SAVINGS BEHAVIOUR IN MUSLIM AND NON-MUSLIM COUNTRIES IN CONTEXT TO THE INTEREST RATE

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Due to close relationship of savings with economic growth and other development indicators, analysis of savings behaviour has become very important. The present study has analysed the savings behaviour of four countries (Pakistan, Bangladesh, Malaysia and Indonesia) with majority population of Muslims and four countries (India, Sri Lanka, Thailand and the Philippines) with majority population of Non-Muslims, for the period 1975 to 2012. The Panel technique in the context of interest rate role in determining savings has been used. It was found that impact of real interest rate on savings in first four countries is insignificant; whereas, in the latter four countries, the impact is positive and significant. Further, the study also found that age dependency, foreign savings and inflation have a negative, while per capita GDP, financial sector development and openness exhibit a positive and significant impact on savings in both categories of these countries. However, urbanization has different relationships in the two types of countries.

I. Introduction

Savings have been recognized as crucial determinant of economic growth because it finances investment - higher investment is associated with higher growth. Given the fact that economic growth plays a pivotal role in improving well-being of people and reducing poverty, the analysis of saving behaviour becomes a very crucial policy issue for developing countries.

Two main theories in explaining saving behaviour are: 'Permanent income hypothesis' [Friedman (1957)], and 'life-cycle hypothesis' [Ando and Modigliani (1963)]. In permanent income hypothesis, transitory and permanent components of income are differently analyzed in determining savings. Permanent income is defined as long-time income expectation over a period, while transitory income is the difference between permanent and actual income. The hypothesis suggests that transitory changes in income do not have any significant impact on savings and savings are determined only by perma-

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nent income. According to the life-cycle hypothesis, lifetime consumption of an individual is spread over his lifetime. Saving is accumulated in working years and is used to maintain consumption level after the retirement period. It suggests the importance of demographic factors in determining savings.

Despite the large existing empirical work, there exist mixed results regarding effects of interest rate on savings. Mikesell and Zinser (1973), McKinnon (1973), Fry [(1988), (1995)], Gylfason (1993) and Munir, et al. (2010) found that interest rate has a positive impact on savings, while Giovaninni (1985), Gupta (1987), Jongwanich (2010) and many others found it as insignificant.

The role of interest rate in Muslim countries is rather a complex issue. Assuming that majority of Muslims follows Islam in its true spirit, interest rate (Riba) has a very limited role in attracting savings of Muslims because interest is forbidden in Islam. The first explicit prohibition of interest came in 2 AH. The directive is found in Surah Al-Imran, verse 130 where Allah says; "O those who believe do not consume up Riba, doubled and redoubled". Latter, after the conquest of Makkah in 8 AH, the most comprehensive condemnation of Riba was in Surah Baqarah verse 275-280, where Allah says;" Those who take usury will not stand on the day of Judgment except as he who has been driven mad by the touch of the Demon. ………….Oh you who believe give up what remains of Riba if you are believers. But if you do not then listen to the declaration of War from Allah and his messenger (SAW). If you repent, yours' is your principal and nothing more…..."

In 10 AH, the Prophet (P.B.U.H.), in his famous last sermon at Mount Arafat said; "All interest obligation shall henceforth be waived. Your capital however is yours to keep. You neither wrong nor be wronged. Allah has judged that there be no Riba and that all interest due to Abbas ibn Abd Al-Muttalib shall henceforth be waived".

It is to be noted that during the period 1980 to 2013, saving rates varied considerably all over the world. Latin America and the Caribbean countries save around 20 per cent of their GDP and the East Asian countries save more than 30 per cent. Similarly, Arab countries (limited data is available) save approximately 30 per cent per cent, South Asian countries around 25 per cent; and in complete contrast the Sub-Saharan African countries save only 15 per cent of the GDP [WDI (2014)]. The situation raises an important research question, as to: why do the savings rates fluctuate between various regions. It also leads toward another related question, about the forbidden status of interest rate affects savings behaviour of Muslim countries?

The layout of the paper is as follows: the review of relevant literature is presented in Section II. Section III discusses the data sources and methodology. Empirical analysis and estimation of results, based on the data are summarised in Section IV. Finally, conclusions and policy implications are given in Section V.

II. Literature Review

There is indeed a substantial theoretical, as well as, empirical literature available on savings and its determinants. Various empirical studies have tested both the permanent income hypothesis and the life-cycle hypothesis. In this regard effects of various variables on savings are explored, including demographic factors (age groups, dependency ratio, birth rate, etc.,) macroeconomic variables (per capita income, taxes, money supply, exports and development expenditure, etc.,) and the financial variables (interest rate, inflation rate and the financial sector deepening, etc).

According to Keynes (1936), the effect of interest rate in long-run subjectively leads to changes in savings whereas, an increase in interest rate will results to an increase in savings. According to Munir, et al. (2010), the real interest rate has a positive impact on private savings in Pakistan. Athukorala and Sen (2004), Mikesell and Zinser (1973), McKinnon (1973), Fry (1988), Gylfason (1993) and Basely, et al. (1998) have also concluded that high interest rate has encouraged savings. Similarly, Chen (2002) also found that in China there is a stable long-run relationship between interest rates, savings and income. In addition, the unidirectional causality runs from savings to income, and indicates that developed financial institutions can promote the economic growth. However, Gupta (1987) found that interest rate and expected inflation rate has insignificant impact on savings; however, income has a significant impact on savings. Similarly, Agrawal, et al. (2009) concluded that in South Asia, savings are mainly determined by foreign savings rate, income, dependency rate and access to banking institutions; and, the role of real interest rate on savings is very limited and inconclusive. Loayzae, et al. (2000) also comes to the conclusion that interest rate is positive and insignificant, while inflation has a positive and significant relationship with savings.

The consumption theorists [Modigliani (1970), (1986), Deaton and Paxson, (1994), (2000)] are of the view that income and its growth determines the level of consumption and savings. Howard (1978) found that a positive correlation exists between savings and income in Canada, Germany, Japan, United Kingdom and United States. Loayza, et al. (2000) found that savings are highly affected with financial liberalization and growth rate of real per capita GDP. Baharumshah, et al. (2003) found that in Singapore, South Korea, Malaysia and Philippines savings are negatively affected by capital inflows and positively by economic growth. Ozcan, et al. (2003) found that income, inflation, term of trade, current account deficit and money supply have a positive impact on private savings in Turkey. Similar, Loayza, et al., (2000) and Jongwanich (2010) also found that GDP growth rate has a positive impact. However, credit and terms of trade have negative relationship with savings. Hussein and Thirlwall (1999) found that per capita income, economic growth and the tax revenue affects a country's saving capacity. Jilani, et al. (2013) concludes that government consumption and GDP growth rate have a positive while inflation has a negative impact on savings in Pakistan. Odhiambo (2008) finds that in Kenya, economic growth causes the savings. However,

Waithima (2008) is unable to find any causality effect between domestic saving and GDP per capita.

The rising inflation rate can negatively affect income and leads towards reduction in savings. However, an increase in inflation rate is referred as macroeconomic uncertainty. In this context, inflation force people to save for precautionary motives. Davidson and MacKinnon (1983) found a positive and significant relationship between inflation and savings in Canada and United States. However, Heer and Suessmuth (2006) came to the conclusion that in USA inflation does not significantly affect the savings. On the other hand, Bulkley (1981) and Sternberg (1981) concluded that inflation has a negative and significant effect on savings.

As mentioned earlier the life-cycle hypothesis suggests that Demographic factor, particularly the working-age population plays a major role in determining savings. Leff (1969) concluded that high dependency ratio is the main reason for differences in savings rate of developing and developed countries, and because of the higher population growth rate, savings does not increase proportionally with income in developing countries. Wakabayashi and Mackellar (1999) found that in China savings rate has a negative relationship with dependency ratios. Faruqee and Husain (1998) confirmed the significance of demographic factors to determine savings rates in Asian countries. Schmidt-Hebbel and Servén (2000) suggested that dependency ratio has a negative while income has positive impact on savings. However, Hondroyiannis (2006) and Attanasio et al. (2000) have inquired on robustness of demographic effects on savings. They are of the view that unpredictable expenses have capacity to alter savings pattern of the old-age people. The effect of urbanization on savings is positive and inconclusive according to Ozcan, et al. (2012) while Burey and Khan (1992) are of the view of a negative impact of urbanization on savings. Burey and Khan (1992) calculated that propensity to save is higher among rural households in comparison to urban households. It was also found that education and dependency ratio have negative impact on savings but no significant relationship was found between savings and occupation of households. Lee (1998) found that wage rate and female labour supply exhibits a positive impact on savings. However, according to Brata (1999), males tend to save more than females.

Greater availability of foreign savings may encourage more consumption and reduce the domestic savings. According to Fry (1995), Schmidt-Hebbel and Serven (2000), Hussain and Brookins (2001), and Agrawal (2001), foreign and domestic savings are substitutes. Held and Uthoff (1995) found that for 15 Latin American countries, foreign savings is a substitute for domestic saving and the estimated elasticity of substitution was 0.4 per cent. Reinhart and Talvi (1998) found that there was a negative relationship between domestic and foreign savings for the selected Latin American and Asian countries. Edwards (1996) concluded that per capita income growth is an important determinant of both the government, as well as, private savings; however, financial development is a major determinant of private savings. Furthermore, high foreign savings is linked with decline in the domestic savings.

According to Edwards (1996) and Johansson (1996) sound financial markets improve savings rate by offering a wider variety of financial instruments to channel savings and providing more security to savers. Sarantis and Stewart (2001) and Hondroyiannis (2006) found that in OECD countries, development of financial institutions plays crucial role in promoting the domestic savings. Loayza, et al. (2000), was of the view that financial depth has insignificant effect on national savings; however, credit availability tends to reduce savings. Haron and Azmi (2008) pointed out that there is a positive relationship between money supply and savings.

Openness becomes an important factor in determining saving and other macroeconomic indicators. More open economies tend to save more due to increased income as a result of exports. However, openness can also discourage the savings, due to greater availability of imported goods and advertising effects on consumers to enhance the consumption. Thanoon and Baharumshah (2012) are of the view that in Latin America and Asia, saving is affected by the international capital inflows, dependency ratios and exports. Ozcan, et al. (2012) found that terms of trade, inflation, young dependency ratio, income, credit availability, political instability, urbanization, real interest rate, and economic crisis have a positive impact on savings in Turkey. However, the current account deficit, old dependency ratio, financial depth and life expectations have a negative impact on savings.

III. Data and Methodology

Keeping in view the existing literature and constraints for availability of the reliable data, regarding the countries under consideration the savings function can be described as under:

$$S_{it} = \alpha + \sum_{j=1}^{k} \delta_j L_{itj} + \sum_{m=1}^{p} \pi_m E_{itm} + \sum_{n=1}^{x} \sigma_n F_{itn} + \varepsilon_{it}$$

where S_{it} represents gross domestic savings as percentage of GDP of I-th country at t-th time. α denotes intercept while L is the vector of lifecycle variables like age dependency ratio etc. It may be worth noting that the original neoclassical savings model in developing countries may require some modification as suggested by many empirical studies. Therefore, the model has been extended by including two additional vectors E and F. E represents variables which are related to the external sector, like current account, Export, and FDI as percentages of GDP, etc. The vector F consist of variables that capture the role of financial institutions, e.g., M2 as percentage of GDP, access to banking, real interest rate, etc.

Panel data for Pakistan, India, Sri Lanka, Bangladesh, Malaysia, Indonesia, Thailand and the Philippines have been used for the period 1975 to 2012. The details of major variables and their data sources is summarised in Table 1.

TABLE 1

Details of Data

Sr. No.	Name of Variables	Data Source	Description
1.	Saving Rate (SV)	WDI*	The saving rate is dependent variable of the study. It is measured as gross domestic savings as percentage of GDP.
2.	Per Capita GDP (PG)	WDI	To measure the economic growth, numerous indicators are being used. Among them per capita GDP, GDP growth rate, Real GDP, and Real GNP, are most common. The present study has used the per capita GDP as an indicator for economic growth.
3.	Age Dependency (AD)	WDI	The present study has used the age dependency ratio as proxy for this purpose.
4.	Foreign Savings (FS)	WDI	The negative of the current account balance, as percentage of GDP has been used as proxy for foreign savings.
5.	Inflation (INF)	WDI	The CPI has been used as proxy for inflation.
6.	Interest Rate (INT)	WDI	As real interest rate is relevant rate of real return for firms and households, the present study has used it as an indicator for interest rate.
7.	Openness (OP)	WDI	The measures taken to measure openness include tariffs and quotas, real exports, real imports, balance of trade and the ratio of exports and imports, as percentage of GDP is used in the present study.
8.	Financial Sector Development (FD)	WDI	The present study has used the ratio of broad money (M2) to GDP as an indicator for the financial sector development.
9.	Urbanization (UR)	WDI	The share of urban population in total population in percentage has been used as indicator of urbanization.

* World Development Indicators (World Bank).

In the panel data, if there is a large cross section (N) and large time series (T), the problem of spurious regression can be avoided [see, Kao (1999) and, Phillips and Moon (2000)]. The unlike time series and the panel data spurious regression estimates give a consistent estimate of true value of the parameter as both N and T tends to ∞. It may also be noted that there are merits and demerits of using the panel unit roots and co-integration tests. Many studies, including Maddala (1999), Smith (2000) and Banerjee, et al. (2004) are of the view that there is no need to check for stationarity in the panel data. On the other hand various recent studies like Kao, et al. (1999), Choi (2001), Smith, et al. (2004) and Groen and Kleibergen (2003), suggests that stationarity in the panel data is an issue and should be addressed.[1]

In the present study there are small time series and cross-sections, and therefore, the stationarity of the panel can be an issue. The adopted econometric techniques consist of three steps. At the first step, it has been examined, whether the panel variables contain unit root or not. In the case of existence of a unit root, the next step is to check the existence of a long-run co-integration relationship among the variables. If the long-run co-integrating relationship between the variables exists, the next step is to get the long-run coefficients. In this regard, in the presence of co-integration for panel data, various estimators, including the Pooled Mean Group (PMG), OLS, Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) are being proposed. The Chen, McCoskey and Kao (1999) are of the view that DOLS or FMOLS estimator is most appropriate estimator in co-integrated panel regressions.

IV. Estimation Results

Testing for unit roots in time series studies is the common practice among applied researchers and has become an integral part of econometric analysis. However, testing for unit roots in panels is comparatively new subject. However, various panel unit root tests have been proposed e.g., Levin (2002), Im (2003), Harris and Tzavalis (1999), Maddala and Wu (1999), Choi (2001) and Hadri (2000).The present study has used the Im, Pesran and Shin (2003)[2] panel unit root test.

The unit root test results described in Tables 2 and 3 suggest that at 5 per cent level of significance, the null hypothesis has been accepted meaning that the variables are not stationary for both, Muslim as well as non-Muslim countries. However, after taking the first difference the null hypothesis is rejected at 5 per cent level of significance. Hence, at first difference, the series are stationary and it can be concluded that series are I(1). As mentioned earlier, in such series the most appropriate technique is to check the co-integration.

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[1] See Baltagi (2005).

[2] Other unit tests are also been used to check the robustness of the Im,Pesran and Shin (2003) . The study finds the same results.

TABLE 2

Muslim Countries

Name of Variables	Level		1st Difference	
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
AD	0.6679 (0.7479)	-1.5256 (0.0719)	-1.1642 (0.1222)	-1.8083 (0.0353)
FS	-0.89971 (0.1841)	0.06824 (0.5272)	-6.47813 (0.0000)	
INF	7.69216 (0.9999)	4.61827 (0.9998)	0.72360 (0.7653)	-3.01605 (0.0013)
INT	-0.77392 (0.2195)	0.07986 (0.5318)	-4.58952 (0.0000)	
FD	0.58442 (0.7205)	0.27957 (0.6101)	-3.91126 (0.0000)	
OP	-0.17748 (0.4296)	0.38707 (0.6506)	-7.89955 (0.0000)	
SV	-0.94893 (0.1713)	0.51572 (0.6970)	-10.1623 (0.0000)	
UR	1.52428 (0.9363)	-1.08677 (0.1386)	-2.24040 (0.0125)	
PG	10.6443 (0.9999)	3.82101 (0.9999)	-4.15265 (0.0000)	

Reported values are Im, Pesaran and Shin W-stat, and the values in parenthesis are p–values.

There are three major panel co-integration methodologies available: (1) Pedroni (1999) technique can only be used for two variables, (2) Kao (1999) technique can be used for more than two variables (these two techniques are also known as Engle-Granger or residual based techniques), (3) Fisher-Johansen combined test, and Maddala and Wu(1999) have proposed to use the Fisher (1932) approach to combine the individual Johanson co-integration results of cross section to obtain t test statistics for the full panel. The present study has applied the Kao and Fisher-Johansen Panel Co-integration tests. The results are summarised in Table 4.

TABLE 3

Non-Muslim Countries

Name of Variables	Level		1st Difference	
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
AD	1.87575 (0.9697)	3.21564 (0.9993)	-1.37664 (0.0843)	-4.89063 (0.0000)
FS	-1.03432 (0.1505)	-0.67434 (0.2500)	-7.63603 (0.0000)	
INF	8.87357 (0.9999)	3.75568 (0.9999)	-0.92296 (0.1780)	-2.68329 (0.0036)
INT	-1.19832 (0.1154)	-0.76783 (0.2213)	-4.51769 (0.0000)	
FD	1.14432 (0.8738)	-0.32560 (0.3724)	-3.37903 (0.0004)	
OP	2.59890 (0.9953)	2.38878 (0.9915)	-10.8211 (0.0000)	
SV	-0.51763 (0.3024)	-0.71196 (0.2382)	-12.7449 (0.0000)	
UR	1.76840 (0.9615)	1.41904 (0.9221)	-7.64701 (0.0000)	
PG	13.1689 (0.9999)	8.69387 (0.9999)	-2.04297 (0.0205)	

Reported values are Im, Pesaran and Shin W-stat, and the values in parenthesis are p–values.

TABLE 4

Results of the Panel Co-integration Tests

Hypothesized No. of Co-integrating Equations	Muslime Countries				Non-Muslim Countries			
	Fisher Stat. (from Trace Test)	Prob.	Fisher Stat. (from Max-Eigen Test	Prob.	Fisher Stat. (from Trace Test)	Prob.	Fisher Stat. (from Max-Eigen Test	Prob.
None	4.159	0.6552	4.159	0.6552	104.3	0.0000	285.0	0.0000
At most 1	2.773	0.8368	21.19	0.0017	295.5	0.0000	78.55	0.0000
At most 2	19.81	0.0030	38.23	0.0000	178.5	0.0000	65.74	0.0000
At most 3	129.8	0.0000	58.84	0.0000	137.3	0.0000	51.92	0.0000
At most 4	147.4	0.0000	80.60	0.0000	95.88	0.0000	32.96	0.0001
At most 5	102.9	0.0000	45.88	0.0000	71.23	0.0000	34.11	0.0000
At most 6	67.76	0.0000	38.61	0.0000	44.10	0.0000	25.45	0.0013
At most 7	39.07	0.0000	27.49	0.0001	27.51	0.0006	24.22	0.0021
At most 8	26.14	0.0002	26.14	0.0002	14.50	0.0696	14.50	0.0696
Kao co-integration			-4.072792			-2.512059		
Test Statistic p value of Kao test			0.000000			0.006000		

The significant values of KAO test statistics for both Muslim and non-Muslim countries suggest that there exist co-integrating relationship between savings and different variables. Similarly, significant results of trace and Eigen value statistics for the Fisher-Johansen combined test are suggestive of the existence co-integrating vectors among variables. In brief both Fisher-Johansen combined test and Kao test results reveal the existence of co-integrating relationship. The next step is to estimate the long-run coefficients. The present study estimates the long-run coefficients by using the Fully Modified Least Square (FMOLS) technique. The results are presented in Table 5.

The results indicate that age dependency has a negative relationship with savings, both in Muslim and non-Muslim countries. However, coefficient of age dependency is relatively high in non-Muslim countries as compared to Muslim countries. It suggests that savings behaviour is more sensitive to age dependency in non-Muslim countries.

TABLE 5

Long-run Estimation Results (FMOLS)

	Muslim Countries			Non-Muslim Countries		
	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic
AD	-0.06546*	0.007574	-8.643877	-0.21610*	0.008500	-25.423140
INT	0.020314	0.024203	0.839314	0.13430*	0.033434	4.017111
FS	-0.36559*	0.020663	-17.692800	-0.14228*	0.016720	-8.509536
INF	-0.08999*	0.003546	-25.376370	-0.02470*	0.003795	-6.507757
FD	0.02240*	0.009142	2.450431	0.30369*	0.009461	32.100920
OP	0.11808*	0.006537	18.063200	0.16575*	0.007808	21.228300
UR	-0.94932*	0.019573	-48.502180	-0.01601	0.030135	-0.531451
PG	0.00523*	0.000218	24.048830	0.00714*	0.000425	16.811640
R-squared			0.902575			0.782957
Adjusted R-squared			0.893718			0.771447

* Significant at 5% level.

As far as other demographic indicator (urbanization) is concerned, it has been found that urbanization has a negative and significant impact on savings in Muslim countries and negative and insignificant impact in non-Muslim countries. Similar to various earlier studies like Hussain and Brookins (2001) and Agrawal (2001) it has been found that foreign savings have a negative impact on domestic savings, and it can be concluded that foreign savings are substitute to domestic savings.

Inflation has negative impact on savings, both in Muslim as well as non-Muslim countries. However, coefficient is higher in Muslim countries as compared to non-Muslim countries. As mentioned earlier inflation has two opposite effects. The rising inflation rate can negatively affect income and leads towards reduction in savings. However, inflation force people to save for precautionary motives and this effect can offset the negative impact. The Muslims relatively save less for precautionary motives as Islam preaches to believe on Allah about future and insist that future needs would be fulfilled with the grace of Allah and that there is no need to be worried about the future. In this context, saving is more sensitive for precautionary motive, in non-Muslim countries; due to its positive impact the inflation rate have slightly low effect on savings.

Similar to findings of various earlier studies, it has been found that economic growth enhances the savings. It supports the conventional consumption theories

presented by Modigliani [(1970), (1986)] and Deaton and Paxson [(1994), (2000)] that income and its growth determines the level of consumption and savings. Openness also exhibits a positive impact on domestic savings in Muslim, as well as, non-Muslim countries. The more open economies tend to save more due to increased income, as a result of exports.

The study finds that real interest rate have a positive and significant impact on savings in the non-Muslim countries. Although, the impact of interest in Muslim countries is positive but it is insignificant and can be inferred that in Muslim countries interest rate has insignificant role in affecting the savings. It supports our hypothesis that due to prohibition of interest rate in Islam, interest rate has very limited role in determining the saving behaviour. This result must be used with a caution as it is very difficult to distinguish the effect of religion on saving behavior at macro level. This insignificant result does not mean that interest rate has no role in determining savings in Muslim countries rather; it can infer that in comparison to non-Muslim countries there is a limited role of interest rate in determining the savings.

It has also been found that financial sector development has a positive and significant impact on savings, both in Muslim and non-Muslim countries; however, coefficient is smaller in Muslim countries. As it has been found that in Muslim countries one per cent increase in financial sector development (M2/GDP in percentage) will lead towards 0.02 per cent increase in savings (gross domestic savings/GDP in percentage). In case of non-Muslim countries, one per cent increase will lead towards 0.30 per cent increase in savings. This result can be seen in the context of the effect of interest rates on savings. As interest rate has very limited role in Muslim countries, the financial sector development will also have less role in comparison to non-Muslim countries.

V. Conclusion and Policy Implications

The present study has attempted to analyze the impact of interest rate on savings in the selected Muslim countries (Pakistan, Bangladesh, Malaysia and Indonesia) and non-Muslim countries (India, Sri Lanka, Thailand and the Philippines) of the Asia. The study has also explored various other macroeconomic determinants of savings. In this regard panel co-integration method has been used for the empirical analysis.

The study finds that age dependency, foreign savings and inflation have a negative and significant impact on savings; both in Muslim and no-Muslim courtiers. The urbanization has a negative and significant impact on savings in Muslim countries, while negative and insignificant impact in non-Muslim countries. On the other hand, per capita GDP, financial sector development and openness exhibit a positive and significant relationship with savings in all countries. As far as the impact of interest rate is concerned, it has been found that interest rate has a positive and sig-

nificant impact on savings in non-Muslim countries, while insignificant impact in Muslim countries. This reveals that to some extent, Islamic preaching regarding interest has a significant role in determining saving behavior. However, this result must be used with caution, as it is very difficult to distinguish the effect of religion on saving behavior at macro level and this insignificant coefficient does not indicate that interest rate has no role in determining savings. It is also very essential to conduct a micro level study to further explore the role of religion on household savings decisions. In future, the study should be extended by researchers to analyze the role of religious factors on savings in Pakistan by using the household data.

From the results of the present study, various policy implications can be drawn for policy makers to increase the domestic savings, in the selected countries. It has been found that economic growth, financial sector development and openness are the main factors which affect the savings positively. Thus, to increase savings it is very crucial for countries to adopt such policies which are growth enhancing, leads towards more openness of trade and provide better and easy availability of financial sector's facilities. There is also need to control inflation, dependency ratio (few children per couple) and over reliance on foreign savings (particularly, if it is because of increased imports) in order to accelerate the savings on sustainable basis.

As it has been found that in Muslim populated countries interest rate has insignificant impact on savings; therefore, the results are suggestive of the fact that in order to increase savings in these countries manipulating interest rate is not a practical policy option as changes in interest rate has insignificant impact on savings rate in Muslim countries.

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