

# Competing IRRs in Islamic Banking and Zero Cost of Capital

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Iraj Toutouchian

Professor of Economics

1-IRR (Internal Rate of Return) and Investment Project Appraisal:

The use of proper investment criteria is essential to industry and agriculture both. Yet given various subsidy provisions aimed at reducing the risks, upon which farmers have little or no control, the agriculture image becomes rather vague and hence it does not concern us here. Furthermore, although appraisal can be used both in public and private sectors of the economy, public sector has its own additional special problems to be taken into account; like social costs and benefits. Therefore, this paper is mainly concerned with the private sector and the problems involved in evaluating different industrial investment projects.

Controversies abound on the relative merits of different investment appraisal methods. However, most of the essential differing points can properly be reconciled.

It is worth noting that almost all economists consider the use of “discounting” as a method of appraisal, as the only possible way to choose between different investments. There are essentially two

methods generally used by economists, namely Net Present Value (NPV) and extended Internal Rate of Return (IRR). The term Internal Rate of Return (IRR) was termed by J.M. Keynes which is perhaps more familiar to the reader as the marginal efficiency of capital (MEC) schedule; sometimes referred to as marginal efficiency of investment (MEI) . It is defined as the rate, which makes the present value of the future income streams exactly equal to the market price of the project. In other words, it is the rate of return that is being earned on capital tied up. That is, while it is tied up it allows for recoupment of the project. NPV of a project is defined formally as the value today of the surplus that the firm makes over and above what it could make by investing at its marginal rate.

The basis of the extended IRR is that the negative cash flows are discounted back at the firm's cost of capital until they are offset by positive cash flows. Both of these methods (extended IRR and NVP) have their own common shortcomings; e.g., neither NVP nor IRR can be applied in the normal way to give the correct ranking of projects in situations where the rationing of an input is involved. Nevertheless, there are ways of removing these shortcomings and rendering them to be suitable methods of investment appraisal.

We will concentrate on extended IRR, which is simply referred to as IRR. The decision rule in simple cases where the decision is of "all or nothing" type; in deciding which project is to be chosen

amongst various investment alternatives, is to undertake all projects which have an IRR greater than the cost of capital.

Cost of capital, in capitalistic system, is the rate a firm can borrow and, presumably, invest which is simply the “rate of interest”. In other words, in such as “cut - off rate”; in the context of the IRR rule, it also appears in the literature as “hurdle rate”. Note that, in NPV approach to investment appraisal, it is necessary for the decision maker to have some explicitly predetermined discount rate; which, as said above, is nothing but the going rate of interest in the money market. However, there is no need, whatsoever, to see any predetermined rate in IRR method except when the time comes where debt- capital is to be rationed among different projects. This makes IRR approach to be rather independent of the rate of interest and also quite appropriate to be used for investment projects in an interest-free Islamic setting, whose discussion will follow.

In case of capitalism if the IRR is greater than or equal to the market rate of interest, then the project will be undertaken. Project maximization will push the firm to the margin where the last undertaken project has IRR equal to the rate of interest. Evidently, the IRR schedule is a decreasing function of investment projects; i.e., the more projects that will be undertaken the lower would be the IRR (in the same industry or activity, of course).

2-It has been agreed upon (by western economists) that the rate of interest plays the crucial role in determining which project is to be

undertaken, and that also how much capital is to be invested in different projects. The role of interest rate in these two aspects seems to have been exaggerated. Given that there is only one project, the criteria given above are quite valid and applicable as to the optimal amount of capital that has to be undertaken. Nevertheless, as the number of projects increase, each IRR that has to be calculated for every single project increases as much. Additionally, there happens to be points of intersection between every two IRR's. This will complicate the problem and it will drastically reduce the importance of the rate of interest, especially in cases where interest rate happens to be well below the IRR of the last feasible project under consideration.

Given that an investor is a risk-taking entrepreneur, he is normally faced with arrays of investment opportunities from which he is supposed to first select the one whose IRR is the highest. Assuming that he is able to finance many projects, there may be tens of different projects whose IRR are higher than the going rate of interest. Undoubtedly, all these projects are attractive, although in different degrees, to the entrepreneur and will be chosen in descending order rate. This being the case in real business life, the role of the rate of interest becomes rather passive and even redundant. This is so because under such circumstances, projects IRR's reach the rate of interest. It is beyond this point that the role of interest rate becomes sensible and plays its role as cut-off rate. In other words, it takes a long process before the existence of interest rate becomes relevant

because IRR of each pair of adjacent projects are to be compared with each other due to interdependencies of investment projects with no reference to the rate of interest at all.

Rate of interest being exogenous to the real sector (especially, investment) it is ironically proposed, in capitalistic system, to be used to determine the level of optimal investment. Moreover, speculators, whose demands in the money market produce the rate of interest, are allowed to lead the decisions of entrepreneurs whose actions are so important to the economy. It seems rather more reasonable to have the relation other way around; i.e., given the rate of interest, however hypothetical, it should be the real sector to lead the monetary sector, if any.

3-With the abolishment of interest rate in an Islamic state, there would be no exogenous variable, like interest rate, to determine the kind and level of investment. Investment projects, in such a framework, compete with each other and investments will be undertaken as much as needed to reach full employment; that is, as long as there are unused factors of production in the economy.

This is especially true of human resources that due to their vital and intrinsic importance, as viewed in Islam, authorities are not allowed to keep people unemployed for the sake of interests of capitalists.

It can easily be demonstrated that in an Islamic framework, every piece of money (i.e. potential capital) coming out of interest-free banks in order to finance different projects under various modes of

contracts, becomes a permit to directly produce goods and/or services.

A caveat in order here and that is: one of the prerequisites of an Islamic state is to strictly prohibit and prevent speculation to emerge in any market (be it either money or commodity). There has long been misunderstanding among some Islamic economic scholars advocating that speculation can take place and is permissible even under interest abolishment. It is easy to show that there is a one-to-one correspondence between interest (rate) and speculation. Interest (rate) is necessary and sufficient condition for speculation to take place. Even in the absence of apparently forbidden-interest-rate-framework, if speculation is permitted in any market, it will definitely produce interest rate of its own nature. Therefore, interest prohibition will logically lead to the prohibition of speculation. This mutual interdependence between interest and speculation is not only very rare in economic literature but its negligence also has been the source of serious misunderstandings. Relationships in economics are rarely of one-way direction.

4-The array of IRR's can be calculated both by an Islamic Central Bank , and independent licensed agencies in order to provide Islamic banks the appropriate guidelines as to the nature and profitability of projects. It is a measure to be used so that the expected profits could be divided between an Islamic bank and the firm demanding finance. The array is also quite useful in

determining how much financing should be allocated to the projects which are in the priority list of economic development plan. To determine the firm's share of profit, different factors, such as the following, can be taken into account: risk premium, degree of deprivation of different regions of the country, priorities in economic development plans, the degree of capital intensity, tax provisions, employment considerations, burden on foreign exchange rates, and the like. Each of these factors or any combination of them can influence the demanding firm's (the fiancée's) share of profit that can be safely manipulated without having to interfere in the market mechanism. This gives the IRR method in interest-free banking system, an absolute advantage over artificial manipulation in the interest rate, which is quite often practiced in capitalistic countries, and which is an obvious interference in market mechanism. This is contrary to the position often held by Western economists professing avoiding interference in market mechanism. Added to this, the presumably negative relationship between rate of interest and investment as advocated by both classical economists and Keynes has been empirically proven to be inconclusive. This is so while a proposition can be made to regard a positive relationship between rate of profit and investment. This proposition not only takes care of interest cost in capitalistic system but also it is consistent with the profit maximization goal of any individual firm. Surprisingly though , this goal, at micro level, in capitalistic textbooks has been changed

without any logical explanation as to negative relationship between interest rate investment at macro level.

5-Using IRR method in an Islamic state is not only compatible with the goal of profit maximization (if proven to be appropriate in such a system)--as well as avoidance to interfere in market mechanism--but also it has another absolute advantage of bringing the opportunity cost of capital down to zero. The logic is simple. In the absence of interest, all projects compete with each other (with due consideration of their respective priorities) on the basis of their IRR. Furthermore, the fact is that investment projects are interdependent vis-à-vis one another , and there is no need to bring in any exogenous factor in order to determine the same rate as opportunity cost of capital for all projects. In capitalistic system the going interest rate is logically taken as “the next best alternative” or cost of capital for all projects. The logic concerns its independence with IRR’s of the projects.

The phrase “next best alternative “does not render meaning to the effect that the IRR of a project adjacent to the one under consideration shall be taken as its opportunity cost of capital. This is because the interdependency of all projects does not qualify any one of the IRR’s as suitable for opportunity cost of the remaining projects; otherwise there would be hundreds of opportunity costs in a capitalistic framework whereas the rate of interest is taken to measure the opportunity cost of all capital investments. In other words, in order to have opportunity cost, the condition of

independence has to be met. The negligence to consider the interdependencies of the projects and also the independency of the rate of interest from IRR's of investment projects has led many writers to form misconception about opportunity cost capital.

In the absence of interest there is nothing to compare IRR's of various projects with (except IRR's of the projects with themselves). Being interdependent and shared upon by Islamic banks, these projects cannot logically be used to measure the opportunity cost of capital. This simply means nothing but the opportunity cost of capital being zero. This conclusion is in complete agreement with both accounting standards and with economic logic. On this score, two points are mentioned here. First, accountants use, quite often, the historical cost. In PLS contracts the profit share of one partner cannot be considered cost of the other partner; accounting treatment in such cases is same as dividends paid to the shareholders. Second, accountants never agree with economists' search for a theoretical opportunity cost of capital, which has to be independent from IRR's . Despite this great debate between accountants and economists, the economists use and base their own economic analysis upon the financial statements prepared by accountants with due consideration given to accounting standards without having to adjust these statements by norms and standards suggested by them. Furthermore, these statements are used to calculate appropriate taxes and are accepted by tax authorities without any objection about their validity.

In sum, tax authorities of an Islamic state shall not accept any cost as cost of capital and economists are expected to be explicit about the independence of rate of interest from IRR's so that opportunity cost of capital is justifiable.

6-A distinction has to be made between opportunity cost of capital and cut-off rate. It should be clear by now that although in an Islamic state the opportunity cost of capital is zero, but a lower IRR in array of IRR's can be used as cut-off rate of the project under consideration. An entrepreneur is expected to be keen about this point. Diversity in capital investments made by an entrepreneur can be taken as obvious explanation that he/she cares and is cautious about the above point. In general, opportunity cost of capital is both cost and cut-off rate but the reverse is not true. It seems that in an almost all occasions we are concerned with cut-off rate and rarely with opportunity cost, despite the common belief. Opportunity cost of capital being nil in an Islamic framework has numerous positive economic implications and consequences; to name a few, among other, *cet. par.* (1) it raises the profits enjoyed by firms which have signed partnership contract with an Islamic bank which is by itself a powerful stimulant to further investment, (2) if such high profit rates are distributed among depositors ( in an Islamic bank) effective demand will go up, (3) if 1 and 2 are combined it would make possible to expand size of the firm and hire more labor

which , makes full employment an accessible goal of the economy, (4) more taxes will be collected and budget deficit, if any, would tend to decrease over time, (5)if part of reduction in production cost is reflected in prices of the commodities produced, the whole community will enjoy lower prices, higher income and boost in aggregate demand.

IRR of various projects are quite useful outcome of a logical analysis which provides a measure to gauge qualification of these projects for selection. However, bringing in another measure exogenous to the system requires careful consideration concerning its relevance and other costs and benefits. Costs and benefits of interest go beyond private frontiers in that they both entail social aspects to be considered, especially the social costs. It is not hard to prove that social costs of interest-based system overshadow the benefits by far.

Prevention of simultaneous coexistence of stable prices and full employment is part of social cost of introducing interest (rate)to the system. Additionally, inflation and unemployment which are both consequences of such introduction hurt the general public at the expense of a very low percentage of the population enjoying the benefits through interest incomes. This simple explanation may be key to the locked-in position which is being able to overcome most of the capitalistic deficiencies.

**Islamic banking narrows the gap between the rich and poor in three ways:**

First: Stable Prices, Second: Full Employment, and Third: Enjoyment of bank depositors from (higher than interest) profit income through PLS. This in turn provides equitable distribution of income; the cornerstone of sustained growth and development.

Capitalistic system has long been unsuccessful to simultaneously attain full employment and stable prices due to existence of interest (rate), development of money market and, consequently, speculation. In other words, in such a system necessary condition to maintain full employment, i.e., the equality of saving with investment is absent. This is because part of saving will go to money whirlpool and hence Say's law cannot hold. It can be logically demonstrated that the root cause of inflation is saving gap which produces excess demand (via income earned in the money whirlpool which brings about inequitable distribution of income) and excess demand, in turn, brings about inflation.

In brief, Islamic banking (especially through its principal pillar, PLS, its end results of zero opportunity cost of capital, and disappearance of speculation) seems to offer solution to the apparently incompatibility of simultaneous full employment and stable prices, for which Western economists have long strived to find remedies.

