19.
4. Getachew, A. (2015). Domestic Savings and Economic Growth in South Africa.
5. SchmidtHebbel, K. (2009). The Economics of Saving and Growth. 33-70.

6. Karlan, D., Savonitto, B., Thuysbaert, B., & Udry, C. (2017). Impact of savings groups on the lives of the poor. *Proceedings of the National Academy of Sciences, 114*(12), 3079-3084.
7. Ouma, S. A., Odongo, T. M., & Were, M. (2017). Mobile financial services and financial inclusion: Is it a boon for savings mobilization?. *Review of development finance, 7*(1), 29-35.
8. Misztal, P. (2011). The Relationship between Savings and Economic Growth in Countries with Different Level of Economic Development (Współzaleznosci miedzy oszczednosciami i wzrostem gospodarczym w krajach o *róznym poziomie rozwoju gospodarczego). Finansowy Kwartalnik Internetowy e-Finanse, 7*(2), 17-29.
9. Chen, S., Cronqvist, H., Ni, S., & Zhang, F. (2017). Languages and corporate savings behavior. *Journal of Corporate Finance, 46,* 320-341.
10. Dupas, P., & Robinson, J. (2013). Why don't the poor save more? Evidence from health savings experiments. *American Economic Review, 103*(4), 1138-1171.