

ANALYSIS OF THE MAIN THEORIES OF INTEREST RATES

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Abstract

The key of the debate today for the interest rate is characterized in three key issues: the interest rate as a phenomenon, the interest rate as a product of factors (dependent variable) and the interest rate as a policy instrument (independent variable). There are many different authors and theories which speak about interest rates. The main theories of interest rates are: Theory of Austrian School; Neo-Classical Theory; Theory of liquidity and Theory of loan. Besides representatives of the theories that mentioned in the paper, analysis mainly includes differences of the main theories interest rate that grouped on these elements: Essence of the explanation; Key concepts; Understanding and defining the interest rate; Initial assumptions; Independent Variables; Relations and Hypotheses; Operational mechanisms underlie the process and causation model suggesting; Offered solutions and apply the suggested policies. Differences of the main theories of interest rates helped us to know and measure with interest rate from different perspectives and debated in the world today.

Keywords: Theories of interest rate, operational mechanisms, causation model, Debt

INTRODUCTION

Today, everything has a price. In finance, the price means the interest rate. Interest rates represent the key of the debate today in the world, as the markets, banks everywhere. The purpose of this paper is to analyze the main theories of interest rates in order to deepen other issues more carefully. Four main theories of interest rates are: Theory of Austrian School, neoclassical theory, the theory of liquidity and loan theory. The in-depth analysis mainly includes differences of the main theories of interest rate.

RESEARCH METHOD

The research was conducted according to the methods of deductive, comparative and analysis. To achieve the objectives of the research, the research is based on secondary data provided through similar research published and basic text books. This article is divided into four main parts. The second part of the article contains a methodology..The third part of the article contain review of the literature. The fourth part of the article shows analysis of the main theories of interest rates. The conclusion are present in the last part of the article.

LITERATURE ON THE MAIN THEORY OF INTEREST RATE

Many debates on interest rate exist today. There are many different authors and theories which speak about interest rates. The main theories of interest rates (Rothbard, 2001) are:

- Theory of Austrian School, with the main representatives: Eugen von BohmBawerk (1841-1914); Ludwig von Mises (1881-1973). According to this theory, the interest rate charges explained how the law of marginal utility of goods (Friedrich von Wieser, 1851-1926) that has to do with "time-preference" of people to capital, money, goods exchanged/produced (Eugen von BohmBawerk, Capital and Interests, 1890); exchange practices/choice of goods (the current vs future), and through transactions that perform (commodity, money, loan) (Ansgar Belke, 2009).
- Neo-Classical Theory, with the main representatives: Jeremy Bentham (1748-1832); Carl Menger (1840-1921); Leon Walras (1834-1919); Hermann Heinrich Gossen (1810-1858). According to this theory, the interest rate is explained by the laws of decreasing marginal utility (Hermann Heinrich Gossen 1810-1858) whom: Law 1: increased consumption of a commodity generates a positive benefit, but the satisfaction of additional consumption may not be so great as that generated by the previous consumption; Law 2: in an optimal condition, the ratio of exchange of goods/price is equal to the ratio of marginal utility of goods in circulation (Ansgar Belke, 2009).
- Theory of liquidity with the main representatives: John Maynard Keynes (1883-1946). According to this theory, interest rates are explained by the role of money (demand-supply) (Ansgar Belke, 2009).
- Theory of loan with the main representatives: Knut Wicksell (1851-1926). The Interest Rate explains the difference/neutral norm deviance (the economy) vs free rate (the market) (Ansgar Belke, 2009).

ANALYSIS OF THE MAIN THEORIES OF INTEREST RATES

Today's debate on the interest rate is characterized by three key issues: the interest rate as a phenomenon, the interest rate as a product of factors (*dependent variable*), and the interest rate as a policy instrument (*independent variable*). Analysis of four main theories of interest rate are presented in these characteristics:

- 1) The essence of the explanation;
- 2) Key Concepts;
- 3) Understanding and defining the interest rate;
- 4) Assumptions initials;
- 5) Independent variables (factors influencing the interest rate);
- 6) Relations & hypothesis that have raised;
- 7) Operating mechanism at the base of process & model suggesting causation and
- 8) Solutions offered the suggested policies apply.

What explains the interest rate?

The interest rate is explained by four main theories:

- Theory of Austrian School explains the interest rate the law of marginal utility of goods. (Friedrich von Wieser, 1851-1926)
- Neo classical theory explains the interest rate laws diminishing marginal utility. (Herman Heinrich Gossen 1810-1858)
- Liquidity theory explains the interest rate on the role of money (demand and supply). (John Maynard Keynes 1883-1946)
- Loan theory explains the interest rate difference between the neutral rate (economy rate) compared to the rate of the free (market rate). (Knut Wicksell 1851-1926)

What are their keywords?

The main theories key interest rate characterized by the terms set out in the Table 1, on page 4:

Table 1. The main theories key interest rate

<p><u>Austrian School's theory</u></p> <ul style="list-style-type: none"> • time-preference • borrowing/lending • savings/investment/consumption 	<p><u>Liquidity Theory</u></p> <ul style="list-style-type: none"> • supply/demand for money • report bonds/money • bonds (demand, price, profit) • fear lending/investment risk/reliability • transactions/ attention to the future/ speculative purposes • Public agents (government) and private (individuals, banks, businesses)
<p><u>Neo-Classical Theory</u></p> <ul style="list-style-type: none"> • saving/investment/consumption • profit rate of investment/investment risk • revenues • productivity/efficiency of capital 	<p><u>Loan Theory</u></p> <ul style="list-style-type: none"> • interest rate (natural/market) • time-preference (consumption/savings / investment) • productivity/capital • incomes (for today, future) • population/labor force • agent (public/private)/fiscal policy • borrowing/lending • risk/return/exchange/inflation • structure of markets/market efficiency • distribution (risk, liquidity, savings)

How understood interest rate as a phenomenon?

The interest rate is understood as a phenomenon, as a dependent variable (product influences) as well as the independent variable (influencing factors).

- According to the theory of the Austrian School, the interest rate:
 - As a phenomenon, understood as an element of the free market and impairment (Ludwig von Mises 1881-1973), also defined as individual rational choice or agent.
 - How dependent variable, determined by time seen - or decision-making preferences of people.
 - As an independent variable, seen as influential money through interest, bond interest and interest profit, which influence over reports that present goods in comparison with the goods of the future and the balance of savings or investments.
- According to neo classical theory, the interest rate:
 - As a phenomenon, understood as economic in nature and defined as a rational choice of the individual or agent.
 - How dependent variable, seen determined by time - preference and capital productivity.
 - As an independent variable, seen as influential money through interest, bond interest and interest profit, which influence over reports that present goods in comparison with the goods of the future and the balance of savings or investments.

- According to the theory of liquidity, interest rate:
 - As a phenomenon, understood as a force in itself, without regard to real economic development and is defined as purely monetary element.
 - How dependent variable, determined by the dynamics seen the request-the money supply and liquidity.
 - As an independent variable, seen as influential in two forms: 1) the nominal interest rate related to government bonds, index of consumer goods' price and expectations of market agents for inflation. 2) real interest rate relating to securities, the price index of goods and market expectations of agents for inflation. Also, the interest rate as an independent variable influences on investment, production and employment.
- According to the theory of the loan, the interest rate:
 - As a phenomenon, understood as a phenomenon rel (Woodford, 2000, 2003; Bomfin, 2001; Neiss & Nelson, 2003), and is defined as borrowing Paktika.
 - How dependent variable, seen determined by demand / supply flows, the dynamics of borrowing / lending and dynamics of the natural rate / market rate. Natural interest rate represents the ratio of the economy in equilibrium where the current is within the potential yield and the price of money remains unchanged. But the real market rate represents the ratio of the loan market which is determined by demand-supply of money.
 - As an independent variable, seen as influential through three forms: 1) high deviant, when the interest rate market is the natural value; 2) neutral, when the interest rate is equal to the natural value, and 3) low deviant when intreresit market rate is below the natural value. As independent variable influences on yield / production of economy, employment, the price of goods and economic growth with low inflation.

What are the initial assumptions of the main theories of interest rates?

Initial assumptions or truths that are accepted as such, the theory of the Austrian School are five, the neoclassical theory are six, the theory of liquidity are eight and the ninth are to loan theory. Sumarrized, they are presented in Table No. 2.

Table 2. Initial assumptions of the main theories of interest rate

<p><u>Austrian School's theory (5)</u></p> <ul style="list-style-type: none"> • Time-Format Preferences, • Preferences features Time-High, • Features Time-Preferences low, • Lending & Borrowing, • The equilibrium interest rate. 	<p><u>Liquidity Theory (8)</u></p> <ul style="list-style-type: none"> • Bonds and Money, • Agent Preferences, • The demand for money, • Relations of lending / borrowing • The price of the bond, • Nobel money (liquidity), • Government bonds and korportave, • Fears, risk and compensation
<p><u>Neo-Classical Theory (6)</u></p> <ul style="list-style-type: none"> • Rate of interest • marginal benefit, • Investments, • Savings, • Consumption, • Income. 	<p><u>Loan Theory (9)</u></p> <ul style="list-style-type: none"> • Report the natural-rate market rate, • monetary balance, • Elasticity of demand, • Elasticity of investment • Personal agent, bank, bank deposits, lending by banks, • Public Agents and fiscal policy • Productivity, population of, demand for investment, financial markets, • The rate of exchange.

What are the independent variables that emphasize?

Each of the theories of interest rate emphasized their independent variables. Theories that emphasize free variables grouped, usually exert influence in the forms of higher or lower, the present or the future, with a value greater or smaller, stimulating or not stimulating.

- Theory of Austrian School, as independent variables highlights:
 - Time-preference (V1) and
 - The quantity of goods to be delivered / exchanged (V2).
- Neoclassical theory, as independent variables highlights:
 - Time-preference (V1) and
 - Productivity / efficiency of capital (V2).
- Theory of liquidity highlights three groups of independent variables such as:
 - Request / offer for money (V1-V2-V3), variables that represent the balance of cash, which exert influence in shape when demand and supply are equal, demand is greater than supply (inflation), and demand is less than the offer (deflation).

- Attitude / fear of agent (V4-V5-V6) this set of variables independently represent the position or the agent to inflation fears borrower creditworthiness and investment risk or bonds, which exert influence in the form of high-level or lower.
- Care / attention agent (V7-V8 -V9), this set of variables independently represent the position or the agent's attention to transactions that reflect the future that has to do with income and profit reflecting speculation on the difference in rates profit. In addition, this set of variables exerts influence in the form of high-level or lower.
- The theory of the loan, as independent variables highlights:
 - Time-preference (V1);
 - Productivity (V2);
 - Population of (V3);
 - Fiscal policy (V4);
 - Price risk (V5) and
 - The institutional structure of financial markets (V6).

What are the relationships and hypothesis that articulate?

Each relational theory articulates and makes its own assumptions. Differences, comparisons and analysis presented by the theory on.

- **Theory of Austrian School** articulates and makes these:

- ***Relations:***

Oblique, has to do with the variables of time preference & savings, and time preference & investment, the value of the variables goes in direct opposition to each other.

Rights, has to do with the variables of time preference & report goods, and time preference & consumption, the value of variables goes towards the same, positive or negative with each other.

- ***Hypothesis:***

- 1) The relationship of time-preference & report Freight:
 - As with the higher the amount of goods offered now in relation to those offered in the future, the higher will be the level of time-preferences; and
 - As with the smallness of the quantity of goods offered now in relation to those offered in the future, the lower will be the level of time-preferences;
- 2) The relationship Kohe-Preference & Consumption:
 - The lower / higher is time-preference people so low / high is the level of consumption;
- 3) The relationship Time-Preference & Savings:
 - The lower / higher is time-preference people so high / low is the level of savings;

4) relationship Kohe-Preference & Investment:

- The lower / higher is time-preference people so high / low is the level of investment

5) For the relationship Commodities & Time-Preference & Savings & Investment & Consumption & rates:

- When time-preference towards commodity undergoes reduction, consumption falls, the savings grow, investments grow, the interest rate decreases;
- When time-preference towards goods is also increasing, consumption grows, savings are reduced, investments are reduced, the interest rate increases.

- **Neoclassical theory** articulates and makes these:

- **Relations:**

Oblique, has to do with variable rate interest & investment requirements, the level of investment & profit rate of investment profit rate of investment & productivity of investment, demand investment & risk investment & perception of risk, the value of variables go in reverse with each other.

Rights, has to do with variable interest rate and saving, saving and report consumption of current or future, provided that the value of the variables goes towards the same, positive or negative with each other.

- **Hypothesis:**

1) The relationship interest rate & savings:

- The higher / lower is the level of savings as higher / lower is the interest rate

2) The relationship interest rate & Investment Requirements:

- The lower / higher has been the demand for investment as higher / lower is the interest rate;

3) The relationship level of investment & profit rate of investment:

- The higher / lower is the level of investment, the lower / higher is the rate of return on investment;

4) Te relationship profit rate of investment & productivity of investment:

- The lower / higher is the yield so high / low is profit rate of return of investment

5) For the relationship Savings & report consumption Current / Next:

- The higher / lower is the level of savings from income, as higher / the lower is the rate of replacement of current consumption with consumption next;

6) For the relationship requirement for capital investment & risk Investment & perception of risk

- How high / low is the risk of investment and the perception of risk, the lower / higher is the demand for investment by investors;

- **Theory of liquidity** articulates and makes these:

- **Relations:**

Oblique, has to do with variable interest rate & reliability & fear credit & bonds (demand, price), and interest rate & money & bonds & agents, where the value of the variables goes in direct opposition to each other.

Rights, has to do with variable interest rate & fear inflation & risk investment & compensation risk, the value of variables goes towards the same, positive or negative with each other.

- **Hypothesis:**

1) The relationship interest rate & fear inflation & risk investment & compensation risk

- The larger / smaller is the fear of inflation (reports asking for money is greater than the money supply), the bigger / smaller is the risk of investment, the more increase / decrease the price of compensation seeking investors, the higher / lower carried interest rate;

2) The relationship interest rate & reliability & fear credit & bonds (demand, price):

- How much higher is the reliability of the borrower, the smaller is the fear of the lenders to the risk, the higher is the demand / price for bonds of the borrower, the lower is the interest rate;
- As with the higher the confidence to borrowers, the higher is the fear of lending, the lower is the demand for bonds of it, the higher is the sale of bonds, sovery low price for them, the more interest rate rises, the more investors move their investments to bonds with less risk or low risk;

3) The relationship interest rate & money & bonds & agents:

- The higher is the cost of holding cash, the higher is the demand / price, the bond, the greater the profit the bond interest, the more reduced the interest rate;
- The lower is the cost of keeping money in cash, the more people tend to seek and hold the cash, the more low demand, price, and profit of the bond, the more interest rate increases;

- **Theory of loan** articulates and makes these:

- **Relations:**

Oblique, has to do with variable interest rate & consumption & investment; interest rate & performance economics & prices; interest rate & time-preference & consumption; interest rate & fiscal policies of the government & private agents; interest rate & Institutional structures of financial markets, the value of the variables goes in direct opposition to each other.

Rights, has to do with variablatnorme interest & ramp rate & investment (profit, request); interest rate & ramp rate & behavior agent; interest rate & population & workforce & ramp rate & investment; rate natural & investment & savings; interest rate & productivity & consumption; interest rate & price risk, the value of variables goes towards the same, positive or negative with each other.

- **Hypothesis:**

1) The relationship Interest rate & stdev rates & Investment (profit, request):

- When the natural rate is higher / lower than the rate markets, the rate of return on investment increase / decrease; if the level of savings kept unchanged, then the increase / decrease in demand for investment causes also increasing / decreasing interest rates;

2) The relationship Interest rate & stdev rates & Behavior Agent:

- When the fear of the agent to the risk increases / decreases, the savings increase / decrease; if the ratio of investments does not change, then the real interest rate in the balance goes towards reducing / increasing;

3) The relationship Interest rate & Consumption & Investment:

- When people consume more of their incomes current, if the investment does not change, then savings decrease, interest rate increases;

4) The relationship Norm & Population & workforce & stdev rates & Investment:

- When the population grows, the labor force increased, economic growth is higher; if the level of savings does not change, the demand for investment increases, the rate of markets is above the normal value;
- The more it increases the need for investment, much lower savings, as more rate increases naturally as soon balanced report investment-savings;

5) The relationship Interest rate & Yield Economy & Awards:

- If the market rate is lower / higher than the rate natural, then the efficiency of the economy grow / down, prices rise / down; ;

6) The relationship Interest rate & Time-Preference & Consumption:

- When time-preference rises / falls and everything else is kept under control, then increase / decrease consumption, fall / increase savings, increase / decrease the rate of interest;

7) For the relationship norms Natural & Investment & Savings:

- If the level of investment does not change, decrease / increase in savings leads to increase / decrease the rate of natural interest;

8) relationship Interest rate & Productivity & Consumption:

- The more the customer states that his income in the future will be greater than in the present, the greater the consumption rate increases natural real;

9) relationship Interest rate & Fiscal Policies & Agent Private:

- When borrowing government grows, the private sector does not increase savings, then rate the natural real interest increased account balances and demand savings;
- When the government creates a deficit, agents, private market increase savings, diminish consumption, the real interest rate remains unaffected;

10) relationship Interest rate & Price Risk;

- As with uncertain / unpredictable is the exchange rate / inflation, the higher is the price of compensation, as more rate increases natural real interest;

11) relationship Interest rate & Structure Institutional Financial Markets:

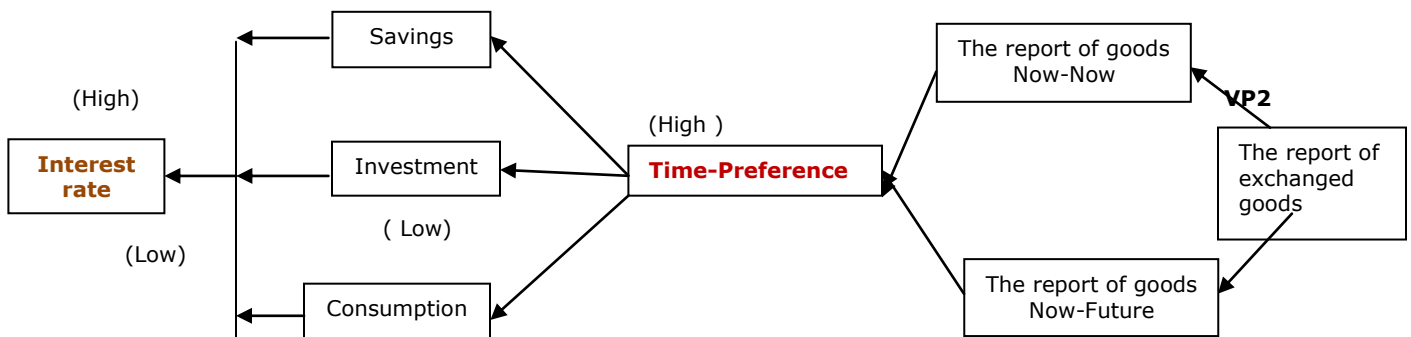
- How efficient is the financial market (competitive) the greater is the range of choices that are offered to savers from the standpoint of the rate of return, risk and liquidity, the more increases the motivation of people to save, so below level " in balance " leads the real interest rate;

What is the operational mechanism and causation model offering?

The mechanisms of action and causation models that offer the theories presented in the following:

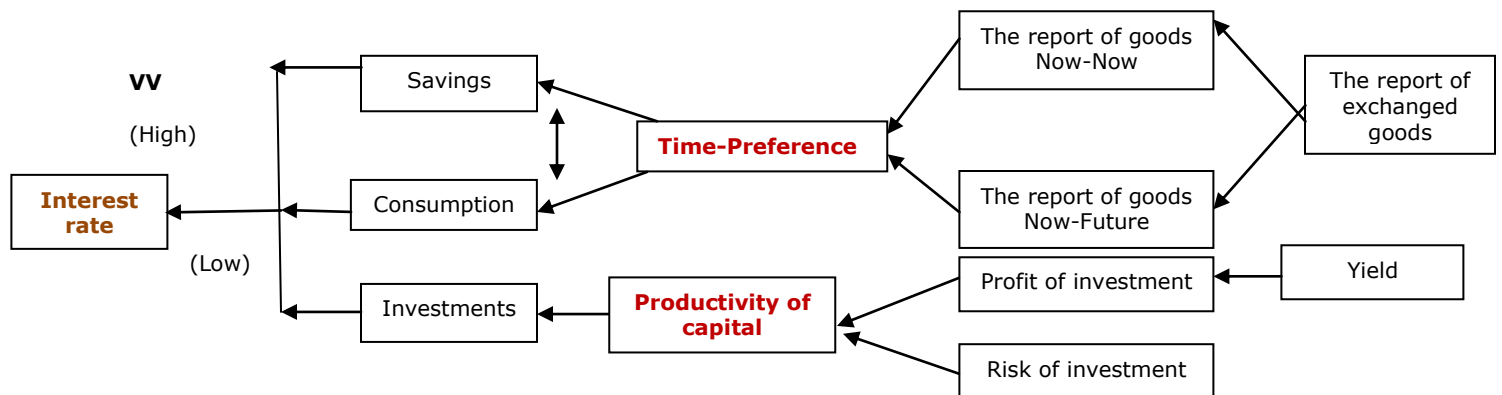
- Austrian school of theory, equilibrium mechanism of the interest rate rises on two elements: the time preference of individuals and relationships of lower / higher among individuals with time preference. Interest rate equilibrium is achieved through the process when people with lower time-preference (lenders) will lend up to when not generate profit and to the granting of the loan when there is less value / benefit rather than keeping the money in hand. The causation model of Austrian theory are presented in graph No. 1

Graph 1. The causation model of Austrian theory



- The neoclassical theory, the balance mechanism of interest rate rises on two elements: the marginal usefulness to people in the exchange goods present & future goods; and the marginal rate of profit on capital that generates economy. Interest rate equilibrium is achieved through the process when the security situation marginal people decide for the benefit of goods and capital and undertake appropriate action based on the evaluation of three views: the depreciation framework, multi-period framework, temporal framework. While the situation of insecurity in people's decision-making is guided by three positions: risk-rejection, risk-neutral, risk-making. The causation model of Neoclassical theory are presented in graph No. 2:

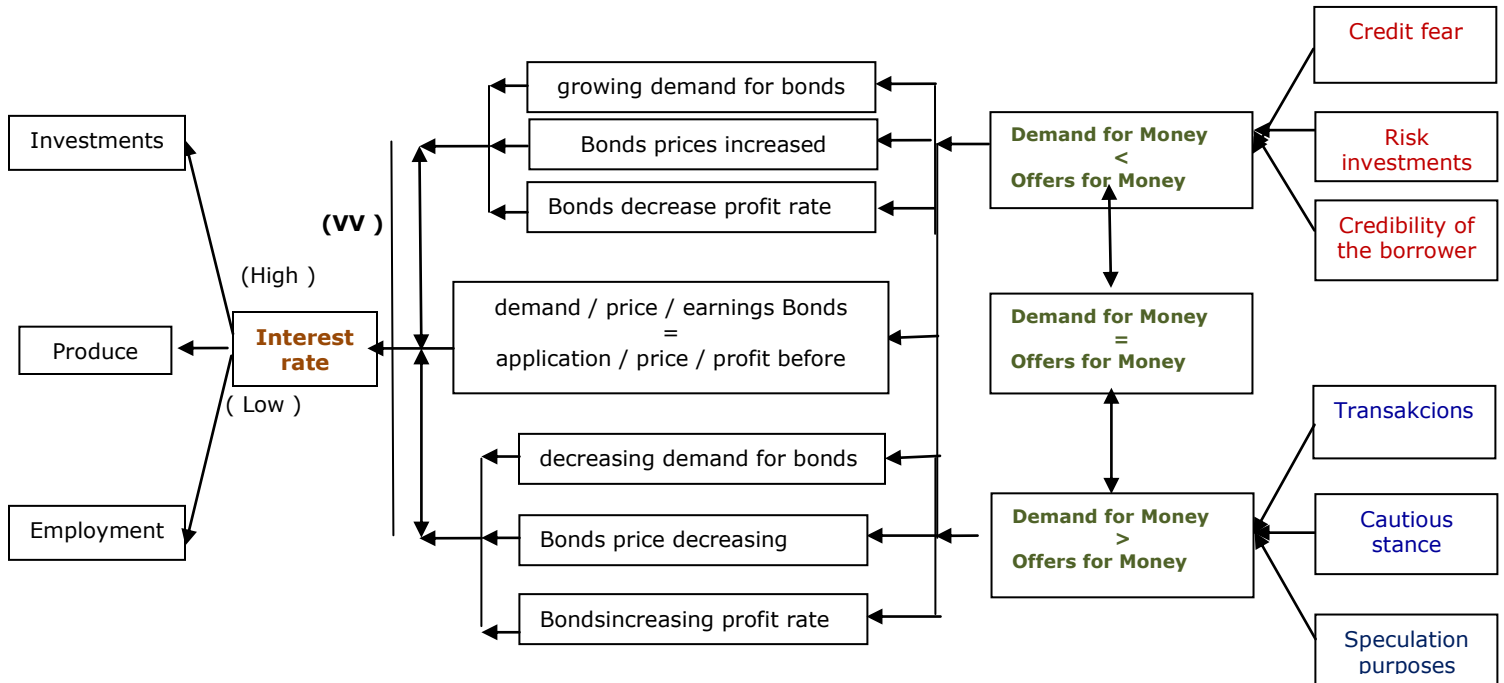
Graph 2. The causation model of neoclassical theory



- Liquidity theory, the balance mechanism in the interest rates on the three types defined raportikerkese-offer: request / bid equal; the demand for money is less than the offer to par; the demand for money is greater than the money supply; Interest rate equilibrium is achieved through the process that combines these three moments:
 - Moment A: demand for money and money supply are the same! At this point, the report bonds / money is in balance.
 - Momentum B: the demand for money is lower than the bid for money! At this moment, demand for bonds is high, the level of purchasing bonds increases, the price of bonds rises due to the tendency to buy bonds, the rate of return on bonds goes downward due to the increased level of purchasing bonds;
 - Momentum C: request for money is higher than the bid for money! At this moment, demand for bonds is low, the level of sales that bond increases, the price of bonds falls due to Tendencies to sell bonds, the interest rate on bonds goes toward growth due to

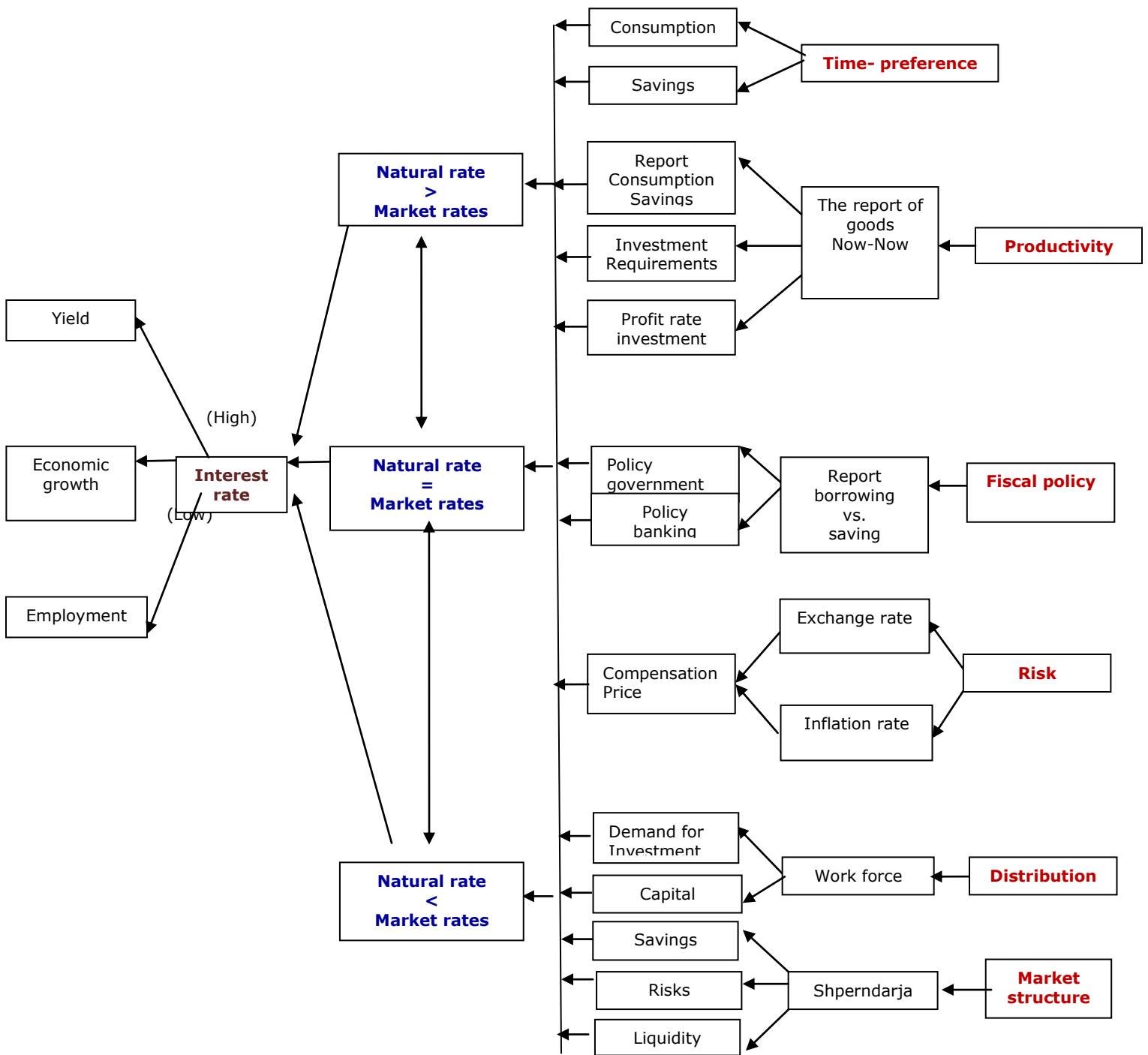
the increased level of sales that bond;The causation model of liquidity theory are presented in graph no. 3.

Graph 3.The causation model of Liquidity theory



- The theory of loan, the mechanism of equilibrium of the interest rate is determined by two types of norms: natural interest rate and interest rate markets. Interest rate equilibrium is achieved through the process that combines these two moments:
 - Moment A: It happens when the natural rate / rate markets are the same! At this moment, the money supply is equal to demand for investment, the stock of lending that money grow through banks, lending growth lowers the interest rate markets;
 - Momentum B: Nodha when natural rate shows two balances: temporary and long-term balance. Temporary equilibrium occurs when the ratio of savings / investment is higher than time-preference people, people reduce savings and investment, consumption and the economy goes rritetb on equity; While the long-term ekuilbri occurs when the demand for goods that present increases, the supply of goods to decrease in relation to present and future goods, and real rates and market rates rise in parallel with increased savings and investment;The causation model of loan theory are presented in graph No. 4:

Graph 4. The causation model of Loan theory



What are the suggested solutions and policies?

Each theory has suggested providing solutions and their policies:

- Theory of Austrian School provides solution flexibility with regard to the current offer of goods to goods already present and the future. While it is suggesting policy be transparent transactions (commodity, money, credit).
- Neoclassical theory provides optimization solutions as to the usefulness and productivity of capital goods and suggests that policies be in exchange for goods report / price goods held to the same extent with the usefulness report circulation; increased investment yields.
- Theory of liquidity means that the solution lies by keeping the interest rate at optimum levels and suggests that policy should have an active role of government in maintaining control of an optimal level of rate-site (Garrison 2002) and that the government can intervene in determining the level of interest rates and can manage the factors that influence the macro-economic stability of the system.
- Theory of loan offers solution saying that the interest rate should avoid extreme deviations and suggests these policies, fiscal policies that promote stability; efficiency of financial markets through competition and transparency; harmonization of the relationship between population growth and report capital / investments; management of risks.

CONCLUSIONS

Each theory has their own characteristics, which have yielded something separately in their time. Interesting is to analyze carefully because you notes that how has been processed, how has been expanded depending on the needs and development in general. Loan theory is the summary theory that encompasses mostly assumptions and variables in comparison with other theories. But the interest rate is still the global debate because they seen in different ways. Therefore, the development of technology, markets, globalization, I think that would have to be discussed and worked out a new theory which would encompass elements that do not include these theories. This paper is a starting point of many problems that will examine, process and analyze in the future like: defining the determinants of interest rates and credit, to identify the problems of high interest rates on loans in the transition countries, the development of central bank policies, etc.

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