The Income - Psychologically and Commercial Mobile of Saving Process

Oana Oprisan\textsuperscript{1}, Grigorescu Adriana\textsuperscript{2} & Condrea Elena\textsuperscript{3}

\textsuperscript{1}Associate Professor PhD, Faculty of Economics, "Ovidius" University, Constanta, Romania
\textsuperscript{2}Professor PhD, National University of Political Studies and Public Administration, Bucharest, Romania; Associate member of Academy of Romanian Scientists, Splaiul Independentei 54, 050094, Bucharest, Romania
\textsuperscript{3}Professor PhD, Faculty of Economics, "Ovidius" University, Constanta, Romania

Abstract: This paper presents one of the influencing factors of the process of saving by households. Specifically, the saving most powerful causative factor is the income (understanding the income as net nominal wages), followed by consumption and investment.

Throughout this article are analyzed the average nominal wage developments, consumption patterns and the impact of tax and social pressure on the saving process. It was found that the tax burden has a significant impact on consumption and saving respectively. High taxes, for example, reduce the present value of disposable income and thus reduce savings. Consumption and saving response to changes in tax system depends to a large extent on that the tax change is considered to be temporary or permanent. The conclusion that emerges is that the connection that is established between fiscal and social pressure and the savings is regressive.

Regarding the income, as a determinant of the saving process, it was found that its level and structure during 1990-2011 were strongly influenced by the phenomenon that took place in the labor market. Thus, an aim sought was shaping the evolution of fluctuating incomes over a period of 21 years. Therefore, we performed a comparative presentation of their development in rural and urban areas, leading to the conclusion that household income had a growing trend, but due to price increases, wage indexation proved to be insufficient.

1. Introduction

Saving process has a long history. Since the beginning of civilization, people have realized the need and ability to hold, leaving some of their current production to be used in the future as consumer goods and the additional economic resources.

We must keep in mind that there are two periods of non-saving in an individual's life: his youth years and retirement years.

It is easy to note that young people income is low income and they often turn to debt (non-saving) because they know they will make more money in the future, in active period. During years of work the income increases, reaching a maximum rate at middle age, when people pay the debts they have done previously and they will also increase the required savings of years of retirement. When the retirement is approaching, the employment income reaches zero, and people begin to consume the previously accumulated savings.

2. Income - savings - investment

Saving depends primarily on income. People tend to save more as their income increases, increasing revenue growth, will increase their savings, in relation to revenue. Sometimes, the desire to save gradually come to exceed willingness to invest, in which case, the objective of saving a greater amount will be hampered by an insufficient aggregate demand, leading to lower production, resulting in an higher unemployment until reduced revenues obtained by those who save will cause them to stop saving at a higher rate than investors want to spend. It is known that representatives of both theory based on supply and demand agree that higher real income depend on the appropriate rate investment corresponding. However, while proponents of economic theory based on the offer believes that increased investments depends on increasing the impulse to save, representatives based on demand theory believes that saving will adjust its own care, given that it can maintain investment costs, the solution was the maintained demand for goods, so that investors want to buy capital goods.

If it can be maintained a chronic tendency to insufficient demand, determined by the force of the powerful saving, over investors desire to spend, this could prejudice the conduct of investment activity given by the state of confidence, that the aggregate willingness to invest to really drop, which would generate the "paradox of thrift". Paul Hayne,
describing this paradox in Keynesian perspective, was said: "an increased desire to save is deteriorating so much the interest in investing that production and income fall below the level at which savers can even support their saving rate desired before". Representatives of the economic theory based on offer appreciate that the fear of super-production or under-consumption is unsubstantiated, saying that the super-production is not a problem because it is essential to increase production so that people can enjoy the things needed to live, in conditions becoming better. In this context the government function in the economic system is not to stimulate the demand, but to defend the impulses, particularly by maintaining property security. Natural desire of people to improve their living conditions make them produce, save, invest and therefore continually to increase the production, thus, the consumption, through the increasingly demand will be the critical factor that will be "care of itself."

It is claimed by this explanation, the fact that the aggregate demand will always be appropriate and that the real economic problems are actually supply failures. However, the Great Depression of the '30s removed this optimistic conviction, bringing evidence, such that aggregate demand can lead to serious problems in an economic system. Keynesians argue that the economy is not inert stable in the absence of disruptive changes in money supply. In their vision, disturbances are coming from uncertain volatility of private sector expenditure decisions, especially investment, which can be amplified by the functioning of markets. The Keynesian concept, aggregate demand may be insufficient to maintain chronically high levels of output and employment. In these conditions, saving trend will delay the growth process, removing a part of some demand-side impulses. Classical theory believes that aggregate demand is always "welcome" and saving accelerate economic growth, supporting new investment in capital goods, with consequences for productivity and supply growth.

Elements that must be taken into account in any investment process are:

- **Incomes**, because, generally, are dependent on investment income to be derived from overall economic activity, in the conditions at a time.

- **Costs** whose evaluation is complicated when the service life of an asset is acquired for several years, capital costs must be calculated depending on certain factors. The interest rate for a short period, has a great importance, because the investment may be deferred for a further period, not very long, if the interest rate is not considered convenient.

- **Expectations** - the main determinant element of investment. Investments depends directly on expectations and projections about future events. Forecast and analysis in this sense attempt to eliminate uncertainty and to reduce investment risk. Projects or investment programs lead primarily to increased stock of fixed capital, being the main factor to achieve modernization and economic development by creating new structures in accordance with perspective and strategic options of society.

### 3. Investments in economy

At the economy level, the investment concept means that all costs are for the purchase of capital goods to increase the wealth of society.

Purchase of durable consumer goods, shares and bonds, of some land surfaces, are investments in the economic sense because their use does not contribute to the technical capital and national wealth, but only change their owner.

In relation to the use of purchased capital goods, investments are divided into:

- Replacement investments, in replacement of fixed capital goods removed from office because of their impairment. The source of these expenses is the amortization;

- Development or net investment, for real technical capital volume increase, I mean net capital formation, whose source is formed by saved income.

Sum of replacement investment and net investment, development, forms gross capital investment that contribute to gross technical capital formation.

Gross investment consists of investment in capital goods (durable), excluding costs for household goods, which are included in private consumption and durable goods, which includes the production of the intermediate state and stock investment, the change in stocks of raw materials, half finished and finished products by own production, for sale.

When in economy gross investment amount is less than the amount of replacement investment has been a reduction in real technical capital, a phenomenon of un-investment.

In terms of the owner, we have **private investment** - by the private sector - and **public investment** - by state, and in terms of countries (where performed), we have **domestic investment** - which is conducted within national borders of a state, and **foreign investment** which is made in other or to other countries.
Also, after the field is done, we have industrial, agricultural investments, etc. There are also other criteria for the classification of investments.

Income of a period corresponds, on the one hand, to an application for consumer goods (C) and capital goods (investment) (K), disposable income spent being equal to:

\[ VND = C + K \]  \hspace{1cm} (1)

on the other hand, of an equal value of income for consumption and savings, when disposable income obtained is equal to:

\[ VND = C + E \]  \hspace{1cm} (2)

In this case, savings and investment in the national economy, considered as a closed system, can only be equal, representing a surplus of income over consumption expenditures: \( I = E \).

Equality of the two quantities arises from the fact that they represent, for the community economy, two sides of the same process. Thus, while the economies expresses the collective behavior of the individual consumer, the investment reflects the collective behavior of the entrepreneur.

When \( E > I \), the economies represent a loss of income, recording an economic decline. At the same time, economic growth makes that, in time, the growth rate of consumption to reduce, having a negative influence on the profits. But acting through levers to stimulate the investment, the equality between \( E \) and \( I \) is created, at a higher disposable income, due to the multiplier effect that occurs in the economy.

The decision to invest is based on comparative analysis of a series of economic indicators such as:

- the ratio between present value of income which follows to be obtained from the investment, and the investment cost;
- ratio between updated income rate and real interest rates (or opportunity cost of investment).

According to the first economic criterion, the decision to invest is favorable if the present value of income is higher or equal to the size of the investment cost. If the investment cost is higher than the present, the investment should not be built.

As an investment income is a future income, it must be updated, brought to the present size.

The equation for calculating the present value \( V_p \) of an income that will get over \( n \) years \( (V_n) \) is:

\[ V_p = \frac{V_n}{(1 + d)^n} \]  \hspace{1cm} (3)

where \( d \) = nominal interest rate

This present value is a coincidence with the size of a money deposit created now, providing, over \( n \) years, an income which includes the interest accrued on initial income.

In an economy, at a certain level of income, investments increase or decrease depending on the joint action of several factors. At the same time, understanding the meaning of each factor action requires to consider the influence of others is neutral. In all of these factors, the most important are:

- demand for investment, future yield of capital good;
- profit fluctuations in existing investments, state policy in investing;
- general condition of the national economy;
- global economic situation;
- repayment period of investment;
- maintenance and operation costs of the produced capital goods;
- dominant type of technical progress and the degree of acceleration of innovations and inventions;
- capital goods stock size in relation to developments in production requested by the market;
- investors’ expectations about the evolution of sales and profits in which they invest;
- the level of taxation in relation to profits, etc..

4. Objectives:

Research subject is the process of saving of the population, especially the impact of income as an influencing factor of this process evolution. Theoretical–scientific and methodological support of the presented work is based on the works of renowned scientists: A. Smith, D. Ricardo, JS Mill, D. Marshall, J. M. Keynes and other economists from abroad and domestic. As informational support of the work has served the National Institute of Statistics, National Bank of Romania, the Banking System Deposit Guarantee Fund, sociological data and statistics in Central and Eastern European countries.

In describing the work was taken into account the content of national and international socio-economic development programs and national conferences and international theses. In terms of
comparative, international organizations data and assessments are used (World Bank, International Monetary Fund) which reflects the main socio-economic indicators of living standards and welfare.

Regarding the saving behavior of the population, applied to the Romanian economy, the paper aimed to achieve objectives such as:

1. draw conclusions about the impact of taxation and social pressure on the process of saving;
2. application of econometric models, making typing on the economic theory of the phenomenon observed;
3. highlight the influence of income evolution on saving process development;
4. highlight the relation of income - inflation - passive-saving interest rate.

5. Methodology:

Research methodology was based on the use of methods such as dialectical method with its components - analysis, synthesis, induction, deduction, research from simple to complex, from historical to logical, from quantitative to qualitative changes and internal methods of economic subjects - observation, comparison, selection, grouping, etc..

Given the fact that generally most economic phenomenon and processes are linear, we chose for our country the linear regression model using the software package EViews 5.0 to study the connections that are established between the savings and income of the population, the rate of fiscal pressure and the rate of social pressure.

6. Correlation between income and saving

Correlations between disposable income as independent variable and saving as dependent variable can be analyzed using linear model used in the software package EViews 5.0. The connection that has been established between income and saving is one of the form:

\[ E = f_3(Y) \]

where \( f_3(Y) = c_1 + c_2 \times Y \)

So in the case of Romania the main source of income is the salary of the population. The dynamic, in time, and the change of real value of different forms of revenue, have a decisive impact on the save propensity of the population. Salary (income), influencing the household savings rate of 69.96% (see table below), that represents a direct proportion influence:

### Table No. 1 - Results of econometric tests that describe the relationship between income and saving

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>1931.502</td>
<td>43.23630</td>
<td>44.67315</td>
</tr>
<tr>
<td>C(2)</td>
<td>1.966926</td>
<td>0.099730</td>
<td>19.72247</td>
</tr>
</tbody>
</table>

R-squared 0.699627 Mean dependent var 2485.006
Adjusted R-squared 0.697829 S.D. dependent var 777.8230
S.E. of regression 30530327 Akaike info criterion 14.96584
Log likelihood -1262.617 Schwarz criterion 15.00292

Source: EViews calculations

Given the values obtained from testing, we consider as representative the given link, which will take the form:

\[ E = 1931.502 + 1.966926 \times Y \]

### Fig. no. 1 - Salary and population savings

Source: Data collected from NBR reports and processed with the software EViews 5.0

In conclusion we can say that the used econometric model is a representative description of the link between wages and savings. The model shows that a change in salary with 1 lei causes a change in economies with 0.019 lei. This direct relationship between the two variables conforms to the theory.
7. How the crisis influenced the structure of revenues, expenditures and savings of population

According to published on Tuesday INS data, in T4.10, the total average monthly income of households were 2308 lei, down by 3.4% from T4.09 and by 0.5% from T4.08. In other words, the last two years, revenues have virtually stagnated, while prices rose by nearly 14%, which means that purchasing power has declined accordingly.

In terms of expenses, those totaled 2,114 lei, down by 1.3% compared to last quarter of 2009, but 1.6% above the level recorded in last quarter of 2008.

*Income of population*

Of the total income of households, wages had a share of 48.6%, percent down from 2008 when the share exceeded 50%. Meanwhile, income from social benefits climbed from 22.3% in T4.08 to 25.3% in T4.10.

Decrease in wages was determined so that state employees have suffered a reduction in wages by 25%, and the fact that the number of employees decreased from 6.348 million last quarter of 2008, to only 6.09 million last quarter 2010 (this includes the work on black).

*Expenses of population*

But really interesting is the evolution of population structure of consumption expenditures over the past two years - overall, in T4.10, consumption expenditure of households totaled 1,515 lei per month, up to 27 lei (1.8%) than T4.08, but as prices have risen in the meantime, consumption was reduced in volume by about 12%.

How did the structure of expenditures evolved in the last two years:
- expenditure on purchasing food products and soft drinks increased by 0.8 percentage points, from 40% to 40.8%, which in absolute amount is an increase from 595 lei to 618 lei (3.9 %);
- expenditure on purchasing alcohol and tobacco rose from 6.9% to 7.7%, increase in absolute amounts was 13.6%, from 102.6 lei in 2008 to 116.6 lei in 2010. This development shows that significant price increase did not result in a decrease in consumption as people prefer to cut from somewhere else than to stop smoking or alcohol.
- also increased was the share of health expenditure and transport, details in the next picture.
- and that in terms of income should decrease your expenses somewhere, reduction was felt most in funds allocated to purchase shoes and clothing (amount decreased by 16% from 110 lei to 92.4 lei per month), and in recreation and culture costs (-13.6%, from 68.4 lei to 59 lei).

*Saving*

In the fourth quarter of 2010, household spending accounted for 91.6% of total revenues, so increasing percentage from 2008, when expenses were 89.8% of revenues, and from 2009, when expenses were 90.6% of income.

In these conditions, taking into account that the number of households is about 7.4 million, resulting in T4.10 that the population has saved approximately 4.3 billion, with 0.98 billion lei or 18.5% less than same quarter in 2008 and 1.2 billion or 21.5% less than T4.09.

Throughout the year 2010, savings have reached 21.4 billion lei, up from 23.9 billion in 2009 and 19.2 billion in 2008. In 2007, the year of full exuberance of consumption, savings totaled almost 13 billion.

8. Conclusions

On the Romanian household saving behaviour drives a large number of variables, but we mention those whose influence can be considered as statistically significant in appropriate econometric tests. Theoretical basis showed that in our country the income is the main influencing factor.

The revenue growth rate is higher, the savings rate will be more important. Besides income, inflation seems to have a positive influence on household saving rate, any acceleration of inflation rendering, generally, in an increase in the rate of saving. Finally, the evolution of deposit rates have an impact on the saving rate, but not quite relevant.

Income is the primary determinant element of consumption and savings. Rich people save more than the poor, both in absolute terms and as percentage of income. The very poor cannot save at all. However, as long as I can borrow, I can spend the gathering, they tend not to save. This means they can spend more than they gain, declining acquired economies or sinking further into debt. Milestone of modern society, changing individual psychology, the idea of what investment as classical notion means, all that changes. In a knowledge society, innovation is the instrument by which entrepreneurs exploit the changes as opportunities to start new businesses, new investment.

9. References


