

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

There is, by now an abundant of literature review on the determinants of saving. The relations between national savings-economic growth, national savings-dependency ratio, national savings-interest rates and national savings-foreign savings are tries to explore in this chapter.

2.1 NATIONAL SAVINGS-ECONOMIC GROWTH RELATION

Modern saving theories indicate that the rate of growth in aggregate real income is an essential determinant of the national savings rate: rapid growth increases the savings rate. Higher national savings then releases resources for the investment needed to sustain high growth. If investment is discouraged the growth rate falls, followed by a decrease in savings rate. Hence, one causal linkage between saving and investment is the growth rate, which determines saving and is partly determined by investment. For the sample of 14 Asian countries, **Fry (1984)** found that a one-percentage point increase in the growth rate raises the national savings rate on average by 1 percentage point.

However, the permanent income hypothesis predicts a negative impact of higher income growth on current savings. The relationship, however, is more ambiguous under a life-cycle model. **Modigliani (1970)** argued that in a life cycle setting income growth would

have an important positive effect on savings rate. To the extent that the economy is growing, workers savings will increase relative to retirees' dis-savings. Therefore, aggregate savings will increase. However, according to **Bosworth (1993)** has point out that there will also be an effect moving in the opposite direction. In a growing economy, workers will anticipate future income increases, thereby will tend to increase present consumption and reduce saving.

Whether the positive or negative effect will dominate is ultimately an empirical matter. A problem with analyzing this issue empirically is the observation that there is a two-way causation. Firstly, growth will tend to affect savings through the mechanisms just described. Secondly, savings will tend to impact growth through their effect on capital accumulation or investment. In an open economy, the view that high domestic savings will lead to higher investment is still under investigated. According to **Feldstein and Horioka (1980)** analyses that states that national savings and domestic investment are corresponds to each other in the long run. They argued that, in an open economy, the strong positive relationship between investment and saving as an evidence of imperfect capital mobility. It is because, foreign saving may finance at least part of domestic investment and therefore national saving and domestic investment are diverging from each other.

In an extensive study, **Carroll and Weil (1994)** examine the relationship between saving and growth on both aggregate and household level. In sum, their results give more evidence in favor of a positive temporal causality from growth to saving rather than the

other way around. The positive influence of growth on saving has played a central role on recent analyses of successful development experiences in Asia countries. In these countries there has been a “virtuous circle” going from higher growth, to higher savings, to even higher growth.

Similarly, according to **Schmidt-Hebbel and Serven (2000)**, stated that savings rate and income growth rates are positively correlated. This implies that, economies that grow faster save more on average. The combined time-series and cross-country correlation between the gross saving rate and income growth is 0.21 and is significant. In contrast, **Attanasio, Picci and Scorcù (2000)** found that growth granger cause saving, although the effect seems rather weak. They report that increase in savings rate does not always precede increase in growth, and that a negative exists between lagged savings rate and the current level of income. This could show that agents will save if they anticipate a negative shock that may affect their income in the future.

Consistently with what was described, a positive relationship between both variables has been largely reported. However, the interpretation still remain controversial, with some authors claiming that growth induces saving and others defending the view that saving lead to growth through its impact on investment. Therefore, the effect of that variable on saving is ambiguous, needs to be determined empirically.

Important issues need to be addressed here regarding the specification model in the next section. An unanswered empirical issue is the role of economic growth on national

savings. Therefore, we used gross national product rather than per capita income in the econometric model (Baharumshah, 2003). This allows us to empirically test the argument: “Higher growth rate precedes higher saving rather than the other way around and economic growth is the most powerful determinants of saving in the long run” (Gavin, Hauamann and Talvi, 1997).

2.2 NATIONAL SAVINGS-DEPENDENCY RATIO RELATION

Life-cycle theory on saving suggests that people will have negative savings when they are young and have very low income, positive savings during their productive years, and once again negative savings when they are old and retired. This implies that, saving is dependent on the population age. This also means that, the higher the dependency ratio the lower is the saving rate.

The dependency ratio is defined as the share of population under age 15 and over 65 divided by the population age 15-65. Dependency ratio is the most popular demographic variable used in savings literature. The young and the elderly are expected to consume out of past savings while the persons of working age are expected to accumulate savings. An increase in the dependency rate of the young and the elderly is associated with a reduction in saving. This implies that, countries in a demographic transition could experience significant shifts in their savings rate over time. Consequently, it also indicated that there is a close causal link between the development of well-organized capital markets and the number of children in the family. Both are perceived as

alternative means of maintaining income in old age. As a result, as a country becomes more developed, the age structure is likely to change. Hence, higher savings rates are likely to replace the benefits expected from children. In addition, if individuals have positive bequest motives, they will tend to leave a part of wealth to their heirs. As a result, bequest motive will yield a positive saving-dependency relation (**Taylor, 1992**).

However, the exact relation between dependency ratio and saving is mixed. For instance, **Muradoglu & Taskin (1996)** have showed that, the dependency ratio has a negative parameter coefficient in the savings rate equation for developing countries. This implies that, as the dependency ratio decreases, higher savings rate are expected to become a substitute for the benefits expected from children. Similarly, **Higgins and Williamson (1997)** use pooled cross-section and time series data from a number of Asian countries, found strong negative effects of the dependency rate on saving. Then, **Lahiri (1989)** found that the age dependency ratio to be a significant determinant of saving. Empirically, under Lahiri's specification, a 1% point increase in the dependency ratio lowered the long run average propensity to save by 1.6% points in India, Korea, Malaysia, Singapore and Sri Lanka.

Furthermore, **Muhleisen (1997)** shows that the age dependency ratio is the most significant determinant of saving, with the usual negative relationship between the two variables. Conversely, **Faruquee and Husain (1995)** contend that the impact of the dependency ratio on domestic savings is positive in developing countries. Similarly, **Baharumshah (2003)** found a significant positive relation between these two variables in

Singapore and Malaysia. As a result, the effect of dependency ratio on saving is ambiguous and has to be determined empirically.

2.3 NATIONAL SAVINGS-INTEREST RATES RELATION

Then, the conclusion of the bulk of literature on the effect of interest rates on saving behavior is still debatable. This ambiguity has not been solved, and the direction of the response of aggregate saving to an exogenous increase in the interest rates still remains vastly controversial. The evidence is mixed with some suggesting that the interest rate carries a negative effect while others claim that it is positive. This all depends on either the income effect or substitution effects dominating. If the substitution effect dominates the income effect, then the saving ratio rises with an increase in interest rates. In contrast, if the income effect is larger than the substitution effect, then the saving ratio falls with an increase in interest rates (Rossi, 1988).

Again, the sign of the interest rates elasticity of saving is ambiguous, both theoretically and empirically. For instance, Thannoon & Baharumshah (2001) found a significant negative relationship between savings and interest rates for the ASEAN countries in the long run. In contrast, more recently Baharumshah (2003) found that the savings-interest relationship is not vigorous in Malaysia, Singapore, Thailand and Korea in the long run. For the case of Malaysia, Singapore and Korea, the interest coefficients have positive signs and are significant for all except Malaysia. In the case of Thailand, a negative coefficient was observed between saving-interest relations. This implies that, the income

effect was superior to the substitution effect for this country. On the other hand, a significant positive effect between interest rates and saving rates has been reported in Chile (Vegara, 2001). As a result, the influence of interest rates on saving needs to be determined empirically again in this panel of study.

2.4 NATIONAL SAVINGS-FOREIGN SAVINGS RELATION

In the empirical work analyzing aggregate saving, foreign savings indicators are commonly used as explanatory variables. The access to foreign borrowing in international markets is expected to supplement domestic savings and fill the gap between domestic investment and national savings. Therefore, the capital inflows are expected to reduce domestic savings and furthermore decrease national savings. Beside that, according to **Obstfeld & Maurice (1995)** who stated that, in an open economy models have two views. Firstly, domestic interest rates will be linked to international interest rates. Secondly, in an open economy agents can use foreign borrowing to smooth consumption through time. This implies that, foreign savings will act as substitutes to national savings. As a result, foreign savings is therefore expected to have a negative parameter coefficient on saving function. **Muradoglu & Taskin (1996)** and **Giovannini (1985)** have showed that for developing countries, the foreign savings variable exerted a negative significant impact on national savings.

Besides that, **Edwards (1995)**, **Holt & Uthoff (1995)**, **Schmidt-Hebbel, Webb & Corsetti (1992)** point to the substitutability of national and foreign savings. They state

that, in the overwhelming majority of countries, the correlations between national and foreign savings are negative. Of the 24 countries in previous studies, 18 to 20 of them show a negative correlation. Among the remaining handful of countries with the positive correlation, none are statistically significant. As a result, it was concluded that foreign saving exerts a negative coefficient on national saving. In this paper, we use current account as a broad measure of foreign savings. In this way, the effect of foreign savings on national savings may be examined.