THE INFLUENCE OF MONETARY POLICY ON INVESTMENT DECISION IN THE EURO ZONE

Valentin Mihai LEOVEANU[*]
Anca BRATU[**]

Abstract

The paper aims to highlight and analyze the main theoretical and practical aspects regarding the relationship between investment and monetary policy, as monetary policy decisions had a greater or lesser relevance on investment decisions. First, the authors make a short review into the theoretical analysis of interconnections between money and investments, and then they try to reveal how the monetary policy influences the investment decisions through the transmission mechanism channels. The effect of monetary policy measures on investment decision is followed by the authors on three levels of analysis: the selection of investment projects, the choice of sources of financing and the measurement of risk.

Keywords: *Monetary policy transmission mechanism, capital budgeting, cost of capital, investment decision.*

1. Interconnection between monetary policy and investments

In the economic sense, investments can be defined as total expenses for the accumulation of capital goods by creation, modernization or replacement of fixed assets in order to obtain future cash flows. This definition highlights the feature of certainty of the investment expense made today against the character of uncertainty in obtaining future cash flows.

In this regard, there should be made delimitation between investments in real assets and investments in financial assets. While the first helps to increase investor wealth, others express how it finances first and reflect the contribution of capital providers (shareholders or creditors) to their creation. This paper refers only to investments in real assets.

From a macroeconomic perspective, the investments are a component of GDP in aggregate demand, so they have a direct and immediate impact on it, in that an increase in investment increases GDP, other things being the same (ceteris paribus). Moreover, since income (GDP) is an important determinant of consumption, revenue growth will be followed by an increase in consumption, so that there is a positive feedback between consumption and income through investments.

Due to this mechanism, imports will increase and, as a result, will grow also investments based on equipment, machinery and foreign technology. Thus this will conduct to an increase in real interest rates which in turn depends on the deliberate choice of the central bank to increase or nominal money supply. Therefore, increasing the real interest rate is an inflection point leading to compression of investment, which in turn hampers GDP growth.

Through their short and violent fluctuations, investments are particularly an important economic variable of the business cycle. During economic expansion, investments grow at a much faster pace than consumption or GDP, regardless of interest rate movements. In contrast, on inflexion points of the economic situation, the influence of interest rates on investment is significant. During peak growth, the significant increase in interest rates would multiply disadvantageous the cost of credit for investment, reducing their dynamics. Investments often reach climax sooner than GDP, triggering a negative multiplier of consumer income and thereby stimulating the economy to go through a downturn.

In times of depression, the emergence of low interest rates on the credit market is a welcome thing for companies, which in combination with any positive expectations regarding the economy going, can cause an increase in the low level of investment during the recession. On the other hand, investments in machinery and equipment may know, in contrast, a decline as economic recovery leads to the use of existing capital, not fully untapped.

In analyzing the interconnections between money and investments, it is necessary to define monetary policy. Component of the mix of stabilization policies, monetary policy is an economic policy by which the monetary authority of a country controls the supply of money in the economy and which is used to promote certain endpoints such as price stability, growth and employment. Although most economists consider that monetary policy has a major impact on macroeconomic performance, there are significant differences in terms of decisions and actions to be taken that reflect a number of disagreements on economic policies, expressed through three macroeconomic models. The models chosen to represent economic structures that constrain monetary authority in choosing its policy focus on inflation, unemployment, income distribution

[*] Assistant Lecturer, PhD Faculty of Administration and Business, University of Bucharest (email: **v.leoveanu@yahoo.com**).
[**] Associate Professor, Faculty of Administration and Business, University of Bucharest (email: **ancabratu2004@yahoo.fr**).

and growth, whereas, potentially, monetary policy affects all (Palley, 2007).

The Neoclassical economic model (Palley, 2007) dominated thinking about macroeconomics and monetary policy to the financial crisis in 2007. This model considers that monetary policy controls inflation through nominal interest rate, which determines the nominal rate demand growth. In this context, monetary policy may have an unanticipated short-term impact on inflation, unemployment, income distribution and economic growth. Anticipated monetary policy affects inflation in the long term. Unlike unanticipated monetary policy, anticipated monetary policy is characterized by that monetary authorities should pursue an objective of stabilizing the price level and a rule of steady growth in money supply.

The model considers inflation as a negative factor, as "bad" and therefore monetary policy aimed price stability (zero inflation) to avoid uncontrollable inflation developments that can entice employees and companies in making inefficient decisions on labor and investment. Where deflation becomes a problem due to low nominal interest rates and there is also uncertainty about the impact of monetary policy on aggregate demand, then monetary policy will choose a target of positive inflation to protect the economy from the emergence of deflation (Palley, 2006). This seems to be the current thinking of central banks both in the US and in Europe, where two percent inflation target for monetary policy has become the norm.

The Neokeynesian model was dominated economics and economic policy decisions from early 50s to late 70s and it is now a theoretical framework for the study of inflation and the business cycle of most central banks in the field of modeling. The implications are that monetary policy can impact both on the short and on the long term the unemployment, the real wages, the income distribution and the capital-labor ratio. Their long-term value depends on the size of the portfolio substitution between money and capital goods, in response to inflation. However, monetary policy can not influence the rate of long-term growth and its impact in the short term on real wages is negative, so that optimal monetary policy depends critically on the preferences of policy makers on inflation and unemployment.

The Postkeynesian model analyses the microeconomic fundamentals differently from Neokeynesian model (Palley, 2007), although it reaches some similar conclusions. In this model, the monetary policy not only influences inflation, but it affects, too, unemployment, real wages and profit rate and growth rate. This is why monetary policy is considered to be so important. At high rates of unemployment, the only cost of expansionary monetary policy is higher inflation. However, when the unemployment rate drops there may be a compromise between higher wages and lower unemployment than higher inflation and lower growth, a potentially unfavorable situation. The shapes of the profit rate and the growth rate functions are important, and these in turn depend largely on the wage curve shape. It seems the curve wages, the profit rate function and the growth rate function are relatively flat, which indicates the likelihood compromise between unemployment and growth (Palley, 2007).

2. Transmission mechanism of ECB monetary policy

As an EU institution, the European Central Bank (ECB) is the monetary authority of the single currency zone in Europe (Euro zone). ECB is the heart of the Eurosystem - the central banking system of the euro area that includes also the national central banks (ECB, 2016a).

Unlike the Federal Reserve (formed by twelve regional central banks of U.S.A.) and Bank of England (the central bank of the United Kingdom) who have more statutory objectives than one, the main objective of ECB is to maintain price stability as essential pillar for economic growth and job creation – two of the European Union's objectives (Article 127 of the Treaty on the Functioning of the European Union).

The ECB has also specific tasks in banking supervision, banknotes emission, statistics collecting and processing, macroprudential policy and financial stability as well as international and European cooperation (ECB, 2016a).

The ECB main body of decision taking is the Governing Council having as objective keeping inflation below, but close to, 2% over the medium term. In order to achieve its primary objective, the Governing Council bases its decisions on a two-pillar monetary policy strategy and implements them using its operational framework (ECB, 2016a).

The ECB's monetary policy strategy is inflation targeting and based on the definition of price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. The implementation of ECB inflation targeting strategy is made by a set of monetary policy instruments explained in the General documentation on Eurosystem monetary policy instruments and procedures (ECB, 2016b).

The process through which monetary policy decisions affect the economy in general and the price level in particular is named the transmission mechanism (ECB, 2016c).

Considering a functional perspective, there are two stages of monetary transmission. In the first stage, monetary policy measures have an impact on various segments of financial markets, which is reflected in the adjustment of market rates and asset prices, in exchange rates and other financial conditions (e.g. maturity structure). In the second stage, these changes alter the propensity to consume of the economic agents and thus they affect the value of assets and incomes. In the latter segment there is an important way in which monetary policy affect the investment behavior of firms. Private

investment is a highly volatile component of aggregate demand, having an important role in economic growth and employment.

Monetary policy is essentially related to the real economy by the interest rate channel affecting all asset prices, the net value of balance sheet items, as well as banks' lending behavior. An important feature of the traditional interest rate channel is the primary focus on real interest rates rather than nominal rates and the role of long-term interest rates.

Short-term interest rates are considered the determining factor in this process. In fact, these interest rates perform three distinct functions: 1. affects the present value of net benefits over time through the discount rate applied in investment selection; 2. determines the cost of financing by bank loans and the rate of return demanded by shareholders, and 3. strongly influences the economic climate, both as regards financial markets and real goods and services markets.

Besides the interest rate on short-term influencing decision-making firms, household and governments, there is a range of interest rates on different maturities that are configured according to the monetary policy interest rate affecting debt management decisions. As aggregate demand is determined by long-term evolution of real interest rates, the term structure of interest rates becomes an important role in making monetary policy effective starting from the monetary policy interest rate. Indirect influence of the central bank on long-term interest rates stems from the fact that these rates are set by market participants as a weighted sum of the expected short-term interest rates, over which the monetary authority acts directly. Bond yields are determined by the offset component of inflation demanded by investors for holding these long-term instruments. Thus it is performed the structuring of term interest rates from those on long-term to those on short-term. In this way, the yield curve, although it relates only to fixed income instruments but with high share in the financial market, is significant for the entire loan market.

The influence of the interest rate channel on the economy can be revealed as follows. A reduction of monetary policy interest rate lowers interest rates on short-term market, so it is expected to increase investment. Whereas cumulative investments increase the capital stock and open the way to improve production conditions. Production capacity, productivity potential, cost efficiency and quality of production will rise to the extent that the investments were targeted and implemented. As a result, export competitiveness will increase, and, thus, employment will increase.

Regarding another component of the monetary policy transmission, namely the credit channel, it includes mechanisms by which imperfect financial markets amplify the effects of conventional interest rate.

The bank is a financial intermediary that collects money from economic agents with liquidity surplus and transfers them according to their analysis and decisions to businesses with liquidity deficit, thus making transformation of maturities, interest rates and risks. Therefore, the lending decision is the prerogative of banks.

Considering imperfect financial markets, the cost of external funding is greater than the risk free interest rate, given the existence of information asymmetry through its forms called adverse selection and moral hazard. The risk-free rate of return is the theoretical rate of return of investment with zero risk – as the government bonds.

Information asymmetry reflects the fact that the creditor does not know if the debtor is in good faith or not (adverse selection), or the debtor has chosen to invest in a riskier project than for which it received funding (moral hazard). In this case, the borrower will have to pay an additional premium to cover expected costs of the creditor, such as the risk of opportunistic behavior occurred as a result of the debtor and the costs of monitoring, assessment and collection of payment of the remaining debt.

An increase in the monetary policy rate will have a direct impact on all companies that rely on bank loans or loans of any kind as to interest rates in the money market. An increase of interest bank loans leads to lower businesses margin and increases the return expected by investors from new investment projects, which makes them less likely to engage in such projects. Interest expenses also affects inventory management costs that are usually funded by bank loans.

The credit channel implies that a segment of companies must rely on bank loan financing. If monetary policy measures end up by restricting banks' ability to give loans, the financial costs of these borrowers will tend to increase, while demand for capital will decrease (Leoveanu, 2015). In practice, a central bank influence on the real costs of financing is quite limited. In the long term, trying to push real interest rates on the capital market under their equilibrium rate - the characteristic applying an expansionary monetary policy measures - will only lead to an increase in inflation.

Unlike bank lending channel, the balance sheet channel means that the debtor's financial situation has an impact on external finance premium. Bank lending to companies, especially smaller ones like SME, are often backed assets, so a decline in asset prices may lead to difficulties in accessing loans because low prices of assets reduces net assets of the company. This effect is called the "financial accelerator". Also, the financing of listed companies is easier to achieve when interest rates are low and asset prices are high, so that the financial statements are favorable.

There are some specific issues regarding the transmission mechanism of monetary policy in Euro zone after international financial crisis that are largely

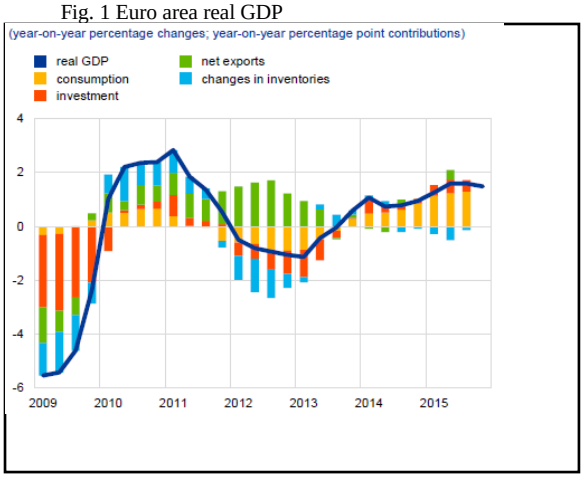
debated by economists. Peter Praet, member of the Executive Board of ECB, has shown (Praet, 2016) that in the financial crisis aftermath - characterized in Europe by banking and soverign debt crisis, deleveraging process and slow economic recovery, desinflationary shocks and challenges on the effective lower bound on the interest rate - the ECB had to require "unconventional measures with unprecedented intensity" in order to address frictions in the transmission process. Kapounek highlights that „the most important problem of monetary policy implementation efficiency is transmission mechanism heterogeneity in the Eurozone. The heterogeneity consists in different economic growth and inflation rates in individual member states" (Kapounek, 2011).

Roman (2015) shows that his research "finds a high efficiency loss in all monetary transmission channels related to fractional reserve banking, excessive EU indebtedness, or legal frameworks".

3. ECB monetary policy and investments performance in the euro area

The international financial crisis put his mark on euro zone economies also by depressing investments as a result of "uncertainty, corporate and banks'deleveraging needs and foreign direct investment abroad"(Palenzuela et al., 2016). IMF researchers finds that „despite lower nominal interest rates during the crisis, the overall decline in inflation and the zero lower bound for the nominal interest rate held up the implied real interest rates, particularly in some countries, which also may have weighed on business investment" (IMF, 2014). Since 2013 there was an economic recovery in euro zone despite a weaker global growth outlook, as shown in Figure 1.

Fig. 1 Euro area real GDP

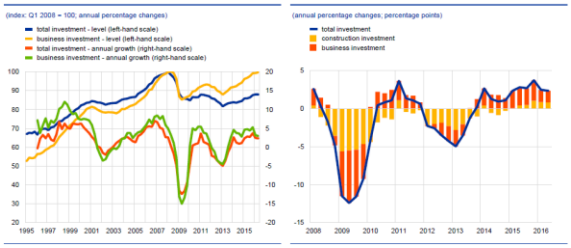


Source: ECB Annual Report 2015, p. 22

The investment recovery was based on "a combination of improving demand, profit expectations and financing conditions, as well as declining uncertainty" despite the high corporate debts and restrictive bank regulations (ECB, 2016d).

Fig. 2 Real total and business investment in the euro area

Fig. 3 Breakdown of real total investment in the euro area

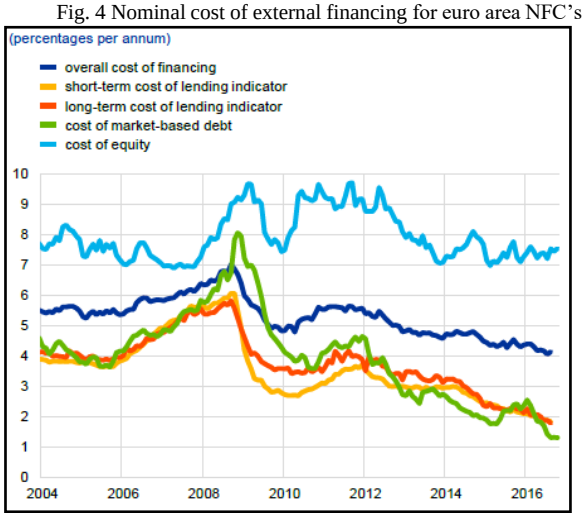


Source: ECB, Business investment developments in the euro area since the crisis, p. 2, https://www.ecb.europa.eu/pub/pdf/other/eb201607_article02.en.pdf

The Figures 2 and 3 present the evolution of real and business investment in euro area: the big falls of total investment in the aftermath of the crisis and also in 2011-2012 were followed by a general increase of total fixed capital formation since early 2013.

The expansionary monetary policy measures of ECB influenced financial costs for non-financial companies in euro zone since the crisis, but there still remain a lot of credit constraints imposed by banks in spite of their declining (Fig. 4)

Fig. 4 Nominal cost of external financing for euro area NFC's

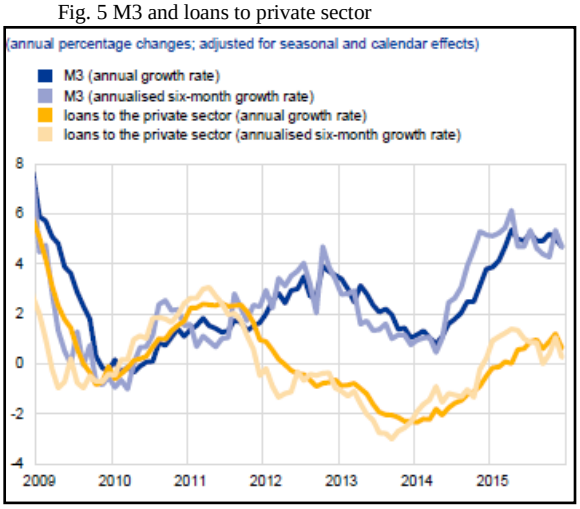


Source: ECB, Business investment developments in the euro area since the crisis, p. 10, https://www.ecb.europa.eu/pub/pdf/other/eb201607_article02.en.pdf

The linkage between monetary supply (M3) and loans to private sector is presented in Figure 5. Money growth remained robust. Credit growth recovered gradually, but remained weak (ECB, 2016e).

The future prospectives for growing development of investment in euro zone, especially business investment, rely on favorable factors like „recovering demand, accommodative monetary policy and improving financing conditions" but also "and the need to replace capital after years of subdued fixed capital formation" despite negative constraints like "deleveraging needs and a still unfriendly business environment in some countries, as well as subdued potential growth prospects" (ECB, 2016d).

Fig. 5 M3 and loans to private sector



Source: ECB, Annual Report 2015, p. 32

4. The effect of ECB monetary policy on investment decision

Monetary policy is expected to influence investment decision by modifying the rate of return on capital, remodelling the availability of bank loans to the economy, and affecting expectations and confidence on macroeconomic fundamentals.

First, the ECB monetary policy measures have an impact on financial conditions in the euro area, which in turn is coupled with the country-specific economic conditions. The effects of monetary policy are seen primarily at macroeconomic level as an ECB commitment to fulfill its primary objective of maintaining price stability and supporting the economies of the euro zone countries, what is the basis on which they form investors' expectations. In this respect, the information provided by the ECB and the transparency in communication with the public determine the credibility of the central bank and is one of the most powerful and effective monetary policy tool.

International financial rating agencies (i.e. Standard & Poor's, Moody's, Fitch) take also into account the ECB policy decisions in order to classify the countries' economies, companies and financial institutions in the euro area by risk degree. This kind of classification gives investors information on how much confidence to have about their financial performance, fulfillment on their financial obligations, as well as their more difficult or easier access to financing on international markets. Therefore, before taking an investment decision, investors will look at the rating given by international rating agencies to their economic partners in the euro zone, rating influenced by the monetary policy of the ECB.

Secondly, investment decisions are based on capital budgeting process through which the evaluation of investment projects is based on specific selection criteria, among which highlights the Net Present Value (NPV) and Internal Rate of Return (IRR).

A capital investment project is a set of fixed assets which are contingent upon each other and which are counted together. Thus, the company assets at a certain time are the amount of capital investment decisions taken over time by the company.

The investment process involves annual investment costs during construction period and annual benefits during the operation period of a capital investment. Analysis of different investment project alternatives will consider time value of money and will compare the costs as related to efforts and benefits as related to expected effects at a given moment in time. This is the method of discounting cash flows.

Future cash flows are discounted at a rate which is an assessment of the investors' uncertainty on the expected amounts and on the time of their achievement. To estimate the risk from these cash flows requires a sensitivity analysis of the income and expenses from changes in economic conditions.

The risk of an investment project is reflected in this discount rate. From the investors point of view the discount rate is the minimum rate of required return to compensate them for the risk involved. From the company point of view the discount rate is the weighted average cost of capital, i.e. the opportunity cost of capital invested in the firm. In other words, it shows how much cost the company to bring additional funding of a monetary unit of new capital. As a result of both assertions, WACC represents both the cost of capital and the minimum rate of required return for an investment project.

Thus, thirdly, the influence of ECB monetary policy is manifested on WACC components: the cost of debt and cost of equity. WACC calculation is done by adding the cost of each component of capital multiplied by the weight of the component in total funding.

$$WACC = \frac{E}{V} \times Re + \frac{D}{V} \times Rd \times (1 - T)$$

where: Re = cost of equity; Rd = cost of debt; E = market value of the firm's equity; D = market value of the firm's debt; V = E + D; E/V = percentage of financing that is equity; D/V = percentage of financing that is debt; T = corporate tax rate (Investopedia, 2016).

The cost of each component of the invested capital is calculated as below.

A. The cost of debt

Cost of debt is calculated for each credit instrument used by the company in its funding and consider the marginal rate of corporation tax:

$$Rd \times (1 - T)$$

Formula is the interest rate debt minus the marginal corporate tax as a fact that interest expense is tax deductible.

B. The cost of equity

The theoretical approach to consider cost of equity as a cost of reinvested capital is expressed by using Capital Asset Pricing Model (CAPM):

$$Re = RFR + \beta_i \times (Rm - RFR)$$

where: RFR = risk free rate; β_i = beta coefficient that measures the volatility of company's security volatility compared to the market as a whole; Rm - RFR = market risk premium, and Rm is market return.

The model shows difficulties and even limitations in estimating risk-free rate, market return or beta coefficient.

The effects of ECB monetary policy is manifested partly in determining the appropriate risk-free rate of return, due to the relative influences of monetary policy rate on yield curves. Thus, a benchmark for RFR could be the Yield-to-maturity of bonds with the lowest risk in the euro zone, for example the YTM of German bonds issued for a period of 10 years.

Among selection criteria of an investment project, there are Net Present Value (NPV) and internal rate of return (IRR) as the most important ones.

Net present value is the overall return of an investment, calculated by summing the present value of all future cash flows (positive - meaning benefits or negative - representing investment costs or losses) arising from the implementation of the project.

$$VAN = \frac{CF_0}{(1+i)^0} + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + ... + \frac{CF_n}{(1+i)^n} = \sum_{t=1}^{n} \frac{CF_t}{(1+i)^t}$$

where:

CF_t = estimated cash flows in the period t;

$CF_t = VT_t - CT_t$, where VT_t = total revenues in the period t

CT_t = total expenses in the period t including investment costs (I_t) and operating costs (C_t) ; i = discount rate; n = project lifetime.

If the project generates cash flows greater than necessary to compensate investors for the risk of the project, it will bring a higher gain than the cost of capital, increasing the company value, which reflects the positive value of net present value obtained from the project (NPV> 0). Conversely, if the project cash flows are less than needed to cover the cost of capital that will decrease the company value, as it is highlighted by the negative net present value obtained from the project (NPV <0).

NPV value depends on the discount rate value used in the calculations, which requires special attention in choosing it. Thus, if the discount rate is lower, the NPV is higher and vice versa, which has a significant impact on capital budgeting (Leoveanu, 2008).

IRR is the discount rate that makes the present value of expected cash inflows equal to the present value of estimated future cash outflows for the investment project in question. To calculate this indicator, the NPV must be equal to zero for a discount rate i = IRR, and therefore:

$$\sum_{t=0}^{n} \frac{CF_t}{(1+RIR)^t} = 0$$

When IRR is used as a criterion in the investment projects evaluation they shall consider the followings:

a) IRR must always be greater than zero (> 0), otherwise investment costs can not be recovered from benefits and the project is not accepted;
b) they accept projects with calculated IRR > demanded IRR by the investors;
c) in relation to the cost of capital, the IRR should be considered as the maximum rate to pay off the capital providers (shareholders and creditors), without the project to produce any benefit or any loss. Thus, they will accept projects with IRR > cost of capital and will reject those with IRR < cost of capital (Leoveanu, 2008).

The investment decision is reached by comparing the values of indicators calculated on different variants of investment project in contrast to the current situation without the investment project (Leoveanu, 2015)

Example

In the current international economic conditions, companies are concerned about the feasibility of investment projects developing production/services for export or replace import of such goods/services. In this respect it appears necessary to analyze several aspects: the value of currency earned / saved by the investment compared to the currency market; the extent to which this value (cost) of currency is acceptable for the investor; at what cost of domestic currency is export or import quitting advantageous by making that investment in that country. The main criterion that the investor will take into account in this case is the Michael Bruno test ratio. This indicator enables investment decisions by avoiding investments with a higher cost of foreign currency.

For computing, the necessary information are: annual inflows in foreign currency on projected export sales, respectively annual inflows in foreign currency on projected savings by reducing import; annual outflows in foreign currency on investment and operating costs; annual outflows in local currency related to the investment and operating costs.

A German investor wants to make a capital investment in Germany to manufacture products that will be fully exported to the United States. To establish the feasibility of the investment, the investor will calculate the Michael Bruno test ratio, knowing, on the one hand, the investment and operating costs in Euro and, on the other hand, the investment and operating costs, and also the operating revenues in Dollars (see tables below). Construction time is 2 years, and operating period is 6 years.

The discount rate calculation is based on the weighted average cost of capital. In this regard, it is known that the investor finances the investment in proportion of 55% by reinvesting capital, in proportion of 20% through a bank loan term at a German bank and in proportion of 25% by a suppliers' credit for equipment.

The interest rate on the bank loan for investment = 4.5%, the interest rate on the suppliers' credit = 5%, RFR = 0.31% (German Bond 10 T), beta coefficient = 1.5 and the risk premium market (Rm - RFR) = 7.8 %.

The corporate tax rate T = 18%.For the one year (16.12.2015-17.12.2016) the average euro/dollar currency rate of the ECB was 1.1084 euro/$.

Solution:

1. Cost of capital computation

Cost of bank loan:

$$Rd \times (1 - T) = 4.5\% \times 18\% = 0.0081 = 0.81\%$$

Cost of suppliers' credit:

$$Rd \times (1 - T) = 5\% \times 18\% = 0.009 = 0.9\%$$

Cost of reinvested capital:

$$Re = RFR + \beta_i \times (Rm - RFR) = 0.31\% + 1.5 \times 7.8\% = 0.1201 = 12.00\%$$

Weight Average Cost of Capital:

$$WACC = 0.55 \times 12\% + 0.2 \times 0.81\% + 0.2 \times 0.9\% = 0.07 = 7\%$$

This value of WACC represents the minimum rate of return required by investors and also the discount rate at which capital budgeting calculations are made (WACC = i).

2. Capital Budgeting

$$\text{Michael Bruno Test Ratio} = \frac{\text{PV of Total costs (euro)}}{\text{NPV (dollars)}}$$

Computation of Present Value of Total Costs (mil. euro)

Year (t)	Investments Costs (I_t)	Operating Costs (C_t)	Discount Factor $\frac{1}{(1+i)^t}$	Present Value of Total Costs $(I_t + C_t) \times \frac{1}{(1+i)^t}$
1	12	-	0.934	11.21
2	18	-	0.873	15.71
3	-	9	0.816	7.34
4	-	9	0.762	6.86
5	-	7	0.712	4.98
6	-	7	0.666	4.66
7	-	7	0.622	4.35
8	-	5	0.582	2.91
				58.03

Computation of NPV (mil. $)

Year (t)	Investments Costs (I_t)	Oparating Costs (C_t)	Operating Revenues (V_t)	Cash Flow (CF_t)	Discount Factor $\frac{1}{(1+i)^t}$	Discounted Cash Flow $CF_t \times \frac{1}{(1+i)^t}$
1	25	0	0	-25	0.934	-23,35
2	35	0	0	-35	0.873	-30,56
3	0	15	30	15	0.816	12.24
4	0	10	40	30	0.762	22.86
5	0	11	40	29	0.712	20.65
6	0	10	45	35	0.666	23.31
7	0	10	45	35	0.622	21.77
8	0	10	45	35	0.582	20.37
						NPV = 67.29

$$\textit{Michael Bruno Test Ratio} = \frac{58.03 \text{ mil euro}}{67.29 \text{ mil \$}} = 0.8624 \text{ euro/\$}$$

This result will be compared with the ECB exchange rate to see if the investment project can be accepted for the gain brought by exporting. For an average ECB exchange rate of 1.1084 euro/$ the investment project is cost-effective because it brings the dollar into the country at a much lower cost (0.8624 euro/$).

3. Conclusions

The present paper had the intention to present some important features concerning investment in real assets and the implication of monetary policy measures in investment decision in euro area based on the theoretical framework regarding capital budgeting.

As essential issues for this subject, the authors highlighted the folowing:

- the importance of the three models representing economic structures that constrain monetary authority in choosing its policy and their differencies of approach.
- the characteristics and distinctions between the interconnection monetary policy – investment in time of economic grow or recession and depression.
- the importance of ECB as main institution of the Eurosystem for euro zone economies considering its objective and its monetary policy strategy.
- the main stages of monetary policy transmission mechanism and the way ECB monetary policy could influence economic development in euro area;
- the particularities of interest rate channel, credit channel and balance sheet channel and their importance for investment trend in euro zone.
- the favorable and adverse factors that have influenced and influence investment developments in

euro area.

- what are the influences of the ECB monetary policy on the feasibility of a particular investment project in an euro zone economy?

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