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INSIGHT JOURNAL
UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
International, Refereed, Open Access,
Online Journal
Volume 4 2019
eISSN : 2600-8564
Indexed in MyJurnal MCC

INSIGHT JOURNAL (IJ)
UiTM Cawangan Johor Online Journal Vol. 4: 2019
eISSN :2600-8564
Published by UiTM Cawangan Johor
insightjournal.my

About

INSIGHT Journal is an online, open access, international refereed research journal established by Universiti Teknologi MARA Cawangan Johor, Malaysia. It is indexed in MyJurnal MCC.

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Published by UiTM Cawangan Johor, Malaysia
eISSN 2600-8564

Determinants of Savings in Malaysia

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Abstract

This study evaluates the responses of economic determinants towards savings in Malaysia. This study uses four determinants of savings which are inflation, economic growth, age dependency ratio and money supply for the period of 31 years from 1986 to 2016. This study focuses only on Malaysia as the subject. All data were collected from the World Bank and Bank Negara Malaysia. Unit root test such as ADF and PP were used to determine the stationarity of data. Ordinary Least Square estimator of regression was applied to analyse the model. From the findings, it is discovered that inflation and economic growth give positive and significant impact on savings, while age dependency ratio and money supply has a negative and insignificant relationship towards savings.

Keywords: Savings, Inflation, Economic Growth, Age Dependency Ratio, Money Supply.

1. Introduction

Savings can be defined as an extra income after all of the consumptions are subtracted from the amount of disposable income by a consumer or household. Gross domestic savings are the total savings in a country received from the household, private and public savings (Khan, Khan & Jadoon, 2017). Saving is an important element for capital formation which eventually stimulates economic growth. Harrod (1939) and Domar (1946) modelled the role of savings as a significant factor for generating the country's growth which claimed that the high rate of savings would boost the rate of investment and speed the economy. Nevertheless, the economic growth in the long run would not be affected by a national saving due to the effects of diminishing returns to the scale and technological improvements that were added by Solow (1956) in his model.

In the developing countries, domestic savings play a vital element as it assists local entrepreneurs to adopt and use new technology for products innovation without having to use foreign investments (Aghion et al., 2009). The country is less dependent on foreign capital when the domestic savings are able to supplement its investment planning. This will increase the opportunities for local investors to invest in their own country. However, in some countries, foreign savings have to be complemented with a domestic investment. This is in contrast to the developed countries which have the potential in developing their own technologies.

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Published by UiTM Cawangan Johor, Malaysia
eISSN 2600-8564

Figure 1 shows the rate of gross domestic savings in Malaysia from the years 1986 to 2016. The rate of gross domestic savings fluctuated over the years and this was a serious issue as it could affect Malaysia's economy. In 1998, it can be clearly seen that after reaching a peak of 48.7%, savings declined rapidly from 47.4% in 1999 to 32.5% in 2017.

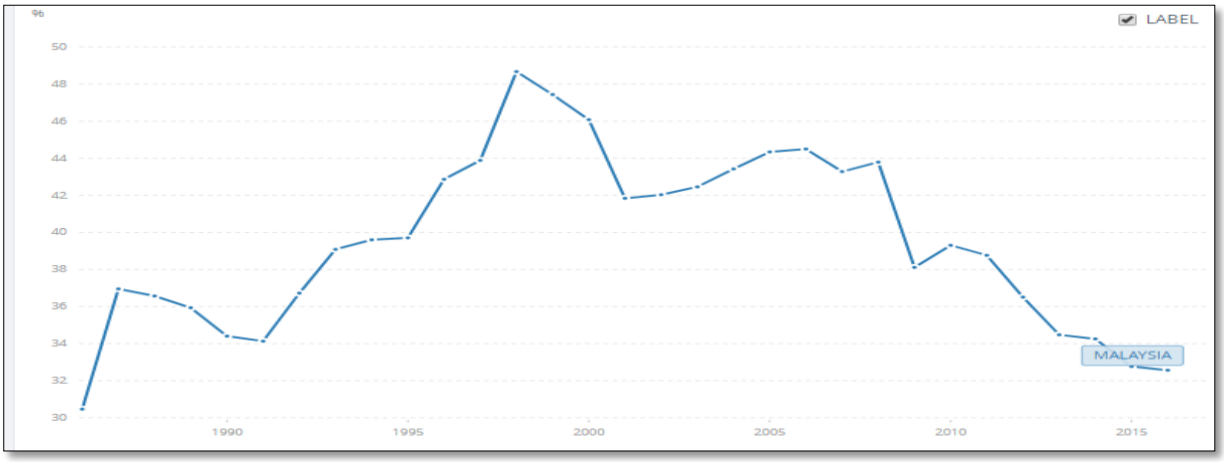

Figure 1: The Gross Domestic Savings in Malaysia (% of GDP)
Source: World Bank (2018)

The downturn in the gross domestic savings-to-GDP in 1999 and 2008 were due to the Asian and global financial crisis respectively which in turn affected the aggregate demand, money market and gross domestic products. Since the national savings has risen quite slowly, it is important to study specific factors that could enhance savings in Malaysia.

This research was conducted in order to examine the factors that could affect the savings in Malaysia. There were many studies that have been carried out on the determinants of domestic savings in different countries such as the study in G7 countries (Hüfner and Koske, 2010), sub-Saharan countries (Keho, 2012), Australia (Price & Finlay, 2014), Poland (Kolasa & Liberda, 2014), Tanzania (Epaphra, 2015), Kenya (Marcel & Kirori, 2016), Japan, Turkey, Pakistan, Russia, Singapore and China (Khan, Khan & Jadoon, 2017). and West African countries (Abasimi & Martin, 2018).

Previous researchers used different variables, such as the government budget, rate of return on deposit, young and old populations, rural and urban populations, financial depth, precautionary saving, expectations on income and debt, as the factors for domestic savings. In addition, there were also studies related to the Malaysian context such as Tang (2010), Khan and Abdullah (2010), Mansur, Mamalakis, and Idris (2011), Keat, Mun, Yuan, Hei and Hin (2015), and Hashim, Pin and Isa (2017). As the variables applied were quite different, this study examined some important variables which were believed to exert an effect on the country's savings. The independent variables used for this study were inflation rate, economic growth, age dependency ratio and money supply. Ordinary Least Square (OLS) estimator of regression was applied to analyse the model.

Our paper proceeds as follows: in section 2, we present literature survey, while section 3 discusses the data and analysis, and section 4 reports the findings. Finally, section 5 presents the conclusions and recommendations of the study.

INSIGHT JOURNAL Volume 4
Published by UiTM Cawangan Johor, Malaysia
eISSN 2600-8564

2. Literature Review

In economy, saving plays an important role in a country's growth and development through the investment process. Many empirical studies have been conducted to examine the determinants of savings and their roles in improving a country's economy. A study in G7 countries including Germany, Canada, France, United Kingdom, United States, Japan and Italy conducted by Hüfner and Koske (2010) found that the savings rate in the developed countries was determined by factors such as disposable income, inflation and real interest rate. The same study conducted in Australia by Price and Finlay (2014) showed that savings rate depended on precautionary savings, income expectations and attitude to debt. However, in Poland, Kolasa and Liberda (2014) found that the interest rate, income, corporate savings and government savings affected the savings trend.

Khan, Khan and Jadoon (2017) used some variables such as age dependency ratio, gross domestic product, money supply growth, per capita income, foreign direct investment and inflation as determinants for domestic savings. The study was conducted in 6 countries – Japan, Turkey, Pakistan, Russia, Singapore and China – from the years 1995 to 2016. From the findings, gross domestic product, money supply and per capita income gave positive effects on domestic savings, while age dependency ratio, foreign direct investment and inflation showed negative effects.

In the African countries, there was a study conducted by Mualley (2011) which used interest rate, age dependency ratio and per capita income to examine savings. He found that the only factor that affected savings was income per capita. However, the study in the West African countries from 1997 to 2016 by Abasimi and Martin (2018) stated that income, real interest rate and gross domestic products had positive impacts on savings, whilst age dependency ratio gave a negative effect. It was in line with the studies by Abasimi and Martin (2018) in four West African countries, namely, Ghana, Togo, Burkina Faso and Cote d'Ivoire by Keho (2012) in the sub-Saharan countries. In terms of inflation and savings, it was revealed by Epaphra (2015) that inflation had a negative impact on savings. These findings were supported by a research done by Marcel and Kirori (2016) in Kenya from 1993 to 2013. In terms of economic growth, savings in Tanzania were proven to directly impacted the country (Epaphra, 2015). It was similar to the studies done by Beshir (2016) and Girma (2017) who found that the economic growth was an important determinant for domestic savings in Ethiopia from 1980 to 2014.

Savings could be affected by the level of young population as noted by Aric (2015) who conducted the study in thirteen Middle East countries from the years 2000 to 2013. In the study, income, money supply, government expenditure and inflation were included as the factors. The result stated that inflation and savings were positively related, while the relation between money supply and savings were negatively related. This was due to the increase in consumption when there was an expansion of money supply. This was in line with the research done by Narayan (2005) who concluded similar findings in the case of Oman.

In the Southeast Asia countries, Faruqee and Husain (1998) found that demographic changes and income per capita were the essential factors that could determine savings pattern. However, income, dependency rate and foreign savings rate were the factors that determined savings in the South Asia countries such as India, Bangladesh, Sri Lanka and Nepal (Sahoo & Dash, 2007). In Bangladesh, the study conducted by Hammad, Khan, and Abdullah (2010) used export, interest rate, inflation and gross domestic income from the years 1983 to 2013 as the determinants. Based on their results, income and gross domestic savings had a positive

relationship. This was similar to the study by Jilani, Sheikh, Cheema, and Shaik (2017) in Pakistan. They also found that age dependency ratio affected savings positively. However, Salman and Zaib (2012) found that age dependency ratio had an inverse correlation to savings. However, another study has proven that the relationship between money supply and savings was positive (Ahmad and Mahmood (2013)).

In the case of Malaysia, there were few studies in regards to savings conducted from 2010 to 2017. Khan and Abdullah (2010) examined the determinants of savings in Malaysia using error correction model (ECM) approach, and Johansen and Juselius cointegration approach to determine the long-run relationship between per capita income, young age dependency rate, rate of return on deposit, inflation rate, government fiscal balance and old age dependency rate. From the study, they found the link between young age dependency rate, government fiscal balance and per capita income with private savings in the short-run. A study conducted by Keat, Mun, Yuan, Hei and Hin (2015) used factors such as inflation rate, government budget and gross domestic product per capita as the determinants of savings. They found only one factor which gave a significant effect on savings – the inflation rate. Hashim, Pin and Isa (2017) chose consumer price index, interest rate and gross national income as the factors which affected savings in Malaysia. They found that consumer price index and interest rate had an impact on savings rate in Malaysia.

Thus, despite extensive literature analysing the relationship between savings and macroeconomic factors, the results varied from one country to another due to the economic, social and demographic factors. Therefore, we present some important variables which may help the authorities in formulating strategies to achieve economic goals.

3. Method

This study used annual data of inflation rate, economic growth, age dependency ratio and money supply (M2) in Malaysia covering the period of 1986 - 2016. The choice of the period was governed by the availability of data. The data were taken from the World Bank and Bank Negara Malaysia. Regarding the estimation method, we first tested the stationarity of data collected and proceeded with the OLS approach as the preferred method. The model is expressed as below:

$$GDS = \beta_0 + \beta_1 INF + \beta_2 ECG + \beta_3 ADR + \beta_4 M2 + \varepsilon i$$

While β_0 is the regression coefficients, β_1, β_2, β_3, β_4 are parameters for inflation, economic growth, age dependency ratio**,** money supply and ε_i is error term. The variables which are used in the above equation were derived from the different studies to see their impacts in the case of Malaysia.

4. Empirical Results

This study examined the determinants of savings in Malaysia namely inflation, economic growth, age dependency ratio and money supply for the period of 31 years from 1986 to 2016. The raw data were extracted from the World Bank and Bank Negara Malaysia. To test stationarity of the data, we employed both Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) procedures. Both tests used the model that allowed for a constant and deterministic trend. The results of these unit root tests are presented in Table 1. The results showed that each of the series are integrated at order one, I(1) except for ADR.

INSIGHT JOURNAL Volume 4
Published by UiTM Cawangan Johor, Malaysia
eISSN 2600-8564

Table 1: The result of unit root tests

Variables		ADF	PP
GDS	Level	(0.0009)*	(0.0000)*
INF	Level	(0.0073)**	(0.0078)**
ECG	Level	(0.0011)*	(0.0011)*
ADR	Level	(0.8030)	(0.6849)
	d=1	(0.9307)	(0.9670)
	d=2	(0.0077)*	(0.0062)***
M2	Level	(0.0157)**	(0.0223)**

Note: The asterisks *, **, and *** denote the significance at 1 per cent, 5 per cent and 10 per cent levels; whereby, the value in percentages are probability.

The ADF shows that all the variables are stationary at level, but only ADR is stationary after second differencing, I(2). Most of the results are consistent with the PP test except for the case of ADR which achieved its significant level at 10 per cent. Therefore, we conclude that most of the estimated variables are integrated of order one, I(1).

For the OLS regression, the results are reported in Table 2.

Table 2: The result of regression analysis

Variable	Coefficient	Std. Error	t-statistics	p-value
C	-6.4094	2.9196	-2.1953	0.0381**
INF	1.8017	0.8149	2.2109	0.0368**
ECG	1.4907	0.2661	5.6028	0.0000*
ADR	-6.3004	5.4051	-1.1657	0.2552
M2	-0.0251	0.0548	-0.4585	0.6507
R-squared		0.6406		
Adjusted R-squared		0.6210		
F-stat		0.00004		
P-value (F-stat)		0.0000		

Note: The asterisks * and ** denote the significance at 1 per cent and 5 per cent levels.

According to the results of analysis, R-squared is recorded at 64.06 per cent. It implies that inflation, economic growth, age dependency ratio and money supply explained about 64 per cent systematic variations on savings over the observed years in the Malaysian economy, while the remaining variation is explained by other determinant variables outside the model. For diagnostic check, the model was also tested for multicollinearity, autocorrelation, and heteroscedasticity. The value of Durbin Watson is 1.457720 for the model. This implies that there is a positive first order serial autocorrelation among the explanatory variables in the model. From the Variance Inflation Factor (VIF) values, the data has no multicollinearity because its value is less than 5. Then, to check whether there is any relationship between the error term and the independent variable for this purpose we applied White Test and it is clear that there is no any heteroscedasticity exist in the data.

INSIGHT JOURNAL Volume 4
Published by UiTM Cawangan Johor, Malaysia
eISSN 2600-8564

The coefficients support our views that inflation would lead savings to increase and significant at 5 per cent level in the model. People would start to save money while their purchasing power is low and the value of money drops when the prices of goods and services become more expensive. Moreover, people care about the amount they hold in real terms, which then keep the money as a store of value. The evidence is supported by Ariç (2015) for the case of APEC countries.

Similarly, the economic growth positively affects domestic saving at 1 per cent significant level. The increase in economic growth suggests economy expansion and income increment, which led to the increase in savings as suggested by Keynes saving function. People with an excess income would always top up their volume of savings and carry out more transactions. This result is consistent with Johnson's (2015) study on savings in Nigeria. There was also the study conducted by Abdelmawla and Yousif (2016) who found that the economic growth could affect savings positively.

Apart from that, age dependency ratio indicates a negative relationship to the savings. The insignificant relationship between both variables has shown that the population who are not in labour force are highly dependent on the fixed income earners. Therefore, the higher the dependency ratio, the smaller the amount of savings in a country is. This result could be supported by Li (2006) who found that age dependency ratio had a negative and a statistically insignificant relationship with savings. Besides, the same result was also obtained from a research conducted by Abasimi and Martin (2018) in West Africa. However, Khan et al. (2017) found a negative and significant relationship between age dependency ratio and savings.

Likewise, money supply affects savings negatively and has an insignificant effect. An increment in the amount of money supply in the market adversely affects the savings as people tend to increase their investments rather than to save. The rise in money supply leads to lower interest rate, which in turn discourages people to save. This finding is contradicted to the result obtained by Onwuasoeze and Kirori (2016) for Kenya, who found a significant and an inverse relationship between both variables.

5. Conclusion

This study examined the linkages among savings, inflation, economic growth, age dependency ratio and money supply. The coefficients for inflation and economic growth were positively related to savings in Malaysia over the sample period of 1986 to 2016. Whilst, age dependency ratio and money supply were negatively related to savings.

This implies that inflation and economic growth are two important factors to boost people propensity to save in Malaysia. This empirical evidence may throw some light in which policymakers could use in order to increase the savings rate by managing the two macroeconomics variables – inflation and economic growth. Inflation could be a good indicator for savings as people need to save money now by reducing their consumption tendency and for future use. The positive association between savings and inflation implies that the consumers are rational and make decisions based on their perceptions when it comes to allocating the lifetime resources over the period of their lives. The increase in inflation encourage people to save.

In general, countries with higher economic growth enjoy higher standard of living. Efforts to improve the economic growth and development of the country could be rated as one important strategy to encourage domestic savings and investments. On the other hand, the increase in

age dependency ratio indicates that children do not contribute to savings, but would encourage parents to consume. Therefore, more children dependants would suggest a more intense attitude in making ends meet in order to make up for the high spending. This would limit and discourage them to save money in the later part of their lives.

The inverse relationship between money supply and savings explains the exact reality in this country. High money supply typically stimulate people's spending on goods through the benefit of lower level of lending rate. The government should take measures such as tight monetary policy to reduce money supply in the economy within manageable levels to keep interest rate at its higher level which would improve savings and maintain low inflation. This in turn would strengthen the financial market

References

Abasimi, I., & Martin, A. Y. A. (2018). Determinants of National Saving in Four West African Countries. *International Journal of Economics and Finance*, *10*(5), 67. https://doi.org/10.5539/ijef.v10n5p67.

Abdelmawla, Mutasim Ahmed, Yousif, O. A. (2016). Kujms Determinants of Saving Rate in Sudan :, *10*(1), 1–20.

Aghion, P., Comin, D., Business, H., Howitt, S. P., Tecu, I., Acemoglu, D., Tsyrennikov, V. (2009). When Does Domestic Saving Matter for Economic Growth? We are grateful for the comments and suggestions of. Retrieved from https://scholar.harvard.edu/files/aghion/files/when_does_domestic_saving_matter.pdf.

Ahmad, K., & Mahmood, H. (2013). Macroeconomic determinants of national savings revisited: A small open economy of Pakistan. *World Applied Sciences Journal*, *21*(1), 49-57.

Ariç, K. H. (2015). Determinants of savings in the APEC countries. *Theoretical and Applied Economics*, *22*(2 (603), Summer), 113–122.

Baharumshah, A. Z., & Thanoon, M. A. (2003). Determinants of Gross National Savings in Malaysia: a Macroeconomic Analysis. 1960-2000. *Savings and Development*, *27*(4), 421–440. Retrieved from http://www.jstor.org/stable/25830842.

Beshir, H. (2016). Analysis Of Domestic Saving On Fastening Economic Growth In Ethiopia: Vector Error Correction Approach, *7*(7), 115–130.

Epaphra, M. (2015). Empirical Investigation of the Determinants of TanzaniaÂ's National Savings. *International Journal of Economics & Management Sciences*, *04*(01), 1–9. https://doi.org/10.4172/2162-6359.1000213.

Felix Hüfner, I. K. (2010). Explaining Household Saving Rates in G7 Countries: Implications for Germany. *OECD Economics Department Working Papers*, (754), 26. https://doi.org/10.1787/5kmjv81n9phc-en.

Girma, G. (2017). Trends and Determinants of Gross Domestic Saving in Ethiopia by, *8*(5), 72–81.

Hammad, H., Khan, A., Teknologi, U., Kedah, M., & Abdullah, H. (2010). Saving Determinants in Malaysia. *23 Saving Determinants in Malaysia Jurnal Ekonomi Malaysia*, *44*(January 2010), 23–34.

Hashim, D. Bin, Pin, F. Bin, & Mohd Isa, M. Y. Bin. (2017). Factors Influencing Savings Rate

in Malaysia. *International Journal of Economics and Finance*, *9*(6), 52. https://doi.org/10.5539/ijef.v9n6p52.

Jilani, S., Sheikh, S. A., Cheema, F., & Shaik, A. (2017). Determinants of National Savings in Pakistan : an Exploratory Study, *9*(5), 254–262. https://doi.org/10.5539/ass.v9n5p254.

Johnson, A. O. (2015). An Investigation of the Determinants of Savings and Investment in Nigeria. *Issues in Economics and Business*, *1*(2), 1. https://doi.org/10.5296/ieb.v1i2.8688.

Keat, S. K., Mun, H. W., Yuan, Y. P., Hei, L. K., & Kai, L. (2015). Determinant of Private Saving: An Empirical Study on Malaysia.

Keho, Y. (2012). Does dependency rate really impede savings? Some Sub-Saharan African evidence. *Journal of African Studies and Development*, *4*(3), 69–80. https://doi.org/10.5897/JASD11.039.

Khan, M. I., Khan, M. K., & Jadoon, A. U. (2017). Factors Affecting the Rate of Gross Domestic Saving in Different Countries, (November).

Kolasa, A., & Liberda, B. (2014). Determinants of saving in Poland: Are they different than in other OECD countries. *University of Warsaw*, (12), 130.

Li, H. (2006). Effects of longevity and dependency rates on saving and growth: Evidence from a panel of cross countries ∗, (65).

Mansur, K., Mamalakis, M., & Idris, S. (2011). Savings, investment and FDI contribution to Malaysian economic growth in the globalization era. *International Business and Economics Research Journal*, *2*(8), 1-14.

Marcel, I. O., & Kirori, G. N. Analysing the Determinants of Private Savings in Kenya over the Period 1993-2013.

Mualley, S. M. A. (2011). Determinants of Savings: an Empirical Evidence from African Countries, 1990-1999. *Volume*, *9*, 21-30.

Narayan, P. (n.d.). An Empirical Investigation of the Determinants of Oman's National Savings, *3*(51).

Ogbokor, C. A. (2014). A Time Series Analysis of the Determinants of Savings in Namibia. *Journal of Economics and Sustainable Development*, *5*(8), 52–64.

Onwuasoeze, I., & Kirori Senior Lecturer, G. N. (2016). Analysing the Determinants of Private Savings in Kenya Over the Period 1993-2013. *European Journal of Business, Economics and Accountancy*, *4*(2), 67–80. Retrieved from www.idpublications.org.

Price, F., & Finlay, R. (2014). The Rise in Household Saving. *RBA Bulletin, June Quarter*, 1-10.

Sahoo, P., & Dash, R. K. (2013). Financial sector development and domestic savings in South Asia. *Economic Modelling*, *33*, 388-397.

Salman, A., & Zaib, R. (2012). Effect of Age Dependency on Saving Rates. *International Journal of Organisational Innovation*, *5*(1), 163–175. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=79544613&site=ehost-live.

Samantaraya, A., & Patra, S. K. (2014). Determinants of Household Savings in India: An

Empirical Analysis Using ARDL Approach. *Economics Research International*, *2014*, 1–8. https://doi.org/10.1155/2014/454675.

Tang, C. F. (2010). Savings-led growth theories: a time series analysis for Malaysia using the bootstrapping and time-varying causality techniques.

Tatliyer, M. (2017). Determinants of Private Saving Level: Evidence from Turkey. *Sosyoekonomi*, *25*(32), 149–149. https://doi.org/10.17233/sosyoekonomi.295555.

World Bank. (2019). Inflation rate (%). Retrieved from https://data.worldbank.org/indicator/fp.cpi.totl.zg.

International, Refereed, Open Access, Online Journal

Volume 4, 2019

eISSN : 2600-8564