The microeconomics theory of the investment:

The biggest firms in the Mexican economy

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Development:

Introduction

The importance of the following research lies in that it searches to analyze theoretical and empirically the determinants of investment in the case of some of the biggest firms in the Mexican economy.

In theoretical terms, the investment theory has been studied and developed to an aggregated level of the economy, the heterodox economist have developed explanations that can be verify empirically, although, even in the microeconomic analysis field the explanations are a few and very limited, thus here we are trying to do a contribution to the diffusion and the debate in this knowledge field. From the study of various cases of big Mexican firms.

This paper is divided in three parts, after this introduction, we study and try to order the different factors that influence the investment decision, this to a microeconomic level and from different ideas that we have found in the heterodox literature, in second place it is proposed the methodology followed by the empirical research, in third place we present the obtain results developing them in each of the cases (firms), and finally we arrive to the conclusions and some reflections.

1. An approximation to the microeconomic determinants of investment

The objective of this part is to try to build an approximation of the macro theory of investment to a microeconomic theory.

Investment can be defined as the net gross aggregated capital to a given stock. In this concept it can include that amount that it is related to cover the equipment depreciation and that new investment that pretends to generate a bigger fixed capital.

Once mentioned the above, we can ask the following questions: What are the determinants in investment in microeconomic terms? What factors influence the firm's investment decisions? What elements are taken into account from the firm and the board to decide how much capital will be invested and taken into the firm?

Profits

Many authors agree that one of the key elements to take into account is the firm's profits (Kalecki, 1956; Iyoda, 2005;Mirelles y Tadeu, 2006;Alexiou, 2000) The most important factor in investment's decision are the profits Kalecki (1937) says that with a certain amount of capital you can generate an expected maximum profit that would be limited by some other factors, for example the risk , we will see that later in this paper. The relationship between profits and investment gets more complex when we take into consideration that there are factors that affect the profits.

Sector structure and market structure

The sector structure is very important to determine the firm's profits (Porter, 1990). There are sectors that are highly lucrative and there are others where the profits are normal or lower, this depends on the sector structure where the firms compete.

The oligopoly is the market structure dominant, in the modern capitalist society. Within this structure there are some firms like in the case of concentrated oligopoly (Sylos L. 1966), which have power market to fix prices, the firm is capable of adding a certain profit or mark-up to the average cost (Sylos, 1966; Harcourt y Kenyon, 1988; Eichner, 1988) and determine the ending price of their products.

One of the key characteristics of this Mark-up is to finance the firm's future investment projects (Harcourt y Kenyon, 1988; Eichner, 1988). Like this the firm will choose the profits or mark-up that generates the level of retain profits that are required to finance the desired investment amount. …(Harcourt y Kenyon, 1988, pp. 229) The power of fixing the price and determine the increase of the mark-up size, that at the same time generates the increase of the retain profits by the firm will be limited by three factors: "1. The substitution effect this is, the decrease of the growth of sales in the industry, like it is determined by the price elasticity of the demand, 2. The threat of new firms, this is the possible loss of participation in the market because the new firms attracted to the industry, 3. The possible adverse consequence of government intervention to control prices. (Eichner, 1988, pp. 38)

Therefore, the firm must pick out and set a mark-up profit ¨that generates the level of retain profits that are required to finance the expending of the desired investment¨ (Harcourt y Kenyon, 1988, pp. 229). Although the power to fix prices is not limited it is found bounded at least in the next terms: (1) what has been called substitution effect, this is, the reduction in the growth of sales of the industry over the determined time by the elasticity of the price in demand, (2) the input of new firms, this is the possible loss of participation in the market by the new firms attracted to the industry from a high mark-up profit, and (3) the government regulation, which is the possible action from the government to regulate the sector prices or the firm's (Eichner, 1988, pp. 38).

The above mentioned is an indication of the complex relationship that there is between investment and profits that comes and goes from one side to the other, that is to say, the profit as a determinant of investment, but where it is possible to verify some determination of the investment over the profits. This is a relationship that Kalecki and Robinson were familiar with (Alexiou, 2000, pp. 432) and considered it as an unstable relationship thanks to the volatility of the animal spirits.

Therefore, from a perspective of the analysis of competitively is necessary to consider the ¨sector structure¨ (Porter, 1990) as a determinant of the investment. The state of the competency it is said that there are sectors that are highly lucrative, and there are others with an average or lower profits, which it is determined by the competency conditions of each sector. This is due; however, to the market structure within each firm competes.

The financing of investment and its cost the interest rate

The availability and the financing sources of investment is one of the determents of itself. The firm can be financed by two types of financing, the internal and external. The internal financing is the result of cash flow of the firm and it explains the amount of the firm´s profits, and the quantity of resources that the firm can put in the investment. The second type the external financing, it is obtained from the banking system, the credits obtained this way could come from a bank, a group, or a banking labor union that agrees to loan a certain amount of money to a corporation. A third source of financing is the emission of bonds and shares of the firm in the stock market, in exchange to pay a certain output.

The interest rate, that is to say, the payment that has to be done for the use of alien capitals, or in other words, the capital cost, it is a variable that authors such as Iyoda (2005); Mirelles y Tadeu (2006); Atesoglu (2004); Sylos (1966); Keynes (1965); y Kalecki (1937) identify as a determinant to accomplish projects of investment, despite that (Kalecki), he considers it in a indirect mode through its influence over the profits. It is indubitable if the capital has a cost, this has an influence corresponding to how much can be invested. As well as, the cost of the external financing ¨will determine the pattern of the curve of the total funds offer of the firm´s investment¨ (Eichner, 1988, pp 40), obtained internally by the mark-up increment, or by the external financing (loans).

Expectations, uncertainty in the investment

From this point of view, or by the Keynes´ (1965) focus regarding if it is convenient to invest to obtain a performance (marginal capital efficiency) comparing to what could be obtain through the performance of the capital itself (interest rate) without taking it to the productive process, the influence is considerable that this concept has over the investment.

Within the concept developed by Keynes (marginal capital efficiency MCE) a difficult element to estimate is leaked, which is a source of instability: the expectations. Thus, the MCE is influenced by the expectations in the future outputs that are expected from the capital amounts to invest, that is to say, the state of trust of the investors interfere, which are being influenced by objective and subjective factors, which gives as a result a variable de instability that it is present in the decision to invest but it is difficult to measure. ¨the policy of mark-ups of the firm is influenced by the general state of business trust and this state of trust determines also the firm´s investment plans¨ (Harcourt y Kanyon, 1988, pp 229). Therefore the expectations about the future economy´s rate that the investors agents have, which in turn are influenced by objective and subjective factors.

The entrepreneurs´ state of trust is also influenced by the uncertainty, that is to say, the ignorance of what will happen in the future, ¨the future is unknown, (and) it is not possible to know how to select optimally values that have payments that depend on future results¨ (potras, 2002, pp 119) the uncertainty can be identified as a unstable factor that influences over the investment decisions, and as the expectations is difficult to measure.

The investment risk

Risk is an element that corporations take into account to invest. Viewed as the factors that put in danger the invested quantities regarding to loans (Minsky, 1988) since ¨usual manner, the additional capital goods are acquired in part with own funds and in another part with loan funds or external¨ (Misnky, 1988. Pp. 542). Then the firm must take the decision of how much would be finance with its own resources and how much with external resources (where is also included the interest rate). It is here where the risk factor steps in from the lender and borrower´s point of view, whose intersection will determine the investment point. As well as, the borrower´s risk has two stages: ¨the capitalization rate to any type of capital good that is to be used in some line of particular business decreases as it increases the possessed quantity. In second place, as the borrower considers some debt flows (CC) and as uncertain the probable outputs (Q), increase the relationship of financed investment through debt and it decreases the security mark-up and from this way it reduces the capitalization rate that the author applies to the Q¨ (Minsky, 1988, pp. 544-545). On the other hand the lender´s risk takes shape from more requirements of cash flow (…). The lender´s risk the funding contracts appear under different forms: the bigger interest rates, the minor expiration deadlines, the requirement to compromise in collateral guarantee to specific endings, also the payment restrictions of dividends and the concession of new loans (…). The lender´s risk increases with the growth of the relationship of debt and funding values or to the relationship of cash flows compromised to probable total cash flows¨ (Minsky, 1988, pp. 545).

Kalecki (1943) used to do also mention of the risk as a factor of indirect influence through the profits. Then the biggest profit that can be obtained with a certain invested capital amount will be limited, among other factors, because of the risk, which it is considered rising by the increase of the marginal risk with the invested amount, for ¨the bigger is the investment from an entrepreneur the greater is its position of wealth, putting it in danger in case of a unsuccessful business¨ (Kalecki, 1937, pp, 442); and the risk of illiquidity, for ¨the sudden sale of specific goods such as the factory which is always linked to the losses¨ (Kalecki, 1937, pp, 442).

The accumulated stocks--------

The capital stocks previously invested or accumulated in a business are an important element in the investment decisions. The stocks can be divided in at least three categories. The stocks of fixed capital, and circulating; the stocks of human resources; and the stocks of the business knowledge which is a key factor in decision making.

The past investments or what the firm has until now to carry out its process, that is to say, the capital stock, it is an element that influences in the investment decisions. Kalecki (1956) used to mention it as a decisive factor in the investment in fixed capital, because on the base of what we have it is how the new investment will be form. Checking its theoretical validity, it has been checked that it is a valuable element that explains us the investment performance. (Alexiou, 2000; Iyodaa, 2005).

The stocks of human resources and its formation, in the growth process of the firm creates the conditions to the investment decision, thus as the conditions for its success. Meanwhile the knowledge of the business and how this one has evolved in the recent period, it is an element that while it has been pointed out long time ago by E. Penrose (1958) it has not been studied in depth, but the context of the firm´s decisions it is of great importance.

The market, the demand and its growth

The demand´s performance it is a crucial factor for the investment. If this increases, more goods and services will be on demand, thus the firms will have the opportunity to place more of its product into the market, if the maximum capacity is reached and its capacity to fix the prices is limited, it will give place to the creation of new investments. Therefore an increment on the demand “gives place to increase the investment, in any market (…). New factories can be created identical to the ones working now and also the prices can continue with no change.” (Sylos, 1966, pp. 167). If we also consider that these factories reserve no used capacity the growth of the demand will generate that this capacity comes to its limit, which will help to the creation of new facilities, a factor that Mirelles and Tadeu (2006) took note of. The dynamic relationship between demand and supply was also underline by authors as Kalecki (1956) and Alexiou (2000).

The economic policies and the institutions

The government’s role in the economy has been a subject of a lot of controversy, but it is indisputable that its expenses have important consequences for the investment decisions. Even the neoclassical point of view that the “crowding out”, there are government investment that help the development of new projects from new entrepreneurs and corporations. In the context where the government announces its decisions to promote certain areas or sector of the economy, the corporative make complementary and productive investment instead of substitutes, or those oriented to the creation of new infrastructure, the policy of public expenses becomes a stimulus for private investment. Atesoglu (2004) confirms this performance in his research that he did in the USA, where it is clear the influence over private investment.

Innovations

Innovations also create opportunities to invest creating areas of opportunities for existing firms or new ones that desire to enter to the industry. (S. Labini, J. Schumpeter, E. Penrose). S. Labini (1966) mentions three types of innovations according to their effects: 1. in the production of new good or service, 2. in the variations of technical coefficients of the existing production, and 3. in the quality of new products. All of these innovations create opportunities of investment” (S. Labini, 1966, pp. 165). On the other hand, J. Schumpeter (1912) has shown the innovations create those new investments and they are the way for the economic development, this author classifies the innovations in five types: of product, organization, processes, incomes, and of market.

Innovations can reduce the costs which also represents an important incentive to invest, “for the oligopoly –the reduction of prices- acts as incentive if the prices that are being reduced are the variable factors. In this case, the final product prices are proportional reduced, the demand increases, and the entrepreneurs are motivated to increase the investment”. (S. Labini, 1966, pp. 166) But if the costs decrease because of the innovations and the prices don’t, the effect it is translated in an increment of the profits, which becomes in a increment in the internal funding sources of the firm and its eventual investment.

2. Description of the research method

From the previous analysis we build a matrix of those factors that influence or determine the investment. This matrix is applied in each one of the cases (firms) in the research and the results are resumed in section three.

Matrix of factors that determine investment

In the first place a historic analysis is done for each case (firm). In the second place each case is studied from 1999 to 2012, where in the Excel sheet in the vertical column we write the years and the horizontal column we write the different facts related to the investment. From left to right in the first place the type of investment is collocated considering three categories: 1. if it was internal growth, 2. External growth, and/or 3. If it took the vertical or horizontal integration form, or strategic alliance. In second place, the funding type is presented in three categories: internal funding, external funding and the bond and stocks in the stock market collocation.

The determinant factors are: the firm’s profits, market performance, which is divided in the growth of internal and external market, and expectations on sales. The next factor is the monopoly power that the firm has had. Another factor is the competency state that we discompose in the competency of the local industry, in the global market, and development of technology. The next group of factors refer to the economies of knowledge, purchasing of production inputs, of funding, administration, technological, marketing, we also include the external economies. Innovations as a source of investment opportunities we discompose them in inputs, organization, process, product and market. So we also consider the institutional factors, the government policies to stimulate the foreign and national investment. Finally, we have tried to include some elements of the net work of analysis, but this one requires a lot more development.

III. Empirical Analysis

The object of this part of the paper is to present the empirical results of our research. From the matrix designed previously, we proceed to analyze the behavior of the big Mexican corporations and firms in their process of investment, with the object to contrast if those elements played an important role in their economic performance.

AMERICA MOVIL

This is a firm whose product is the wireless telephony; it was born as a decision to strategic growth from the CARSO group to which it belonged. From its founding (XXXX) it had a great monopoly power and dominance in its market, in which it dominates almost entirely. This allowed it to generate big profits from which utilized to expand in Mexico and in Latin America, and recently also in Europe.

Its monopoly power and the high profits of the corporation explain the communication infrastructure it possesses, and by the institutional relationships with the Mexican government who hadn't regulated their activities. Until the current year a new law has been introduced, which allows and facilitates the participation of other competitors in this market.

FEMSA

The firm for the Mexican economic development, until the current year was constituted by three subdivisions 1) beer (Modelo), 2) beverage bottling (Coca Cola) and 3) a convenience store chain (OXXO). This year FEMSA sold Modelo to a transnational firm (AB Inber). During the previous years its advantage had been based on that it controlled the value chain thanks to its vertical integration, the convenience store chain OXXO allowed it to penetrate in the local market with thousands of new sales outlets that would monopolize the exclusive sale of its products.

Its investment strategy has been based on a long process of acquisitions and mergers, and recently on the last decade it developed a new logistics and computing subdivision that has allowed it to manage in a efficient way the production, and the sale of the its other subdivisions. With the sale of its beer subdivision Modelo, it shows us that its advantage in the process of expansion and investment is in: 1) the monopoly that gives it the concession of the production of beverage bottling, in particular thus of Coca Cola, 2) the monopoly of the great distribution net and sales of its products, 3) its capacities to manage the production and the efficient distribution in its different sales outlets, and 4) the great knowledge of the market of Mexican consumers. Its investments are in a good part determined because of the power of being one of the two biggest firms that produced and distributed beverage in the national market.

In figure 1 we can see….

b. CEMEX

The company decided to specialize in the production of cement and vertical integration, it does not produce any product that is not related to the cement, but has expanded its operations along the cement value chain, from mining to distribution and marketing. Due to the characteristics of the product and its production process, which is has a low-tech, Cemex has destinated most of its resources to the acquisition of other companies and to a lesser extent research and development.

So the company spent most of its investment in the acquisition of other companies. The main source of financing for investment during the first decade of the century was the bank loan, however this was part of a strategy for the expansion of the company. Once the company conducted an acquisition with the proceeds of the banking system, put into practice its main administrative innovation: post-acquisition teams, which performed a financial analysis to locate areas where it was possible to increase the efficient use of resources and then increase the profitability of the new plant acquired. This integration process was done in a few weeks, so that the new acquisition significantly increased cash flow, which was used to repay the loans that had been hired in the first place. Through this strategy the cash flow generated by Cemex in the late nineties in relation to net sales was higher than its competitors (Cemex, 37.1%, Lafarge, Holcim 23.2%, 23.4% for 1999) and was located as the third global cement company.

The cement market growth worldwide has grown 5.6% per year during the period 1992-2010 unregistered fall, even in the years of the global economic crisis, this due to the continued growth of the Chinese economy, the largest producer and consumer of cement in the world. While in Mexico during the period 2001-2011 the growth rate of the cement market was 1.5% per year, however the log reductions cement consumption in 2001 (-5.7), 2008 (-4.6), 2009 (-1.9) and 2010 (-1.4). In terms of the market, was the external market growth which stimulated the growth of Cemex, above market growth, despite ups and downs that had a positive average annual growth.

Although reduced its market share from 68% in 1985 to 49% in 2012, Cemex is the largest cement producer in Mexico and its local competitors do not represent a threat to their market power, but not the international competitors. Holcim and Lafarge are the largest cement producer companies in the world and its constant growth represents a serious threat to the operations of Cemex in the various markets in which it operates, this drives the company to increase its growth rate.

GRUMA group

This is a Mexican firm that developed thanks to innovation and industrialization (since 1948) of the corn starch for the elaboration of Mexican corn tortillas. Since then it developed in the internal market through the internal and external growth.

One of the key points for its expansion is the knowledge about industrialization of corn starch business and to exploit the identity of the product. This firm has in practice the monopoly of corn starch industrialization and it can fix the prices in such way that its cash flow and its profits has allowed it to finance its national and international growth.

In the last decade the growth in the international market is one of the variables that explain the growth of its investment, which looks limited above all by the knowledge of the new markets where it is in process of penetration.

In figure 1 we can see…

POSADAS group

It is a firm that is dedicated to the administration and construction of hotels. This great firm gives us many experiences, but one of them we consider the most important is the following:

1) The relationship between profits and investment. The experience of this firm is very interesting because in the last ten years has gone through an economic and financial crisis situation which together has expressed not just on the profits rate has been negative, but even that the same profits has generated red numbers in three different years. As a result, this firm has had to sale many of its assets, disposing of hotel chain that it had administrated above all in Central America. In the last couple years, after a financial restructuring now it renews its investment projects, planning to build twelve new hotels which two have already been built. This experience questions the idea that profits and their growth rate determine the investment. If this were the case the investment that we are mentioning would not show. Then a question arises: ¿why a firm that reports negative profits arranges to make new investments?

In principle, the general answer will target the expectations of Keynesian nature. Thereby they let us know in the firm´s owners statements, their expectations are positive about the future of the business related with tourism.

An element even more tangible we can find it in the business knowledge, which we can divide in at least two types: A) the knowledge of the business´ heart, in the cases of the sold hotels, the Posadas group has maintain the administration of these hotels, indicating that the business core it is found not in the property of the hotel but precisely in the knowledge of the hotel business managing. And B) in the knowledge of the sector of services, this knowledge gives the certainty that tourism in Mexico will rise in the next years making their business more rentable.

In figure 1 we can see….

Conclusions

The results in our research show:

1. While the determinants of investment (analyzed in the macro level) are valid, as it is of the importance of report profits by the firm, it is not the only one or the most important for the firms that are working in an economic sector. The Posadas group case is revealing about this.

Nevertheless, the expectations that there are substantial mark-ups profits in a sector, such as the cement production, even when the market is a very concentrated oligopoly, those profits become a enough powerful appeal for the entry of new firms to this market. This is the case of the cement firm FORTALEZA, whose has entered to compete in the Mexican cement market, against the big oligopolies that control the sector.

For CEMEX, the leader firm in its sector, even after the poor performance of its gross profits, and the worst net profits after the 2009 crisis, the knowledge of the business (CEMEX way, or its great capacity to manage the reorganization of the acquired firms), its oligopoly power to fix prices, and its expectations about expansion of the internal and international cement market, these are the determinants in the investment it does.

From Cemex and Posadas group cases we can say that the movements of the profits can be an indicator of unexpected events (as the crisis of 2008 and 2009) or from the bad or incorrect decisions that affects its behavior during many years, but that doesn’t determine that they stop their investments o in certain moment they can reactivate them according to the financial situation get better and their expectations rise.

Of course, the interest rate is not a fundamental determinant of investment; this one is more a cost for financial resources. A bigger limiting can be found not in the interest rate but in the required amounts to realize the new investments and the risk. The amount can be so big that a firm as CEMEX requires of big and expensive team of specialists to get the credits to finance the new acquisitions.

A determinant of investment that arises as an important is the capital stocks that the firm has accumulated, in expansion terms the knowledge in the business highlights. This seems to be the most important ingredient that determines the permanence of the firms in a sector, even when the profits are not the expected ones. Even more after a certain time leads them to keep investing, at least to those who consider the business´ heart. This is the case of FEMSA, CEMEX, and POSADAS group.

The monopoly power, or be one of the big oligopolistic firms of its sectors is a condition that shows a clear importance for the investment such in the native market as well as in the new markets to the national and international levels.

In the microeconomic analysis of the studied firms it is shown in a ruthless way the accumulation law of capitalism which the firms are submitted, in particular big corporations: they have to grow and accumulate the highest level possible, becoming the leaders of their sectors to a global level. Those who do not reach it, either for the global crisis, for bad decisions, or because their growth wasn't accelerated enough to reach and dispute the place with the leader, they are condemn to disappear, being devoured by the leader firm. Any firm or corporation as powerful it may be can escape this law.