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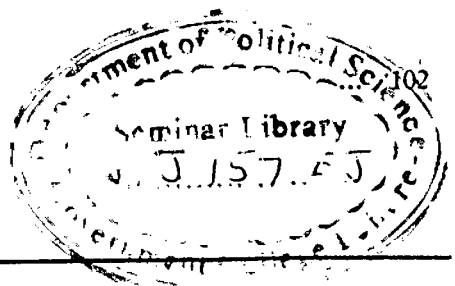
# ECONOMIC JOURNAL

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Department of Economics

GOVERNMENT COLLEGE, LAHORE  
PAKISTAN

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## ECONOMIC JOURNAL

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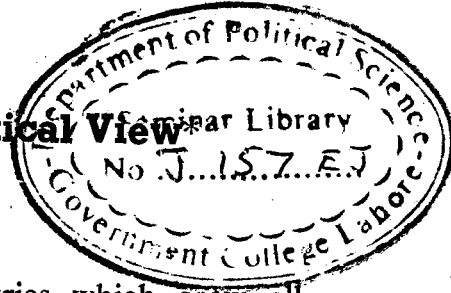
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## Foreign Trade : A Critical View

ALHAMZA\*\*



Pakistan is one of the few countries which grow all of their own food. That way it is one of the very really fortunate countries. The great luck of Pakistan consists in three things : plenty of cultivable land, plenty of water, lots and lots of sunshine and a hundred million people disciplined by Islam.

Thus Pakistan has the first—the absolutely primary—wealth, and is rich. If Pakistan was completely cut off from the world, she would still live. She would have her sunshine, land, water and 200 million working hands. She could grow her own food, and have enough manpower freed from hunger to cultivate the arts and human graces. This is what happened when seas and mountains were real barriers and peoples lived in isolation.

The same cannot be said of many countries including several countries of Europe. For example, if Britain was isolated from the rest of the world, more than half of her population would perish from starvation and the remaining would find the task of growing their food so arduous as to forget much about civilisation. This is because there is not enough land or sunshine in Britain to produce the basic wealth—food. Tilling, sowing, herding and feeding of animals would take so much of the time of the people of Europe that the average European farm worker would, like his medieval ancestors, live in the direst squalor and hardship. There would be so little leisure that only a few nobles and priests would be able to learn to read or write or even wash. Instead of the ballet dancer and the astronaut, the typical figures of European romance would again become the goose-girl and the swine-herd.

But this is not likely to happen, for Europe is not isolated. On the other hand she can trade. Trade

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\*Read out at the inauguration of Government College Economics Society.

\*\*Pen name of Professor Ashfaq Ali Khan, Principal, Govt. College, Lahore.

brings the fruits of the sun and the patient toil of the dwellers in the sun to her door, and the European street-cleaner of today feeds better than many a noble of the Court of Charlemagne. With food on the table and fibre stacked in her warehouses, Europe is free to pursue pleasure and perversion, science and invention, industry and war. She can write an economics in which coal and iron are called wealth, and sunshine which is the primary reason for the existence of life, is given less importance. This economics can be made to prevail by the overwhelming size of Western offensive in the realm of ideas. European manpower, freed from the scythe and the plough, can forge armaments which over-awe the unarmed millions of the under-developed world.

Economic philosophers of the industrialised West may well say, "Trade promotes prosperity." The question arises: Should economic planners in the under-developed countries agree? Or should they not rather say: "Trade on the present terms promotes the adversity of the under-developed countries which export agricultural produce to the industrial countries afore-mentioned." If on analysis it turns out that the present world trade leads to poverty and misery for the un-industrialised countries, then we in Pakistan must revise our attitude towards trade. If we have been uncritically concurring with the Western economists in praising and promoting all trade, we must not do so any longer. On the other hand we should become critical of trade and distinguish between the trade which helps us from other trade which hurts us and brings about our impoverishment.

Trade means exchange of goods. A simple exchange of goods is called barter. Exchange of goods through the agency of money is what is ordinarily meant by the expression 'trade'.

Now an exchange of goods can be fair in which case each of the trading parties gets what is reasonably due to it. Trade can also be unfair, in which case one party gets more than what should rightfully belong to it and the other party gets less than its due. If such unfair trade continues between two parties for a considerable period, we may find one party enjoying a high level of prosperity and the other suffering from marked poverty.

## Fair Trade

What is fair trade ? A possible answer to this question may be : Fair trade is that in which things fetch their right prices. But what is a right price and who shall fix it ? None of the prices of articles and commodities have been fixed by super-human revelation then who shall say what a right price is ?

Ordinarily, a pound of copper wire costs more than a pound of cotton yarn but what is the basis in reason for this difference in price and how shall we determine whether a pound of copper wire drawn in England is equal in value to two pounds or ten pounds or a hundred pounds of cotton yarn spun in Pakistan ?

In looking for a formula which will tell us what trade is fair and what trade is unfair, we must take our stand on a basic human postulate. In Islam this postulate consists in the concept of human equality. All men are equal (in the sight of God). This is the basic Islamic postulate. From this it flows that the right of the worker in Pakistan to the good things of this world is the same as the right of a worker in Britain, U. S. or West Germany. This may be qualified here or there by some people but that cannot alter the basic truth of this postulate.

## Key to Formula

This gives us the key to the formula of fair trade. If the rights of the worker in the General Motors Plant are the same as those of the labourers in the jute fields of Khulna, then the price paid for their time must be the same. Someone may jib at this. They might talk of skills, working conditions, this and that. But all this does not basically alter the Islamic principle of just trade that each of those workers must receive the same price for their time. From this point of view the price of the product of a year's labour of the jute grower in Khulna should be the same as the price of the product of a year's labour of the auto-worker in Dagenham, Detroit or Tokyo. This may sound outrageous but it is actually not so. Let us state this in a way in which it will seem less unreasonable even to people trained in western economics.

Suppose I grow jute and you make motor cars. You are free and independent in your country and I am free and independent in mine. We are trading of our free will and to our mutual benefit. What I am suggesting is that the price which I receive for the jute which I grow by working full-time for a year shall be the same or at least bear some relation to the price you receive for the motor cars which you make by working full-time in the year. This is reasonable, isn't it?

Now what is the real shape of Pakistan's trade? Suppose three million Pakistani workers produce a million tons of jute a year which they sell for about 700 million rupees. This means that a Pakistani worker receives about 233 rupees for a year's labour on land.

On the other hand 50 thousand foreign auto-workers produce, say about 5,00,000 cars per year, each selling for ten thousand rupees. Each worker therefore, sells his year's labour for a hundred thousand rupees or about 400 times more than the Pakistani jute grower.

#### **40,000 P.C. Unfair**

Now suppose Pakistan sells jute abroad and buys motor cars. At current prices, by selling all her jute she buys only 70,000 cars for a million tons of jute. If trade was fair Pakistan should buy for her jute as many cars as 3 million European workers make in a year, or about 30,000,000 cars. Actually she can buy only about 70,000 cars. In other words the current terms of trade equate the work of one European with the work of 400 Pakistanis. To say the least, this is not fair trade! For every bargain that we make in this trade, we lose 400 times. In other words this trade is 40,000 per cent. unfavourable to Pakistan. It is merely logical to conclude that the more trade of this kind we have with foreign countries, the poorer shall we become.

When you and I trade, we employ each other. You are employing me and I am employing you. It is only fair that if I am occupied for one day making an article for you, you should supply me with another article which it has taken you a day to make. If not, then our trade is not fair. If by making a car part for me in one day, you employ me for a year growing cotton and rice, tea or jute for you, it is not just. I need my time to improve

myself. I must educate myself, build my house, teach my children and look after my health. I need the motor part but if in order to buy it, I have to work in the fields for a whole year, then this is a bargain which in all reason does not suit me.

### Unequal Prices

I cannot devote the whole of my working life to a process which in the end will buy me a small motor car. Like yourself, I have other things to do. I have to defend my country, read books, study the arts and raise myself in the scale of civilised values. I cannot be content with just being treated as a sub-human organism like a silk-worm, producing jute or cotton fibre for you. You made your car in ten days. I have to work whole-time for ten years to buy your car. This is not fair trade and these are not fair prices. Either you raise the price of my cotton and jute or reduce the price of your motor car. The present prices are fantastically unequal.

Outrageously unfavourable as international trade is to agricultural countries, this is not the only worry they have. The poor pittance in purchasing power in foreign markets (what is glibly called "foreign exchange earning") is by no means a certain or dependable factor in their economics. The miserable amount of machinery and manufactured produce (e.g. Pakistan buys a few thousand trucks and other vehicles for a population of a hundred million) they buy with the foreign exchange is by no means guaranteed to them. There is yet another, deeper abyss of exploitation into which they are constantly slithering.

In the current half-understood cliché this economic slough of despondency is called "worsening terms of trade". The terrible grinding and misery for hundreds of millions of destitute human beings in under-developed countries which the colourless phrase "deteriorating terms of trade" implies is very imperfectly understood generally. Let us proceed to understand it.

Let us read, deliberately and carefully, a quotation from 'Time' magazine (April 19, 1963):

"A few years ago in Ecuador a farmer could buy a tractor with the money realised from selling 50 bags of coffee; now it takes 150 bags."

This simple sentence hides one of the greatest sorrows of the human race, and the single greatest argument in the scales of everlasting justice for the destruction of the fabric of modern civilisation. Let us analyse it.

Ecuador is an agricultural country (like other agricultural countries, *e.g.* Pakistan). She grows coffee and exports it (just as Pakistan exports jute, tea, oilseeds, hides and skins, etc.). For this purpose she has irrigation, a revenue system, railways, etc. By growing and sending out coffee she earns foreign exchange, say dollars. With this money she buys tractors, locomotives, etc., which are used for growing and transporting the same coffee. If some foreign exchange is left over she may buy buses, medicines, etc., by which life is made more bearable or in other words the standard of living is raised, but tractors have a high priority. Tractors are built by the industrial countries which buy coffee and pay for it in "foreign exchange".

### **A Mirage**

Now let us consider what has happened to countries like Ecuador. Let us go back a few years. Here are the people of a coffee growing country. There are a few hundred of them in a certain area which we are considering. They work for the whole year and bean by bean they gather coffee till it comes to 50 bags. "Now we can buy a tractor to replace the old one which is worn out. Without the tractor we cannot plough land. A new tractor is a must. We shall work harder and with our new tractor, along with improved seed and fertiliser, we shall grow more coffee. Thus, next year we shall replace our tractor and have some money left over to buy some bicycles, some quinine and some hurricane lanterns. We shall thus make progress.

So the people of the coffee-growing agricultural community work hard at ploughing, sowing and picking coffee. They use improved seed and fertiliser given to them in aid by the industrial country which buys their coffee and sells them the tractor. The same generous industrial country also gives them aid to build a dam to irrigate their coffee crops better. The people work in coffee fields during the day and on the dam at night. Next year, instead of 50 bags they succeed in growing 60 bags. It



is a great increase—20 per cent. It is almost a record. The people have worked hard and their reward is higher yield.

So they take the 60 bags to market, working harder to transport the 20 per cent. extra yield.

When these coffee-growers sell their produce they discover that the foreign exchange they earn for all 60 bags is not enough to buy even a complete tractor !

The prices of coffee have not been raised by the buyers but the prices of tractors have been raised by them. "You must earn more foreign exchange to pay us for the tractor," they say.

So now there is a "deficit in the balance of payments" of the poor coffee-growers. "What shall we do?" they ask of the economists who have been trained on generous foreign scholarships in the universities of the industrial countries. The foreign-trained economist says them: "Oh, do you know what has happend? You have not earned enough foreign exchange and now there is a deficit in the balance of payments."

"Good God," say the poor coffee-growers. "We have worked hard ! We have broken new land. We have dug millions of cubic feet of earth to build a dam. We have broken stones to build roads so that the 20 per cent. extra produce should go to the ports. And now we actully owe money for the tractor which we need to grow the coffee. What shall we do?"

"Do?" says the foreign-trained economist. "Were you not given aid—kind, generous aid for irrigation and water development? Were you not given aid for soil conservation and waterlogging? Were you not given aid for improved seed and fertiliser? Did you not receive aid for digging millions of cubic feet of earth? And now you ask me what to do?"

"Oh we are utterly grateful for the kind, kind aid and experts, but what can we do to make up the deficit in our balance of payments?"

"Go and earn more foreign exchange. Export all you can," says the foreign-trained economist. "And"

while you are about it, improve your character, educate your ploughmen, coffee-pickers, stone-breakers and harbour coolies. The moment they are educated your balance of payments will right itself. And one word more, have fewer children. In the meanwhile, I shall see what I can do."

### **A Loan**

So the foreign-trained economist asked the great foreign adviser and was awed by his generosity when he learnt that the great foreign adviser would use his good offices and have the deficit in the balance of payments teated as a loan by the industrial country, on the condition that the coffee-growers move on with their wonderful Five-Year Plan based on promoting more trade by growing and exporting more and more agricultural produce like coffee. The main emphasis of the Plan, admired by spokesmen of the industrial countries was on development of irrigation by building dams, improved seed, fertiliser, soil conservation, roads and railways, hotels, buildings, etc. When this was made public the spokesmen of the coffee-growers vied with each other in praising the aid-giving industrial country. But when all was said and done, the sum total outcome of the year was that the aid-giving country had obtained 60 bags of coffee in exchange for one tractor.

Now what happened next year to these coffee-growers of Ecuador? The people went ahead with slogans of "Export more," "Earn more foreign exchange." They borke more land for coffee plantation, dug more earth, built more roads and railways for hauling out coffee and even put some land under coffee at the cost of the food crop.

This year they brought off another miracle. They produced 70 bags of coffee. True, there were fears of a food shortage but the success on the export-crop front was marked. "We shall replace our old tractor now and there will be no deficit; rather there will be a surplus of 10 bags worth of foreign exchange and we shall get our aspirin and hurricane lanterns. At last there will be progress."

But alas, the foreign exchange earned, though more than last year, was not enough to pay for the tractor,

the price of which had risen again. Once again the kind and generous industrial countries which bought coffee agreed to treat the deficit in the balance of payments as a loan. Again they did so since they were convinced that the excellent Five-Year Plan of the coffee-growers was being implemented by the patriotic functionaries who received lessons in economic wisdom from the experts and universities of industrial countries. In fact, the generosity of the aid-giving country was overwhelming. To make up for the slight food shortage suffered by the coffee-growers in their zeal to put more and more land under coffee, the aid-giving industrial country actually offered a shipment of grain as a loan. The spokesmen of the coffee-growers went into ecstasies of self-congratulation on this. Was it not made possible by their skill in negotiation and their innate abilities? Had they not completely out-manoeuvred the scholars and university men of whom the governments of industrial countries were constituted?

Nevertheless, when all was said and done, the poor coffee-growers had worked hard to produce 70 bags of coffee and remained where they were.

### **Moving Backward**

But did the coffee-growers remain where they were or did they actually go back? In the first place the world population had grown and since the coffee-growers were a part of this world, their numbers also grew. The foreign-trained economists pointed out that in this respect they should be different from the rest of the world and stop having children. Some functionaries again showed their efficiency and patriotism and made several journeys overseas to attend conferences. They earned the gratitude of the entire community by getting, solely as a tribute to their efficiency and skill, generous foreign aid for family planning. But the coffee-growers continued to be a part of the expanding world and children continued to be born among them as among human communities elsewhere. So, formerly 200 people had shared a tractor; now 215 shared one. In this respect the coffee-growers went back.

Secondly, to grow 70 bags of coffee instead of 50 as heretofore, the growers put more man-hours into it.

They took this time from the leisure which they used to employ for washing clothes, cleaning their homes, looking after the children, reading, etc. They spent this time in growing extra coffee. From this point of view they became worse off.

Thirdly, to grow 70 bags, instead of 50, they had to put more land under coffee. Some of this land was taken from the food crop, the fodder crop and pasture for milch cattle. They were fed worse.

Fourthly, they tied up their working population or manpower, as it is called in coffee growing. They were thus prevented from doing something really useful and remunerative like, for instance, making a little steel and forging it into a tenth part of a bicycle or a hundredth part of a tractor. This was the most serious loss of all but incidentally it was also the greatest gain of the aid-giving country for it ensured their coffee supply on terms very, very favourable to them for an indefinite period.

### Conclusions

From the above, certain sad but thought-provoking conclusions emerge.

1. Trade on the current world prices is a continuous process of impoverishment and exploitation of agricultural exporting countries.

2. To trade, to earn "foreign exchange" by selling agricultural produce is to go backward, to hold up your economic development, and inflict suffering on the mass of your people. To export manufactured goods, on the other hand, is to grow richer.

3. Any aid given in a manner that it will enable an agricultural country to grow raw produce like jute, tea, hides and skins, oilseeds, superior quality rice, is bait aid. From a shortsighted view it promises a ready morsel but in the long run it brings economic misery.

Reproduced below is a quotation from the Daily Press which underlines the tragedy of trade for unindustrialised countries in the modern age. It is a sombre indictment of man's injustice to man on a scale before which the calamities of history pale into insignificance. Kindly read it carefully:

“Rome, May 21: The FAO Director-General, Mr. B. R. Sen, yesterday told delegates to the conference of the FAO (Food and Agriculture Organisation) Products Committee that the world’s under-developed countries had lost about 20,000 million dollars between 1955-61 through the decline of world prices for raw material exports and the increase in prices for manufactured imports.

He said the increase in price for manufactured goods during that period had added nearly 12,000 million dollars to the import bills of developing countries. At the same time, he said, these countries had lost 8,000 million dollars through the drop in raw material prices.

He said indications for the future prospects of agricultural exports also left no room for complacency.”

### Colossal Loss

Imagination reels at these colossal figures quoted by Prof. Sen. The loss in trade to the under-developed countries was 20,000,000,000 dollars—twenty billion! In all parts of the globe, for thousands upon thousands of square miles, human victims of unfavourable trade, millions upon millions of them, writhed in the agony of labour by field and farm and dusty wayside, in scorching sun and freezing cold, so that every day that pawns and every year that rolls by should make them poorer.

It is terrible to think that this happened to the accompaniment of a roar of propaganda in which many a fair word—help, aid, assistance, advice, guidance, neighbourliness, humanity, progress, development, co-operation, etc., were used to mask the hideous reality of making the poor still poorer. If nuclear holocaust should overtake the world tomorrow, those who like the present writer, entertain the old fashioned faith of a bygone day, may have a thought as to why the hand of God had fallen so heavily on the human race.

Here are some misleading ideas with a bearing on trade spread by Western propagandists:

1. That “*trade promotes prosperity.*” This is right for the industrial west but wrong for agricultural count-

ries. On the terms which have prevailed ever since trade began, trade promotes the prosperity of industrial countries but aggravates the poverty of agricultural countries. In other words the more trade there is, the poorer raw material exporting countries like Pakistan become. The slogan "Export and prosper" should give place to slogan "Export cars, radios, aeroplanes and other finished products and prosper: export raw jute, hides and skins, tea, coffee and other raw produce and grow poorer."

2. *"That some great Western countries, notably the U.S., do not need food and raw material imports. They have huge surpluses all round. They can feed the world. They are trading merely for charity and because they do not want us to become Communists."*

### **U. S. Food Imports**

This is wrong. The U. S. is dependent, even for some major food items, on the outside world. Take the case of sugar, a major food item. The U. S. consumes 10 million tons of sugar annually and grows only 3 million—two thirds of the requirements are met with imports. The U. S. cannot grow her own sugar for two reasons: (a) it would use up her labour force or manpower or whatever you may call it, and her industry and armaments would go down. (b) The world prices of sugar are such that you cannot pay the expensive U. S. labour cost from the proceeds.

The U. S. is surplus mainly in wheat and maize. Yet Soviet Union produces twice the amount of wheat that the U. S. produces and Pakistan produces six times the rice that is grown in the U. S. The U. S. imports almost all of its coffee (a fantastic 292 crore pounds), palm oil, natural rubber, cocoa and vast amounts of basic wealth deprecatingly called "crude materials"—natural chemicals, metal ores, raw wool, raw hides, etc., etc. Without these crude materials bought at fantastically low prices, U. S. industry and armaments would suffer a severe set-back.

As regards Europe, there is much propaganda about France exporting food, Denmark making cheese and Britain baking biscuits and candies. These are "springs to catch woodcocks." The brutal fact is that if "trade" stop-

ped, half of the 600 million Western population would perish from starvation and the greater part of the remaining 300 million would be growing potatoes and other foods instead of making cars, cameras, guns, etc., and selling them through trade.

It is interesting to note that despite large-scale mechanisation which enables one man to do the work of twenty or more, it is uneconomic to grow even a cereal like wheat in the U. S. The world prices of this farm product are so low that you cannot pay the high cost of U. S. labour from the sale proceeds. So to maintain agricultural production the U. S. grower first sells his corn in the market and gets a price for it, then he goes to the U. S. Treasury and is paid a supplementary price for every bushel he grows. So the U. S. farmer receives a much higher price per bushel than the world price. Apart from this, the U. S. gifts agricultural products to other countries and spends money on storage as a part of the Price Support Policy.

3. *“That the misery of the under-developed countries in Asia is not so much due to unfavourable trade as owing to their runaway rate of population.*

This is again incorrect. The facts assumed in this statement are wrong. Mankind is increasing all over the world. During the last 300 years, the European population has grown six-fold, the North American 173-fold, South American 13-fold and the entire world population has grown five times. Asian population has grown about four-fold—less than the world growth rate. Surely then population growth is not the problem of Asia alone. If the far higher rate of population growth of America and Europe has not caused economic backwardness, reason for Asian poverty cannot be her population growth of which the rate is less than that of the entire world. We deplore our population increase and say that it has eaten up our production increase. We forget that in a country in which the main occupation is agriculture with manual labour, production increase is *caused* by population increase. If some people want to restrict population growth in our crowded areas let them do so by all means, but they should not use the population argument in such

a way that it serves to confuse our understanding of the basic reason for our poverty, viz. non-productive employment of our magnificent manpower, producing agricultural raw materials and exchanging them for machinery and manufactured products on extremely unfavourable terms of trade.

### Hard Work

4. To lead the thinking of the people away from unfavourable trade which is the root cause of Pakistan's poverty and economic helplessness, it is quite often said that Pakistanis need to work hard. We often hear ill-informed talks like: *"We are opium-eaters. The only way Pakistan can come up is that everybody should be put to work by force."*

There is not much sense or justification in that kind of approach. Actually the average Pakistani worker (peasant, road-maker, coolie) is one of the hardest-working human beings. Workers in wealthy countries do not work so hard or so long. In fact in proverbially rich countries like the U. S. or Britain ("We have never had it so good," they say), as national wealth rises, people are working less and less and playing more and more. In some branches of the electronic industry in the U.S., the working week has been reduced to 25 hours only. Beaches, hotels, holiday resorts, race tracks, bowling alleys, dancing halls, night clubs and fun fairs are filled by millions of European and American merry-makers. Current figures for British holiday and recreational attendance are the highest ever in the history of that Island. Of course, the secret of this leisure lies in the use of machines to replace human labour and not in working hard without tools.

No amount of hard work will make up for tools, and in fact hard work beyond a limit has brutalising effects on labour, numbing their intelligence and reducing efficiency. And then all this hard work, without machinery, gives a thin trickle of produce which when spread over the numerous labourers connotes the most degrading poverty. The accent on hard work without reference to tools, machines, steel production and other factors of industrialisation is, therefore, irrelevant and distracts attention from the urgent need for giving the highest



priorities to the manufacture of machinery while controlling and restricting unfavourable trade in agricultural raw material produced by human and animal labour.

The use of the expressions 'employment' and 'un-employment' in the old colonial sense is most injurious to national progress. If the available manpower of the nation is not given enough leisure, they will never improve their living conditions. If a man ploughs the whole day and then chops fodder the whole night, he will not have the will nor the energy left to be able to wash, to think, to read a book or even behave with decency in human relationships. Whipping our tired stone-breakers, harvesters, ploughmen and others to work overtime to produce raw material in order to earn foreign exchange on fantastically unfavourable terms of trade will cause moral and material losses and backwardness. Let us start making some of the things we need foreign exchange for, through the immediate setting up of the industrial base of mines, steel mills, and machine tool plants. All other ways lead down-hill, for foreign trade on the present terms is a downward slope for agricultural exporters.

### Urgent Need

The 'hard work' idea is all right but let it not be used to mislead people from the agonising and urgent need for making machines and restricting foreign trade which is devastatingly unfair and drains the country's wealth (working hours and their produce) for a miserable modicum of things like radios and motor cars.

5. *"That all ills of Pakistan are due to faulty education. It is useless to attempt anything until we have reformed our education. If we can expand our education on the right lines, we can shoot up into prosperity."*

Now this is an idea which is often used to lead people's minds away from the real need of the country, viz. restricting unfair and unfavourable trade which is continually draining the country of its wealth. We can cure this by shifting the emphasis from agricultural exports to indigenous manufacture of machinery. In order to understand the limitations of this idea and the error in thinking which is introduced in respect of the material

development of the country, we have to consider an example.

Let us imagine a village with a working force of a hundred illiterate men living by primitive, non-mechanised agriculture. Now suppose we have them all educated up to the degree level. What will happen?

Clearly if they do not change the economic process, their education will be of no use. The graduates will be ploughing land and making two rupees a day. It is only when they set up a factory or a workshop that they will be able to use their knowledge, and the banker, the doctor and the engineer will be able to make a suitable living.

Now in a big nation private individuals cannot without state action set up a base for industry like mines, steel mills and power supply. Therefore until by state action we set up heavy industry, our education will bring us very little economic improvement. If we expand education without changing the economic process which compels us to buy every nut and bolt in exchange for raw agricultural produce on 40,000 per cent. unfavourable terms of trade, the only result will be that M.A's and B.A's will begin to apply for junior clerical jobs instead of matriculates as up to present.

6. The sixth misleading idea that has gained currency is that before industry is developed it is necessary to evolve an equitable distribution of wealth. The argument runs as follows :

*"It is all very well to say that we should set up our own heavy industry so that we do not continue to suffer losses through unfavourable trade, but then industry results only in making a few people very rich. May be there are just a dozen, or two dozens, families in the country which have gained by industrialisation, but the poor are becoming poorer. First and foremost we need to establish social justice and then we may talk of priority for industrial expansion and saving the country from unfavourable foreign trade."*

This is again wrong. Better distribution of wealth is a most laudable objective, but at the present stage it

has second priority as compared to the need for increasing production and saving the country from foreign exploitation through trade. This will become clear if we give the matter a moment's thought. Our present economic structure (based on production of agricultural commodity and export of the same) is so defective that it yields us a gross national product which is one of the lowest in the world for a population of our size. Now for a moment let us suppose that we establish ideal distribution of wealth. In other words we just divide the total wealth produced in the country equally among our population. What do we get in that case? Just about twenty rupees per month per person? Are we then asking for a wider distribution of plenty or a wider distribution of poverty?

An equitable distribution of wealth is a noble ideal and enjoined on us by Islam but let us first have something to distribute. If there is not enough to go round, the best system of distribution in the world will not give a sufficiency to any one. Consequently, at the present stage of economic progress (or economic backwardness) anyone who gives the first priority to a campaign for a more equitable distribution of wealth is really confusing the urgency of the real and primary priority, *viz.* production of more wealth and control of unfavourable trade by which the wealth of the nation flows out of the country.

### Priority Reform

The need of the moment is that we should devote all our attention to the production of more wealth within the country and to modifying the economic process in which unfavourable trade figures so prominently. The time for social reform will be immediately after we have achieved a self-generating economy. If we launch forth on a time and energy consuming revolution for social justice aimed at a better distribution of poverty (not wealth, for a GNP proportional to Rs. 20/- per month per person cannot be called wealth) we shall lose sight of our immediate objective, which is preventing grossly unfair trade by setting up heavy industry of our own.

7. *"That trade is essential. Though you may call it several thousand per cent. unfavourable, you cannot do without it. If we stopped imports because they*

*are very expensive, the country's economic life would come to a standstill and the whole social structure would come crashing round our ears."*

This is not as certain as it sounds. That this is not so was conclusively proved during the two wars. Germany attacked shipping to sever the life-lines of Britain and starve her into submission. Submarines started sinking merchant vessels. Sea-lanes were deserted. Trade was greatly reduced. During this period there was a marked upsurge in real prosperity in India and Pakistan. Economic activity increased. Industry began to take root. Prices notwithstanding, there was plenty all around. Even among the small urban minority who used foreign consumer goods, there was very little real hardship. People got along without fancy goods and found themselves no worse.

As the war stopped, trade was reopened. Huge quantities of food and raw material were exported and cheap goods dumped in colonies in order to kill off the new industry. Unemployment and deprivation came back with trade.

### **Thinking Afresh**

The colonial propoganda in favour of trade has been so long and so assiduously fostered that opposition to trade, no matter how logical, has for most Western educated people an unreal and dreamlike quality. Despite the logic and the statistics, the average Western educated individual in the countries which are the worst victims of trade, is as unwilling to question the desirability of boosting trade as a head-hunter of New Guinea would be if he was asked, in the name of commonsense and hygiene, to throw away the rotting skulls the collection of which he has been taught from infancy to believe as being the highest aim of human existence on this planet. For people in erstwhile colonies, it is extremely difficult, and indeed for most of them impossible, to realise fully how trade which they have been taught to look upon as almost the sole function of human economic activity, is in fact an inhuman process of exploitation of the millions in underdeveloped countries. To many who have never known anything other than imperial economic philosophies and colonial administration, it appears shocking

sacrilege and indeed a specie of anarchical madness that anyone should question the validity of trade. Yet in the present world where nations must stand or fall by their own thought and action, it is necessary that a great, disciplined and hard-working people like the Pakistanis should make the most serious efforts to understand the reasons for their continued economic helplessness in a world in which some Western nations which a decade ago were known mainly for their skill as cocks, dancing masters and organ-grinders, are rolling in fantastic luxury, wealth and power through a reconstruction of their basic industry.

The following measures are suggested as practical steps for countering the constant drain on the nation's economic vitality through unfavourable trade :

- (a) The slogan "Export all you can" should be changed to "Export manufactured produce."
- (b) We should give second priority to such schemes and plans as are based on expansion of acreage under such crops as are intended for export of raw unfinished commodity.
- (c) We should make a progressive plan to make finished goods from our jute, hides and skins, oilseeds, export-quality rice, etc.

### Warning

In order to manufacture our raw produce we need machinery and chemicals (*e.g.*, leather-working machinery, caustic soda for soap, tin for packing). We should produce these chemicals and machinery first, *i.e.* again first priorities go to HEAVY INDUSTRY, *e.g.*, steel, machine tools, sulphuric acid, caustic soda, etc. If we start with light industry (soap-making, leather goods, food-packing) we shall again become dependent on imports of machines and chemicals which we can again buy only by engaging in unfavourable trade of the kind we are trying to avoid. We shall in any case need motor vehicles for we just cannot import all we need. The lesson is: Heavy industry first and everything else afterwards.

- (d) Our magnificent manpower is being tragically wasted in pursuing primitive agricultural methods. We

must mechanise our agriculture as far and as fast as we can so that our manpower can become available for industry. This again calls for the highest priorities for heavy industry.

- (e) Manufacture of finished products like leather goods, hessian, cloth, textiles, packed foods, etc., is merely a stage in our advance towards modern prosperity and strength. Our real goal is manufacture of finished engineering products like cars, radios, ships, planes, etc., etc.
- (f) A vital factor in the entire process of economic liberation of the nation is our ability to set up the heavy industry base in our country. We have the resources to do so. All we need to do is to counter foreign economic, political and publicity moves which have so far thwarted our efforts. Correct planning is, therefore, of the essence. We can be led astray by wrong foreign parties and spend years and years studying feasibility. Planning means priorities. This in turn means that we should know what is the first thing we have to do. If foreign persuasion or aid can confuse our priorities, we shall not have heavy industry no matter how much we talk about it. It is really simple to understand this. If you want to have tea in 15 minutes, you should determine the priorities of tea making and then stick by them. For instance, lighting the stove has absolutely the first priority. If someone keeps you busy setting the table, polishing the pot and setting out the spoons and thus prevents you from observing the first priority, which is lighting the stove, you will not get your tea in 15 minutes. This strategy of confusing priorities in under-developed countries is followed by the industrialised nations. The weapons they use are AID, persuasion and misguidance of key personnel who do not have a background of scholarship and knowledge, and getting them to hide the details of their working from public view. The cure for this is :

### **Planning**

- (1) make planning bodies broad-based with lots of members from all walks of life.

- (2) have men of scholarship and academic approach in places of responsibility (compare Germany and U.S.).
- (3) there cannot be much that is secret in planning. For a foreign saboteur there can be no greater guarantee of being able to work with complete impunity than that he should be able to persuade an innocent or timid person with a weakness for self-importance to mark non-military documents or data of public importance as 'secret'.

Once a mistake has been marked 'secret', it becomes a crime to detect it and it does the maximum damage to the national interest.

Policy is all-important. Policy means direction of movement and action. If you drive in the correct direction, no matter how slowly, you will get to your goal. If you miss the correct direction, then the faster you move, the farther will you be from your goal.

Right policy springs from knowledge, that is why knowledge is power. We must have men of knowledge at the helm of policy. For this purpose we must create conditions in the government by which an Erhard or a Galbraith or a Radhakrishnan can rise above the status of a college lecturer to a place of responsibility in the State. Incredible as it may sound, it is yet a fact that a man who starts life as an accountant or revenue-collector, or law and order functionary has a far better chance of rising to a high position and making crucial decisions for the State, than a college teacher or university researcher. This is a disabling legacy which foreign rule has left us and we must change it forthwith. Else we will continue to flounder in stagnation—our vigorous functionaries in various departments cancelling each other's frantic labours for the lack of an all-seeing vision which is granted to those who devote whole lives to study and scholarship in the temples of knowledge.

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# Game Theory and Economic Analysis\*

PERVEZ TAHIR\*\*

## Preliminary Remarks

The appearance in 1944 of "*Theory of Games and Economic Behaviour*", a co-work of von Neumann and O. Morgenstern, is said to have equipped the behavioural scientists with a technical apparatus that could serviceably quantify and hence facilitate the analysis of the interaction of psychological motives, of the infinitely reflexive problems of "he thinks I think he thinks I think ....."<sup>1</sup> Drawing on the considerable extent of likeness between parlour games and conflicting situations in various fields of society, the theory seeks to determine the outcome of the rational decisions of the players, incongruously motivated, and behaving in a manner that would take into account the reaction to one's own action of the others in the game. As such, its implications for economics should be at once clear: it might be helpful in arriving at determinate optimal solutions for market situations that lie between perfect competition and monopoly. Traditional economic analysis has "succeeded in beating some paths part of the way into the jungle from different starting points, sufficiently to begin to get an idea of the general topography, and to get within shouting distance of each other; this is still, however, a long way from being able to say that the jungle has been fully explored."<sup>2</sup> The solutions of oligopoly, duopoly and bilateral monopoly have thus far been piecemeal, eluding any general explanation. The purpose of the present write-up is first to lay bare the rudiments of game theory and then to formalize these economic situations into game-theoretic models with a view to assessing the determinacy and

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\*This paper was read and discussed in Prof. Fiza-ur-Rehman's seminar group.

\*\*Research scholar, Deptt. of Economics, Govt. College, Lahore.

1. T.C. Schelling, "Game Theory and Study of Ethical Systems", *The Journal of Conflict Resolution*, vol. XII, No. 1.

2. William S. Vickrey, *Microstatics*, N. Y., 1964.



generality that the theory is claimed to have introduced in economic analysis.

### Terminology

A game is a set of governing rules and procedures which, when given, specify what the player, the decision-taking unit involved, is able to do. Such an "ability to do" is constituted by the state of knowledge about antagonistic behaviour; the *ex-post* choice of the player out of an exhaustive list of alternative moves—the technical name for a discretionarily exercised choice being personal move and chance move for a random choice; the order of the moves and the outcome that this order leads to. Any instance of employing this ability to do in a concrete situation is described as play in the parlance of game theory. What the player actually "intends to do" depends upon the way he plans to choose his moves. An armoury of moves that would sufficiently cope with all eventualities in the course of the play is termed as strategy. The tremendous computing and cataloguing that might be necessary in the matter-of-fact world reduces the concept of strategy to a mere theoretical notion. Strategic characteristics of a game find fullest expression in terms of personal moves<sup>3</sup>, though it in no way implies a total absence of chance moves.

Games may be dichotomized into finite and infinite, given the number of strategies available. Most games in reality are finite since the rules of the game necessarily lead to an end. Another classification distinguishes between normalized and extensive forms of a game. The former is a single move game making for a move-strategy identity whereas the later gives a blow by blow description each time a choice has to be exercised. A good data-processing ability on the part of the players will render one form as good as the other.

### Robinson Crusoe Economy

The criterion to isolate a particular economic situation for game-theoretic analysis is the number of decision-taking units in the game. Obviously, the simplest case is that of Robinson Crusoe *vis-a-vis* Nature. The fact that Crusoe has no hand in the vagaries of Nature

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3. This marks an advance over classical notion of pure chance probability.

restricts him to a non-conceptual and mere technical solution : he can choose the "best" of all possible strategies, but his choice is never a factor in determining the nature of Nature's response.

Choice of the "best" or optimum strategy is a many criteria proposition. Assume the following payoff matrix to illustrate.

Crusoe's Strategy			Row Maxima	Row Minima
A <sub>1</sub>	5	-3	5	-3
A <sub>2</sub>	-1	10	10	-1
A <sub>3</sub>	7	4	7	4

TABLE 1

An optimistic Crusoe will choose the highest row maximum, *i.e.* the maximax strategy  $A_2=10$ . Conversely, a pessimistic choice will imply a maximin strategy  $A_3=4$  which is nothing but the "maximization of the minimums". A regret-minimizing choice is known as minimax in the lingo of game theory, the regret being the deviation resulting from the failure to adopt the best possible strategy. The minimax strategy can be determined by transforming Table 1 into a regret matrix by positively diminishing the maximum column payoff from the respective column entries to get Table 2.

Crusoe's Strategy			Row Maxima
A <sub>1</sub>	2	13	13
A <sub>2</sub>	8	0	8
A <sub>3</sub>	0	6	6

TABLE 2

It will be seen that minimax strategy is  $A_3=6$ . It goes without saying that it "minimizes the maximum regret." One-person games are colourless and uninteresting and the real world is characterized by *n*-person

games. But their significance as a point of departure for our discussion can hardly be exaggerated.

### Economic Applications of One-Person Games

A totalitarian society has an extremely rigid system of distribution and thus fits fairly neatly into the analytical scheme of a one-person game against Nature. Same is so with somewhat Crusoe-like, atomistic, perfectly competitive firm. It can of course enjoy optimal gains, but only at the ruling market price on which its influence is imperceptible.

Monopoly, the limiting case of competition, could simply be viewed as a one-person nonzero-sum game. To construct a formal model, assume that strategic possibilities open to the monopolist consist in selecting a particular level of output ( $q_1$ ). Then his payoff function will be given by  $P_1(q_1)$ . Given traditional continuity of economic functions, his demand and cost functions will be

$$p=f(q), C_1(q)$$

As the monopolist knows his payoff and rules of the game, he will achieve optimality when

$$P_1(q_1) = q_1 f(q_1) - C_1(q_1)$$

Similar considerations apply to the case of monopoly.

### Two-Person Zero-Sum Games

The zero-sum<sup>4</sup> constraint means that one player's gain is another's loss. It rules out any tendency to collude by definition. Table 3 helps illustrate such a situation.

A's Strategy \ B's Strategy	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	Row Minima
A <sub>1</sub>	27	6	12	6
A <sub>2</sub>	3	24	9	3
A <sub>3</sub>	21	18	15	15
Column Maxima	27	24	15	Saddle Point 15

TABLE 3

4. In strict terms it is a constant-sum game, the constant here being zero.

The payoff matrix shown above is that of player A which is sufficient to analyse the entire game since its zero-sum nature makes B's payoff—1 times A's. Now suppose A chooses strategy  $A_1$  to gain 27. This means that B will get—27 who, in his loss-minimizing effort, adopts strategy  $B_2$  and thus restricts A's gain to 6 only. In a like manner, selection of strategy  $B_1$  by B with a view to arresting his loss at 3 will be futile as A could as well choose any strategy other than  $A_2$ . The instability that ensues itself suggests the rational<sup>5</sup> course of action for players in such a situation: a maximin strategy for A and minimax for B. Accordingly, the optimal strategies for A and B will be  $A_3$  and  $B_3$  respectively. The predictability of the rival behaviour breeds a fear psychology which has the effect of keeping this solution stable. A unilateral attempt to diverge makes the diverging party no better off.

It is now crystal clear that a maximin—minimax behaviour is a necessary and sufficient condition for equilibrium, known as saddle point<sup>6</sup> in terms of game theory. The value of the game is the saddle point number which is 15 in our example. The existence of a saddle point makes a game strictly determined. It is well to note that, no matter how numerous the saddle points, their numerical magnitude remains the same.

### Purely Opposed Duopolists

The usefulness for economics of the two-person zero-sum model showing pure opposition is painfully limited. In most economic situations, all participants reap some gain. It does, however, explain the behaviour of two firms involved in a struggle for market shares<sup>7</sup> through costless<sup>8</sup> advertising in a saturated market with a given number of customers in a simplified but useful manner.

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5. "Though it is not apparent from some writings, the term rational is far from being precise, and it certainly means different things in the different theories that have been developed. Loosely, it seems to include any assumption one makes about players maximizing something." Luce and Raiffa, *Games and Decisions*, N.Y., 1957, p. 5.

6. So termed because its three-dimensional graph resembles a distorted saddle.

7. This is because profits or gross revenue would convert the game into nonzero-sum.

8. Costs can't be introduced in this simplified case.

A slightly more useful solution is that of Hotelling<sup>9</sup> duopoly without resorting to calculus. In this model, duopolists are required to operate along a continuum, given a constant demand function. For game-theoretic analysis, let us mark six discrete points, 0, 1, 2, 3, 4, 5. We assume that the firms can operate only at these points and that a coincidence of choice leads to an equal sharing of the market. The payoff matrix in such a situation is given by Table 4.

A \ B	0	1	2	3	4	5	Row Minima
0	2.5	0.5	1.0	1.5	2.0	2.5	0.5
1	4.5	2.5	1.5	2.0	2.5	3.0	1.5
2	4.0	3.5	2.5	2.5	3.0	3.5	2.5
3	3.5	3.0	2.5	2.5	3.5	4.0	2.5
4	3.0	2.5	2.0	1.5	2.5	4.5	1.5
5	2.5	2.0	1.5	1.0	0.5	2.5	0.5
Column Maxima	4.5	3.5	2.5	2.5	3.5	4.5	Saddle Point = 2.5

TABLE 4

The points 0 and 5 are ignorable as are dominated by 1 and 4. The outcome of the remaining  $4 \times 4$  matrix is determinate. The existence of four saddle points assures each firm of a 50 per cent market in equally good alternative ways. Both firms tend to operate at the centre of the continuum.

### Uncertainty and N-M Utility Function

The tacit assumption heretofore has been the prevalence of an air of certainty. The play was conducted with "sure prospects". Its attunement with the tendency among the traditional theorists to pay exclusive attention to riskless situations is self-evident. Any attempt to construct a true index of the facts of economic life must

9. Harold Hotelling, "Stability in Competition", in Stigler and Boulding (eds), *Readings in Price Theory*, Chicago, 1952.

account for uncertainties. Synthesizing the vision of the cardinalists and insight of the ordinalists, von Neumann and Morgenstern set out to develop a utility function which, given certain crucial axioms, could be derived from the choice situation involving a nonrandom event on the one hand and a probabilistic set of two uncertain events on the other. They observed: "It can be shown that under the conditions on which the indifference curve analysis is based very little extra effort is needed to reach a numerical utility."<sup>10</sup> This N-M utility function is nothing but an attempt to reduce gambles into certain equivalents when the following axioms are satisfied:

- (1) If  $A \geq B$  and  $B \geq C$ , then  $A \geq C$  such that a *complete ordering* of choices is obtained.
- (2) If  $A > B$  and  $B > C$  and there exists any probability  $p$ ,  $0 < p < 1$ , then  $B = [p:A, C]$ . This is known as *continuity* axiom.
- (3) If  $A = B$  and  $C$  is any outcome, then the axiom of *independence* states that  $[p : A, C] = [p : B, C]$ .
- (4) If outcomes of  $A$  and  $B$  are equally valuable, but *unequally probable* to the order of  $p_a$  and  $p_b$ , then  $A > B$  if and only if  $p_a > p_b$ .
- (5) Finally the axiom of *complexity*. Let the individual be presented with a choice between two lottery tickets  $T_1$  and  $T_2$ . Should we choose  $T_1$ , the mathematical expectation for the outcomes  $A$  and  $B$  with respective probabilities  $p$  and  $1-p$  will be  $pA + (1-p)B$ . Choice in favour of  $T_2$  is (let us say) such that a win earns the individual another lottery ticket  $T_3$  and a loss gets him  $T_4$ , both with given probabilities for  $A$  and  $B$ . The complexity axiom implies that  $T_1 = T_2$  if mathematical expectation of choices is the same.

Assume two entities  $A$  and  $B$  with arbitrarily assigned numbers 5 and 10 respectively. An individual will naturally prefer  $B$  to  $A$ . Assume another entity which has a greater desirability than  $A$  and  $B$  both. Combine  $A$  and  $C$  to constitute an "uncertain prospect" with respective probabilities  $p$  and  $1-p$ . The problem before the

10. *Theory of Games and Economic Behaviour*, 2nd ed., Princeton, 1947, p. 17.

individual with an N-M psychology is to make a choice between B, a "sure prospect" and "A or C." The individual will behave so as to maximize his expected utility. Expected utility is the mathematical expectation,<sup>11</sup> or Bernoulli's moral expectation of utility. The direct implication of this is that the individual is mainly interested in his long run gain, much to the chagrin of those sceptical about individual's ability to carry out repeated trials. Given that continuity axiom holds, there ought to be a value of  $p$  which equalizes the utilities from B and "A or C". Symbolically,

$$U(B) = p \cdot U(A) + 1-p \cdot U(C)^{12}$$

Whence

$$U(C) = \frac{U(B) - p \cdot U(A)}{1-p}$$

Hence

$$\begin{aligned} U(B) &= p \cdot U(A) + 1-p \left[ \frac{U(B) - p \cdot U(A)}{1-p} \right] \\ &= p \cdot U(A) + U(B) - p \cdot U(A) \\ &= U(B). \end{aligned}$$

Continuing in the same way the numbers to be assigned to  $U(D)$ ,  $U(E)$  and so forth can be determined to prepare a complete utility schedule. Unlike an indifference schedule, it will be unique up to a linear transformation. Let us take up a numerical example to see how. Table 5 is constructed on the supposition that  $p = 0.6$ .

Entities Alternative Utilities	U(A)	U(B)	U(C)
I	5	10	17.5
II	17	32	54.5
III	15	25	40

TABLE 5

11. The mathematical expectation for a discrete random variable  $X$  is given by  $E(X) = p_1 b_1 + p_2 b_2 + \dots + p_n b_n$  where  $p$ 's denote probabilities of  $b$ 's.

12. According to the addition theorem of probability of mutually exclusive events.

A little reflection will reveal that utility schedule II is obtained by constantly multiplying utility schedule I by 3 and adding 2, *i.e.* the linear equation  $y=3x+2$  where  $y$  denotes the components of schedule II and  $x$  that of schedule I. In general, any schedule could be linearly transformed by solving  $y=ax+b$ .

The most striking feature of N-M utility function is the role of prediction. Once an "uncertain prospect" is reduced to a position of certainty and a basis for ranking of choices in the riskless world of the ordinalists laid down, expected utilities can be computed to predict behaviour of the individual in uncertain situations by utilizing this apparently meagre information. These utilities are comparable without being cardinal in a Marshallian sense: the schedules I, II, III in Table 5 describe the same preference systems.

### **Mixed Strategies and the Fundamental Theorem**

The discussion of N-M utility was just a digression because it is not necessary to the exposition of game theory. The game problems require an object to express payoffs which is not only measurable, but also affords interpersonal comparisons and easy transferrability. In other words, an object with nonlinear relation to utility has to be found out which can be nothing but money. This by no means implies that the discussion of utility has been an exercise in futility. But for its understanding, the concept of mixed strategy would have been harder to plumb.

In the strictly determined games the strategy choice was pure in the sense that it involved only personal moves. The trouble with playing pure strategies is that



they do not necessarily result into a saddle point. Table 6 bears testimony to it.

A \ B	B <sub>1</sub>	B <sub>2</sub>	Row Minima
A <sub>1</sub>	15	9	9
A <sub>2</sub>	3	15	3
Column Maxima	15	15	No Saddle Point

TABLE 6

Player A will tend to choose strategy A<sub>2</sub> rather than maximin strategy A<sub>1</sub>. B will react without fail by offering strategy B<sub>1</sub>. A can restore its gains by resorting to strategy A<sub>1</sub> only and only if B has a stable choice. Since it is not so, B will shift to B<sub>2</sub> and thus again starts the cycle of instability. Is there any way out of this cycle? Yes, there is certainly one. Incidentally, it is the cornerstone of the theory of games.

In the above situation, any unilateral attempt to out-guess the strategy of the opponent and, if it meets success, to choose one's own accordingly is attractively rewarding. This statement itself suggests the solution: devise a guessdeterrent strategy and the source of instability will vanish. Such a strategy is doubtless a mixed strategy involving chance moves. The players employ a probabilistic combination of strategies available so as to be indiscernible. The maximand here is mathematical expectation and the behaviour oriented by this leads to a determinate situation. This determinacy is not sought for its own sake. The attempt to be unpredictable must promise a reward which is sufficiently higher than maintaining *status quo*.

Let the player A select strategy A<sub>1</sub> when an unbiased throw of an ordinary cubic die results into 5 or 6 and choose A<sub>2</sub> otherwise. The respective probabilities  $p(A_1)$  and  $p(A_2)$  will then be  $\frac{1}{3}$  and  $\frac{2}{3}$ . Pure strategy is simply a special case of mixed strategy with  $p(A_1)=0$  when the player is certain to choose A<sub>2</sub> or  $p(A_1)=1$  when A<sub>1</sub> is a "sure prospect". Presently, we are interested in an

optimal mixture of the two, that is to say, the "best" chance coefficient. Table 7 is constructed with this end in view.

A \ B	0	$\frac{1}{3}$	$\frac{2}{3}$	1	Row Minima
0	15	11	7	3	3
$\frac{1}{3}$	13	11	9	7	7
$\frac{2}{3}$	11	11	11	11	11
1	9	11	13	15	9
Column Maxima	15	11	13	15	Saddle Point = 15

TABLE 7

Each column head is a possible chance coefficient of player B; each row head is a possible chance coefficient of A, the entries represent the relevant mathematical expectations. For instance, the entry at the intersection of column 3 and row 2 is obtainable thus:

$$\frac{1}{3} \cdot \frac{2}{3} \cdot 15 + \frac{1}{3} \cdot \frac{1}{3} \cdot 9 + \frac{2}{3} \cdot \frac{2}{3} \cdot 3 + \frac{2}{3} \cdot \frac{1}{3} \cdot 15 = 9$$

The rest of the entries can be computed by formulating appropriate random matrices. The spaces between the columns and rows are indicative of the fact that chance coefficients can be continuously varied between the limits of zero and unity. Note that the fluctuations of Table 6 have been ironed out by means of randomizing the strategy choice and reaching thereby a saddle point. Robinson Crusoe could also be made rational if mutually exclusive cases gave way to exhaustive cases, each of them being equally likely in view of the uncertain response of Nature. Crusoe will choose the strategy with highest mathematical expectation.

The careful reader must have by now reached the conclusion that there is always a pair of mixed strategies that would ensure a determinate solution for games where saddle point is nonexistent. This is the fundamental theorem of two-person zero-sum games and our intention in what follows is to derive it rigorously. For this purpose a more general payoff matrix, like that of Table 8, shall have to be considered.

A \ B	1	2	3 . . . k
1	$a_{11}$	$a_{12}$	$a_{13} \dots a_{1k}$
2	$a_{21}$	$a_{22}$	$a_{23} \dots a_{2k}$
3	$a_{31}$	$a_{32}$	$a_{33} \dots a_{3k}$
.	.....		
t	$a_{t1}$	$a_{t2}$	$a_{t3} \quad a_{tk}$

TABLE 8

Let  $p_1, p_2, \dots, p_t$  be the probability constituents of player A's mixed strategy and  $q_1, q_2, \dots, q_k$  that of player B's mixed strategy. In this two-person zero-sum game, the two players act as duals and one can gain only at the expense of other. If A is the maximizer, B is the minimizer—the maximand (or minimand) being mathematical expectation.

Given B's strategy  $r$ , let  $P$  be the smallest of A's mathematical expectations

$$a_{1r} p_1 + a_{2r} p_2 + \dots + a_{tr} p_t$$

The prime motive of player A is to select  $p_1, p_2, \dots, p_t$ ,  $P$  in such a manner that the value of  $P$  is maximum attainable. Such an optimal choice is subject to these linear constraints :



A's Payoff		B's Payoff	
		B <sub>1</sub>	B <sub>2</sub>
A	B		
A <sub>1</sub>		1.5	-0.5
A <sub>2</sub>		2	-1.5

A's Payoff		B's Payoff	
		B <sub>1</sub>	B <sub>2</sub>
A	B		
A <sub>1</sub>		1.5	2
A <sub>2</sub>		-0.5	-1.5

TABLE 9

In the noncooperative case the minimax principle fails to provide a stable solution. In our example, selection of minimax strategy by A only induces B to employ his second strategy and *vice versa*. Nash<sup>14</sup> has defined an equilibrium point from which there was no inducement to deviate. The strategy choice (A<sub>2</sub>, B<sub>1</sub>) is a Nash equilibrium in the sense that B will have to be content with -0.5 even if he foreknew the strategy choice of A since the alternative available makes him only worse off. Its converse is also true. An important feature distinguishing such games from zero-sum games is that the payoffs from more than one equilibrium points are not identical. (A<sub>1</sub>, B<sub>2</sub>) is another Nash equilibrium which is preferred by player B to the first equilibrium and converse for player A. We could even have a third equilibrium in terms of mixed strategies with each player reaping an expected gain of  $\frac{5}{3}$ , given a probabilistic combination of ( $\frac{2}{3}$ ,  $\frac{1}{3}$ ). It will be noticed that equilibrium strategies are more profitable than minimax strategies. A unique equilibrium could be determined if one of the players took precedence in issuing a threat, provided of course that the utility function of the threatened is not altered to the extent of igniting an undesirable reaction.<sup>15</sup> One might as well suggest a random mixture of the equilibria in a quasi-collusive manner, but no such mechanism has been evolved as yet. Another notable feature of these games is what has come to be known as "The Prisoners' Dilemma": two prisoners, likely to be freed should they keep

14. J. F. Nash, "The Bargaining Problem", *Econometrica*, April, 1950.

15. T. C. Schelling, "The Strategy of Conflict: Prospectus for a Reorientation of Game Theory", *Journal of Conflict Resolution*, September, 1958; H. M. Wagner, "A Unified Treatment of Bargaining Theory", *Southern Economic Journal*, April, 1957.

silent, might both confess in self-defence if inquired in aloofness by announcing a severer punishment for the one who does not. An analogous situation in economics is to continue business even on off days in case one is not sure about closure by competitors.

The cooperative solution would be to collude so as to employ the strategy choice  $(A_1, B_1)$  with a view to enjoying joint-maximization. Stability of this solution depends upon the enforceability of the agreement. So far so simple; but issues multiply when it comes to the division of the spoils. The "fair division" criterion suggested by Nash<sup>16</sup>, howsoever questionable, deserves a comment. Its common sense is that two persons with perfectly identical attributes, barring names, should be awarded same punishment for the same crime. More technically, the "fair division" point is the one where  $U(A) \times U(B)$  is maximized, given a no-trade *status quo*, Pareto optimality, a final fair bargain unaffected by unnecessary alternative bargains and a symmetrical concept of "fairness". A modification has been made by Woodbury by introducing bargaining power, that is to say,  $U(A)^a \times U(B)^b$ .

Further complexities are added when we enter the realm of  $n$ -person games. The analytical apparatus available here is far more poor than the two-person case. Game theorists have proved the existence for noncooperative games of an  $n$ -tuple equilibrium whereby the strategic optimality is achieved by each player when the strategies of others are assumed to be constant.

The number of potential coalitions enhances with the increase in the number of players. The  $n$ -person theory, state Dorfman, Samuelson and Solow, "is essentially a theory of coalitions, their formation and revision." It is perhaps here that Stackelberg required competitors to "supplement economic mechanics ..... by economic politics." The usual method of analysing zero-sum  $n$ -person games is to restrict the play to two subcoalitions which fit into the familiar theoretical structure of two-person games. The nonzero-sum cases are simply viewed as a special case of  $(n+1)$  person zero-sum games. The  $n+1$ th person is a dummy, called Nature, whose loss is what all others in the game gain on aggregate and *vice versa*.

16. J. F. Nash, *op. cit.*

To Neumann and Morgenstern, the solution of an  $n$ -person game must consist of a set of imputations, undominated by each other, but dominating all other imputations. An imputation itself is a set of numbers describing a particular division of spoils.<sup>17</sup> Any imputation will not be agreed upon unless the aggregate of payoffs is maximum possible and each member gets at least as much as would accrue to him if all others in the game colluded against him. One imputation dominates another if there exists a set of players who are not only able to realise it, but also by so doing enjoy more handsome payoffs.

Let us take a concrete example of three-person constant-sum case to fully expose the concept of solution. The problem is to examine whether or not a coalition is worth their while. More technically, our task is to look into the decision process that determines the essentiality or inessentiality of collusion. The essentiality conditions are satisfied when the sum of postcoalition payoffs is greater than the sum of precoalition payoffs, otherwise the coalition is inessential. Suppose that players A, B and C can get 1, 3 and 6 by way of independent existence. These values are the saddle points reached when worst betides on each of the players: all other players form a coalition against him, so that a normal two-person constant-sum situation arises. Let the total spoils for various possible coalitions be as in Table 10.

Coalitions	Spoils
AB	6
AC	9
BC	11
ABC	12

TABLE 10

17. Side payments in the form of bribe could also be made to keep a player out of competition.

Let Table 11 represent a sample of imputations.

Imputations	A	B	C
I	2	3.8	6.2
II	1	4	7
III	0.5	4.2	7.3

TABLE 11

Notice that B and C are induced to get together in a coalition under imputation I because both get more than what they would have obtained independently. This solution, however, is unstable because imputation II dominates imputation I with the result that both members are better off. They exploit the advantages of collusion to the fullest extent under imputation II. The stability of imputation II is also borne out by the fact that it can't be dominated by imputation III, for that would amount to going beyond the capacity of coalition. Once the coalition has established itself, it will compete player A in a two-person constant-sum way.

The concept of solution does not lead to a unique result for  $n$ -person games because, more often than not, the possible solutions are more than one, each with its own set of alternative imputations.

### Competition Among the Few: Some Game-Theoretic Models

It has already been pointed out that most economic situations require a nonzero-sum framework. This section aims at familiarizing the reader with some of the highly simplified models of economic behaviour as constructed by Martin Shubik. We shall assume, in general, the existence of price and quantity as the only variables, complete information,  $n$ -person nonzero-sum games in the normalized form, noncooperative consumers and absence of time. We shall also assume that a firm is an independent entity, the absence of product differentiation and transport costs and prevalence of costless organizational operations.



(i) *Bilateral monopoly* : The Neumann—Morgenstern solution of bilateral monopoly is simply a two-person non-zero-sum game with essentiality of cooperation. Thus if one player is a primary producer and the other a manufacturer who processes this primary product, their objective will be joint-maximization and sharing the spoils in such a way that each gets as much as would accrue to him by way of independent existence. The settlement will be through a side payment because only one point on the contract curve is jointly maximal. As such, the quantity produced of both goods and the price of the processed good are determined. The price of the primary product, however, involves bargaining. To take a specific example, let the average cost functions of the producers be

$$C_1 = \frac{4}{q} + 4 - 0.99(q - q^2)$$

$$C_2 = 5 - 0.01(q - q^2)$$

Let the demand function for the processed good be

$$d(q) = p = 20 - q$$

The joint maximal resulting from cooperating against the market is given by

$$P_1 + P_2 = pq - q(C_1 + C_2)$$

where  $P_1$  and  $P_2$  are the profits of the primary producer and manufacturer respectively and  $p$  is the price of the processed good. Performing the necessary numerical operations we obtain

$$q = 1.915$$

$$p = 18.05$$

$$P_1 + P_2 = 11.34$$

(ii) *Duopoly* : The problem of duopoly is exactly similar to that of bilateral monopoly from a game-theoretic standpoint, so long as consumers remain noncollusive. Let the average cost functions of the two firms be

$$C_1 = 4 - q_1 + q_1^2$$

$$C_2 = 5 - q_2 + q_2^2$$

where  $q_1$  and  $q_2$  are the respective quantities produced by the two firms per unit of time. Since the duopolists produce homogeneous products, the demand function can take the form

$$p = 10 - 2(q_1 + q_2) = 10 - 2q$$

where  $p$  denotes the price at the production level  $(q_1 + q_2)$ .

The production rate must fulfil

$$\frac{d}{dq_i} (qp - q_1c_1 - q_2c_2) = 0 \quad i=1,2.$$

The numerical results are obtained when the conditions

$$\frac{d}{dq_1} (P_1 + P_2) = \frac{d}{dq_2} (P_1 + P_2) = 0$$

result into

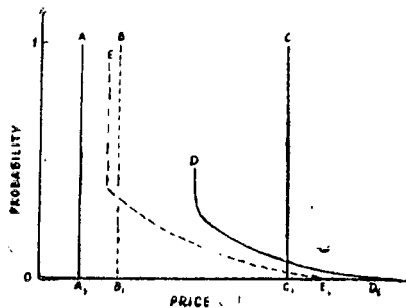
$$3q_1^2 + 2q_1 + 4q_2 - 6 = 3q_2^2 + 2q_2 + 4q_1 - 5$$

so that

$$\begin{aligned} q_1 &= 0.9161 \\ p_2 &= 0.4125 \\ p &= 7.3428 \\ P_1 + P_2 &= 4.1991 \end{aligned}$$

It will be seen that the division of the spoils is indeterminate, as in bilateral monopoly model.

(iii) *Oligopoly* : Most solutions of oligopoly lead to the same result, no matter how different the behaviouristic assumptions we start with. This can be readily seen from the following figure.



The vertical axis is indicative of the probabilistic nature of some of the solutions.  $AA_1$ , weighted by unitary probability, shows that efficient point price is always determinate.  $BB_1$ , also weighted by unitary probability, is the price under Cournot  $n$ -person strategy. It is lower than the price of  $CC_1$  under Cournot duopoly.  $DD_1$  is the fluctuating price of Bertrand's price duopoly strategy in

which the lower prices are weighted even for two participants. Price  $n$ -strategy is shown by  $EE_1$ . The odds mostly cluster round the least-fluctuating  $AA_1$ .

### Concluding Remarks

We have up to this point learned enough about game theory and the extent to which it bears on economic analysis. It has been observed that determinate solutions are available only for two-person zero-sum games. The treatment of plural games, in which lies the great interest of the economist, is utterly deficient in this respect. This approach is doubtless more suggestive than the traditional economic theory, but this is an achievement far short of the sky-high claim to generality. There is no general theory to solve the general nonzero-sum and  $n$ -person games! A general model of  $m$  sellers and  $n$  buyers analysing all market structures as special cases continues to be an unrealisable ideal.

Introduction of the concept of mixed strategy marks a transition from certainty to uncertainty, but its role in economics is indeterminate as yet. As for the N-M utility function, we agree with Stortz that it is "an empirically meaningful and provocative hypothesis about economic behaviour that might contribute substantially to a broad area of economic analysis". The neglect of the institutional-psychological complex in the theory of coalition formation severely limits the help that game theory could extend in explaining the process of cartelization.

The novelty of the theory lies in its interpretation of rational behaviour as a minimax rather than a maximum problem. The logical *impasse* in the traditional analysis when a rational individual fails to know *a priori* the behaviour of the other rationally inclined is thus resolved. The notion of maximum is rendered useless when the competitors are few and an individual can't control all the determinants of his payoff. The emphasis on a minimax behaviour necessitated the development of an entirely new conceptual framework with a mathematical import. As Stone has observed: "The object is not to perceptibly add to our knowledge of actual economic behaviour, but rather to provide us with a new set of concepts and relationships in terms of which such behaviour can be rigorously discussed." We must not gloss over the fact that game

theory as such is mathematics, not economics, and its role in economics is in the nature of an additional technique of logical analysis—a technique of immense power and potential of course.

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# Growth Strategy in Pakistan's Planning

FIZA-UR-REHMAN\*

The striking feature of planning in Pakistan from the very start has been an emphasis on economic growth. A growth-oriented rationale in the process of planned decision-taking has emerged. No objective is selected, and priority fixed, unless it is most likely to catalyse the realisation of a postulated growth target. As for an egalitarian society, the objective has been retained in all the three Five Year Plan documents to be achieved in the long run when the development activity will assume a self-sustaining character. The immediate policy was, and still is, to take care of growth generation and to leave everything else to itself. The results in these terms are impressive. After the initial failures in the later half of 1950's, the process of growth gained a momentum during 1960's with GNP increasing at about 6% per annum. The *raison d'etre* of this paper is to throw some light on the strategic constraints that this growth process has been subject to and also to review the suggestions that have been recently advanced to do better in future.

## Balanced Growth

In theory planners in Pakistan have always sought for a balanced growth of all the sectors, and in our peculiar geographical situation, all the regions. Public sector only reinforces private initiative by providing *infrastructure* or it moves into those lines of production where private capital is shy to flow in. In practice, however, serious imbalances were experienced, inter-sectoral as well as interregional.

The lack of an appropriate balance between agriculture and industry significantly interrupts a smooth growth process. A failure of agriculture, besides creating an unemployment problem of baffling magnitude and cur-

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\*Senior Professor and Head, Deptt. of Economics, Govt. College, Lahore.

tailoring demand for industrial output, adversely affects the availability of domestic raw materials and the imported inputs to industrial sector. The fact, however, is that industry was developed at the expense of agriculture. Apprehensions about farmers' preference for noneconomic values and institutions led the planners to offer handsome incentives to industry so as to push it up as the leading and dynamic sector of economy. Compelled by the pre-Plan crisis, the framers of the First Plan accorded "The highest priority" to agriculture.

An annual growth rate of 2.5% was expected to be yielded by the investment of 11% of total resources in this sector. As against this, the allocation to industrial sector responsible for 10% of national income compared with 58% from agriculture was estimated at 28% of the total resources with an annual growth rate of 12%. All this is obviously indicative of the meaninglessness of the priority to agriculture. The practice was more disequilibrating than the profession. While the targets of industry were fulfilled, agriculture suffered a shortfall of 4% in a climate of suppressed prices and lagged behind the growth of population. National income rose only by 12% rather than the Plan target of 15% and, given the unexpected 12% increase in population, the rate of growth of income per capita was imperceptible.

Agriculture started moving towards a balance with manufacturing sector during the Second Plan when it grew at the rate of 3.4%. Factors instrumental in this acceleration of growth rate in agriculture included institutional changes and better farming techniques designed to reduce the severity of farmers' limitations on adjusting cropping pattern and variable use of inputs in response to price incentives

### **Development of Capitalist Sector.**

Saving is the most important strategic constraint on capital formation—the principal determinant of economic growth. In order to ensure a high rate of saving and its investment, the policy has been to generate higher income in the capitalist sector where the average and marginal propensities to save are greater than the subsistence sector. It involved a tremendous "squeeze" of agricultural sector and a wage "freeze" in the industrial

sector. Also, alluring fiscal incentives like a six year tax holiday for new concerns, tax exemptions to dividends up to Rs. 5,000, differential tax for paying dividends and rebates on security investment were provided. These incentives to invest were reinforced by disincentives to consume, the mention-worthy among them being the austerity imposed on foreign goods and travel and domestic production of luxuries. Consequently, more than 50% of the profits after taxes have been saved and reinvested. The saving ratio might even be 60 to 80 per cent if the estimates were inclusive of gold purchases, exported funds and investment in real estates and insurance and banking.

The frugal capitalist, nourished by a skewed income distribution, is said to be serving a "social purpose" insofar as he is responsible for expanding the production base and the useful employment opportunities. The process is the one of levelling the non-earners up to the earners and not of levelling down.

### **Import Substitution**

Industrialisation in Pakistan followed an import-substituting pattern in view of critical shortage of foreign exchange that has persisted since Korean War boom due to deteriorating terms of trade. During the mid. 1950's the terms of trade of industry *vis-a-vis* agriculture, which was relatively stagnant, had substantially improved. The Government provided protection to the "infants" which, fed by local raw materials, would replace the imported consumer goods. Other stimuli included cheap labour and cheap capital goods and raw material imports made possible by an overvalued rupee. The problem of overvaluation of rupee needs further clarification.

Capital is scarce in Pakistan but this scarcity is inadequately reflected in its price. The bulk of capital goods enters the country under the licensing system which levies no fee on these imports to cover the scarcity margin. Various studies have indicated that the raw material and intermediate imports have a scarcity value of about 50% over and above the landed costs on the average. Some of it is diverted to exporters as a subsidy through Export Bonus Scheme or its variants, but its size



is hopelessly limited. And even the tariff policy supports the underpricing of capital. A generalised formula to compute the different effective import exchange rates is as below :

$$R_m = R_o(1 + b + t)$$

Where

$R_m$  = Import rate of exchange

$R_o$  = Official rate of exchange

$b$  = Cost of bonus under regular Bonus,  
Cash-cum-Bonus and Stamped Bonus  
expressed as a percentage of  $R_o$

$t$  = Relevant tariff rate

The overvalued rupee has naturally led to a divergence between resource-endowment and resource-intensity. This controlled disequilibrium system breeds an irrational price structure and allocative inefficiency. The fulfilment of ever increasing demand for cheap capital only adds to excess capacity. The cost is high, production low and substandard. Import substitution has been lop-sided and the cases are not few when protection was granted to industries with a negative value added.

These are, nevertheless, the pains that are said to be inescapable while treading the path of self-sustained growth. By 1960's, Pakistan had gone through intensive import substitution. The Third Plan marks a shift of emphasis from import substitution in consumables to raw materials and intermediates. The target of Rs. 1500m. has been fixed so as to lay down a basis for the development of basic industries in the long run. In the Perspective Plan, a rise of domestically manufactured machinery from Rs. 1080m. in 1965 to Rs. 7250m. in 1985 and of intermediates from Rs. 4700m. to Rs. 61000m. over the same period has been contemplated.

The recent upsurge in agriculture should not hinder the progress of manufacturing sector. The completion of import substitution in food would rather soften the strategic constraint of foreign exchange on the overall growth of the economy. The fact, however, remains that a reasonable level of terms of trade between agriculture and industry is urgently needed.

## Export Promotion

The multiple exchange rates for exports, often implying a partial-devaluation incentive, can be determined by the general formula given below.

$$R_x = R_o (1 + bp - t)$$

The new entry P here stands for the premium permissible on voucher or licence.

The problem of export promotion is essentially a problem of developing import competing industries. So conceived, it is a stage next to import substitution, when the protected infants grow up into maturity. An important objective of the balance of payments strategy of Third Plan is to gradually eliminate the need for foreign assistance. This is to be accomplished by accelerating the growth of exports at a rate greater than GNP, relying mainly on manufactured exports.

Manufactured exports have grown at a rate of 7.2% per annum since 1959-60. Government has, from time to time, launched many schemes to stimulate exports generally in the form of retained exchange quotas or special preferential licensing procedures. The most novel is Export Bonus Scheme designed to stimulate the export of manufactures. Export Performance Licensing is in effect a restricted use Bonus Voucher System. Pay-As-You-Earn scheme assures exporters of imported capital equipment. A considerable extent of economic and administrative overlap exists between these schemes. This points out to the lack of a well-coordinated export plan. Export Performance Licensing has resulted into misallocation of resources as licences are issued in direct proportion to import requirements. Its abolition should be seriously considered.

The encouraging export record over all these years might induce the hasty conclusion that the incentive afforded by these export promotion measures sufficiently cures the cost-disability of Pakistan's industry. Nothing could be more dangerous as it would be tantamount to glossing over the overvaluation of rupee altogether. In actuality, the exportability of Pakistani products depends upon the combined effect of promotional "crutches" and discrimination between competitive foreign

market and highly protected and monopolistic home market.

### Regional Strategy

The Perspective Plan envisages a complete removal of economic disparities to fulfil the constitutional obligation to this effect. Third Plan aimed at reducing the disparity in income per capita between the two wings by about one-fifth. During the first four years 54% of the total development expenditure in public sector was allocated to E. Pakistan to create *infrastructure*. E. Pakistan's share in project aid and total development loans was 51% and 66% respectively. In 1964-65 the income per capita in W. Pakistan was greater by 30%. The situation in 1968-69 is that there has been an increase in disparity in absolute terms but the rate of increase has retarded. The factors responsible for this were floods and cyclones that checked agricultural development and shy private initiative.

The magnitude of the problem can be judged by the fact that despite an acceleration of annual growth rate of E. Pakistan from 1.9% during 1950's to about 4.5% in 1960's, W. Pakistan grew at a rate of 6% during 1960's.

### Progress of Third Plan

Fundamental structural changes in the economy can be brought about only on a long term basis and Perspective Plan (1965-85) is the right step in this direction. Third Plan is the first in the series of four five year plans.

The achievement of an average growth rate of 5.2% during the Second Plan had lent a positive direction to the economy and the need in the Third Plan was to work out a strategy to accelerate it. But before such a strategy had time to come into play, the events in Pakistan took an adverse turn. Firstly, the outbreak of hostilities with India led to an unexpected and substantial diversion of resources from development to defence. Even this proved insufficient and had to be supplemented by deficit financing because tax revenue had fallen following upon a curtailment of domestic production as well as imports. Secondly, postponement of the meeting of Aid-to-Pakistan Consortium slowed down the inflow

of foreign assistance. Impressed by the performance during Second Plan, the World Bank had for the first time promised an amount of aid which corresponded to Pakistan's own assessment of her needs, *i.e.* \$500m. United States was the first to announce the suspension of aid which meant a *de facto* inaction of the Consortium. The final blow was served by two successive bad harvests, in W. Pakistan and cyclones in E. Pakistan.

All these factors contributed to depress the rate of growth of GNP to 4.6% in the first year and 5.4% in the second year. This meant an average of 5% which considerably fell short of the Plan target of 6.5%. The greatest shortfall was in agriculture growing only at an annual rate of 1.4% rather than the contemplated 5%. The nonagricultural sector also lagged behind with a growth rate of 8.3% per annum. The only sectors which registered progress were construction and services with growth rates of 3.4% and 9.2% respectively.

A review of the Plan was called for to bring it in line with changed circumstances. After a good deal of deliberations Planning Commission reached the conclusion that the size, basic objectives and main targets could be kept unaltered by rephrasing and reordering of priorities. The new strategy emanating from this approach reflected an increased awareness of the need to be self-reliant. As such, agriculture requiring lesser inputs in terms of foreign exchange as well as domestic resources was the natural choice for top priority in the rephrasing. Better seeds, improved irrigation facilities, greater supply of chemical fertilisers and other incentives were to be provided to the farmers with a view to achieving food autarky within the Plan period. More attention was to be paid to agriculture-based and export-oriented industries.

Capital scarcity becomes a myth when we understand that a sizeable excess capacity resulting from an irregular supply of raw materials from abroad is a norm in developing countries. In Pakistan, most industrial units have an excess capacity of 30 to 40 percent. The revised strategy in industrial sector consisted in fully utilising this installed capacity rather than adding to it. The later act would have led to inefficient scale of operations.

So much for the short run. The long run strategy was to postpone the projects with long-gestation period

or higher capital-intensity, improving thereby the capital-output ratio. Some long maturing projects were even allowed to spill over to the next Plan.

The real test of the new strategy came in the year 1967-68. Combined with favourable weather, it has proved equal to the task. The economy has regained its vigour. Growth rate has been recorded at 8.3%. Income per capita rose by 4.2%. Agriculture is no more in the doldrums. A breakthrough has been achieved, with average growth rate recorded at 3.2%. The estimated growth rate in industrial sector is 13%. Since various bottlenecks, viz. availability of raw materials have begun to disappear as a result of liberal import policies, the industrial sector is expected to gain further momentum during the remaining Plan years. Successful export drive yielding a 9% increase per annum and somewhat improved aid and foreign private investment climate have bettered the balance of payments position.

### Annual Planning

If five year period is too short for structural changes, it is too long for operational purposes. The Annual Development Programmes since 1959 have made considerable headway in integrating developmental effort and budgetary policy and in introducing a built-in flexibility in planning. There was, however, a lack of effective coordination with private sector which constituted half the plan.

The introduction of an Annual Plan from 1968-69 indicates the recognition of the need to bridge this gap. The underlying philosophy is to cope with the situation arising from the invalidity of the overall assumptions of the entire plan for one year, to ensure consistency of various economic policies and programmes within well defined objectives and targets and to furnish output projections for the private sector in an "indicative" plan. The Plan will evaluate performance of the preceding year and work out the strategy for the ensuing year; fix targets for GNP, investment, saving, exports, imports, consumption and employment; assess the currently available domestic and foreign resources; and suggest policy measures for the realisation of the targets fixed.

The Annual Plan for 1968-69 envisages a 7% growth of GNP and its maintenance in the next year with a view to achieving an average growth rate of 6.5% per annum—the overall target of Third Plan. The industrial strategy involves an acceleration of growth rate in large scale industries from 11% to 14%. The overall growth rate will rise from 9% to 11% in the industrial sector with improved availability of spares and raw materials. Exports will rise by 10%. The agricultural strategy is to maintain the tempo of development in W. Pakistan and to boost up production in E. Pakistan by supplying better inputs and bringing more area under the plough for *boro* crop.

### Looking Ahead

In agricultural sector, concerted efforts will have to be made to overcome the problem of storage shortage to ensure stable prices. Food autarky should be a foregone conclusion in view of the optimistic expectations about the maintenance of an annual growth rate of 5.5% in W. Pakistan. The point of autarky will of course be a dynamic equilibrium in the Harrod—Domar sense. The emphasis in Fourth Plan should be on a more diversified production. The possibility of an exportable surplus depends upon the competitiveness after the withdrawal of subsidies on major inputs. This might in turn involve a sharing of productivity gains with small farmers, joining in cooperatives. The encouragement of the small farmer in E. Pakistan has a special significance. The strategy in agriculture as suggested by Harvard University Advisory Service is to supply rightly packaged inputs to the right man at the right place. It has obviously come a cropper in E. Pakistan where the “right” men supposed to be enjoying plenty amidst poverty constitute only 10% of the farmers who own only 30% of the arable land.

Studies should be made into the extent to which surplus incomes can be mopped up for national investment with the increasing monetization of agricultural output.

Dr. Mahbubul Haq has said that 66% of industrial assets, 70% of insurance funds and 80% of bank assets concentrate in the hands of 20 families. Such a concern expressed by a man who has been ardently supporting a

relentless pursuit of economic growth lends further strength to the popular belief that a rethinking about the industrial "robber barons" is long due. Dr. Anisur Rahman would have us believe that national output is a function of the quantity of labour and the elasticity of motivation to work, given the capital stock. This elasticity will be greater, greater the relative share of labour. Thus greater relative share of labour will result in a higher national product out of which a higher proportion could be saved. Again, income inequalities only create an effective demand for luxuries.

It has been argued that there is no *a priori* basis to assume a higher marginal propensity to save for the capitalists. The real saving turns out to be negative if allowance is made for the facts that agricultural sales exceed over-purchases from manufacturing and that direct controls on external trade have caused a tremendous transfer of income from the rural areas to urban areas. If these factors are disallowed, the corporate sector is said to have saved about 50% of its gross profits. For one thing, the reinvestment is much lower because of the conspicuous consumption by the capitalists. For another, the incentive-ridden tax system leaves a scope for showing certain costs which in fact are consumption items. The upshot is that a comparative study of the public and private enterprises from the standpoint of social desirability will not be uncalled for. The question round which the research should centre is : do the public enterprises inevitably lead to what Galbraith has described as "post office socialism" ?

In the initial stages, the development effort has clustered round industry, agriculture and *infrastructure*. The revised strategy of Third Plan confirms the neglect of social *infrastructure*. As the industry becomes routinised and as the country enters a sophisticated stage of development, it must be understood that, in the long run, the growth attributable to capital formation is less than that to education, health and general welfare. "No social welfare project can be more valuable than provision of employment," states Dr. M.N. Huda. In addition to a 20% backdrop of the unemployed and the underemployed, 7 million new jobs will have to be created during Fourth Plan. The wasteful capital-intensive bias in investment should be abandoned and the problem should be tackled

by selecting a technology consistent with the particular resource endowment of the country. Dr. Huda's proposal for an urban version of works programme can go a long way "to absorb the educated unemployed—the most volatile section of our intelligentsia".

A fundamental guiding principle of the Fourth Plan will be "to make the economy increasingly self-reliant in most essential fields". Its implications are far-reaching: reduced dependence on foreign assistance and greater domestic effort. The two-fold nature of the problem has to be seen in a proper perspective. For one thing, Professor E.S. Mason's contention that the spectacular strides in the industrial sector during the Second Plan were attributable to volume of aid rather than domestic policies leaves extremely discouraging overtones. What is more staggering is Dr. Anisur Rahman's estimate that Pakistan's requirements in 1985—when the death knell of foreign aid is to be wrung—will roughly be twice as large as in 1965. For another, it remains to be seen whether the overprotected and overconceded industrial sector can rise to this occasion by improving productivity and competitiveness in the world market.

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# Nature of Agricultural Credit\*

A. S. KHALID\*\*

## Introduction

Agriculture is one of the oldest occupations of the people of the world and even now the commonest. More than half<sup>1</sup> of the people on this planet are dependent on it for their livelihood. It is the principal occupation of the economically less developed countries. In fact the overwhelming predominance of agriculture in the economy is held responsible for the poverty of these countries, which is reflected in low per capita income. Table 1 illustrates the relationship between employment in agriculture and per capita income in different regions of the world for 1953. This view is held because, historically, the low incomes of underdeveloped regions have invariably been associated with the backward agriculture and high income with the presence of modern industries<sup>2</sup>.

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\*Extract from author's M.Sc. thesis at University of Hull in 1966.

\*\*Professor of Economics, Govt. College, Lahore.

1. According to *Production Year Book for 1963* (Food and Agricultural Organization) the proportion of persons depending on agriculture for livelihood was 55% in 1950 as against 62% in 1937. The highest percentages were 59 in South America, 64 in Asia (excluding Japan and Mainland China) and 66 in Africa.

2. On the basis of limited empirical research various theories have been propounded to explain the inferiority of agricultural production compared to industry. Reference be made to M. Manoilescu, *Theory of Production and Industrial Trade* (1931); Louis Bean, "International Industrialization and Per Capita" in *Studies in Income and Wealth*, Vol. VIII (New York, 1946); H.W. Singer, "The distribution of gains between investing and borrowing countries", *American Economic Review* (May, 1950); and Prebisch's arguments in *The Economic Development of Latin America and its Principal Problems* (New York, 1950).

(1) Region	(2) Employment in primary sector  (%)	(3) N.I. per capita in primary sector  (U.S. \$)	(4) Employment in secondary and tertiary sectors  (%)	(5) Income per capita in S & T sectors	(6) National Income per capita = (2×3+4×5)  100
N.W. Europe	20	380	80	710	680
Latin America	50	130	50	390	260
Near East	70	90	30	225	130
South East Asia	80	55	20	125	68

(L.J. Zimmerman, "Rich Countries and Poor Countries", cited in O.E.E.C. publication, *Series of Lectures on Economic Growth*, Paris, 1961, p. 19. )

- (a) Primary sector : Agriculture, Hunting and Fishing
- (b) Secondary sector : Industry, Mining, Building and Energy
- (c) Tertiary sector and the rest.

TABLE 1

There are economists like Jacob Viner,<sup>3</sup> who think that the main cause of poverty in these countries is the "poverty" of their agriculture and not lack of industries. In their view, per capita income can be raised by improving agriculture, rather than emphasising industrialization.

However, in view of the experience of other countries where industrial development in the modern sense has led to a considerable increase in productivity and per capita income, it can be said with some degree of confidence that economic development is synonymous with industrialization. Moreover, industrialization is not only desired as it contributes to productivity in the form of immediate product but also because it has desirable effects on employment, terms of trade, and "general level of education, skill, way of life, investiveness, habits, store of technology, creation of new demand, etc."<sup>4</sup>.

Nonetheless, industrialization, so essential for economic development, requires prior or simultaneous

3. Viner, J. *International Trade and Economic Development* (Oxford, 1953), pp. 62-73.

4. Singer, H.W., *op. cit.* p. 476.

development of agriculture for many reasons. Improved agriculture frees labour which can be employed in industries. It enables the supply of more raw materials,<sup>5</sup> at cheaper rates, which is only possible through increased agricultural output. Furthermore, owing to the existence of very low living standards, the rise in incomes generally results in greater demand for food stuffs. It is only through increased agricultural output that this demand can be met without increasing their prices, which is essential to keep the cost of living index low. And last but not the least, it is of primary importance that the total output of food should be raised to feed the growing population in order to avoid social and political repercussions following food shortages and soaring prices.

Thus if agriculture remains depressed, it will hinder industrial development, and serve as a brake on real economic growth.

The view that agricultural development is a pre-condition of economic development seems to be accepted by the planning authorities in most of the developing countries. The Indian First Five Year Plan (1951-56) gave due importance to agriculture when it stated, "The (Planning) Commission is convinced that without a substantial increase in the production of food and raw materials needed for industry it would be impossible to sustain a higher tempo of industrial development"..... "It is necessary", the Plan goes on, "however, on economic as well as on other grounds, first of all to create conditions of self-sufficiency and even plenty in respect of food and raw materials".<sup>6</sup> The trend seemed to be reversed, when the Second Plan paid much less attention to the agricultural sector and more to heavy industrial development, on the grounds that it is such development which in the words of Professor Rao gives a country "its growth potential in the physical sense and will set it on the road to self-sustaining and self-accelerating economic development".<sup>7</sup> But the difficulties arising out of the fall in food production, and the consequent foreign

5. Because of the agrarian nature of the economy the emphasis in the initial period at least has been on Agro-industries.

6. India's *First Five Year Plan* (Delhi, 1952), p. 44.

7. Professor V.K.R.V. Rao in Onslow, C. (ed.) *Asian Economic Development*, (London, 1965), p. 73.

exchange burden, forced the planners to curtail their goal. The emphasis had to be reshifted on to agriculture in the Third Plan, "to achieve self-sufficiency in food grains and increased agricultural production to meet the requirements of industry and exports"<sup>8</sup>.

The First Five Year Plan of Pakistan got into difficulties because of a shortfall in agricultural production, and therefore the Second Plan (1960-65) contained a more ambitious programme for agriculture, as it was realized "that until agricultural productivity is vastly increased, general economic growth will be stunted"<sup>9</sup>.

The World Bank Mission, which visited Ceylon in 1951 in their report emphasised that agricultural advance was essential to relieve Ceylon's dangerous dependence upon external sources of food, and to increase total national wealth of the country. "It must set the pace in tomorrow's development even if other activities may in the more distant future come to rival it"<sup>10</sup>.

Agriculture in developing countries is backward, and is thus a hindrance in their economic development. The backwardness of agriculture is obvious from the low yields in these countries.

#### Average yield per acre

Country	Rice (lbs)	Wheat (bushels)	Cotton (lbs)	Tea (lbs)	Maize (maunds)
Pakistan	1475	11.9	206	745.5	7.5
India	1351	12.5	95	990.6	17
Ceylon	4199	40.8	—	788.1	—
U.S.A.	3375	23.9	438	—	13.5
U.S.S.R.	—	12.3	584	—	26.6
U.A.R.	3339	36.8	359	—	—

Source : State Bank of Pakistan, *Agricultural Credit in Pakistan* (Karachi, 1962) p. 5.

TABLE 2

8. *Third Five Year Plan*, (Delhi, 1961), p. 48.

9. *Pakistan's Second Five Year Plan* (Karachi, 1960), p. 127.

10. International Bank for Reconstruction and Development : *The Economic Development of Ceylon*. A report of a mission organized by the Bank at the request of the Ceylon Government. (Baltimore, 1952).

These differences are due to many diverse factors, such as variations in the amount of capital investment and in types and quality of capital used, in technological standards, in standards of management, and in the efficiency of the workers.

Lower productivity per acre lowers the incomes of those engaged in agriculture. This lowers their standard of living as well as their saving potentials. This has given rise to a vicious circle. Again, low productivity is reflected in high cost of production, thus making it difficult for those countries to compete in the international markets. Even when they possess a 'monopolistic' or 'semi-monopolistic' position in a commodity, they cannot effectively use it to their advantage because of the invention of cheaper synthetics.

In some cases local agricultural products cannot compete in the free market with imports from advanced countries. Thus "one finds Louisiana rice competing with native rice in the Philippines, imported dates underselling home grown dates in Libya, Californian oranges competing with the small, bitter native citras fruits (*dejuk*) in Riauw Archipelago of Indonesia".<sup>11</sup>

The causes of low agricultural productivity are many and varied. They range from defective land tenure systems to the absence of the use of modern techniques of cultivation, inadequate social overheads, growth retarding social and cultural mores, religious dogmas, and the lack of capital. Capital is said to be the life blood of modern industry, for it is one of the most important elements among economic resources required in production. Agriculture is no exception. Finances are needed to purchase land, tools and instruments and to keep them in working condition through timely repairs and replacements. The fertility of the soil has to be maintained through the application of manures and fertilizers. The cattle have to be purchased, fed, kept in good health and replaced as they grow old or die. The damage to crops from pests and insects has to be avoided through the application of pesticides and the removal of weeds, wells, houses and animal sheds have to be built and maintained. Workers have to be paid and transportation and storage

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(11) Higgins, B. *Economic Development* (N.Y., 1959) p. 17.

charges in connection with the marketing of agricultural produce to be met. Finance for these purposes can either come out of the savings of the farmers themselves or from the savings of the general community made available to them.

In most of the less developed countries, the incomes of the agriculturists are so low that they hardly suffice for their consumption requirements leaving little surplus for productive investment. This is obviously because the propensity to consume is very high.

In order to transform agriculture into a progressive industry it is necessary that an effective credit system designed to bring forth more saving from the general community into this sector (in addition to what can be raised from within the sector) should be developed. It is only through increased investment that productivity in agriculture can be raised, which is so essential for the real economic growth. Brahmananda<sup>12</sup> rightly points out in this respect, "Agricultural investment operates as the lever which sets the ball of development rolling. It gives a big push which generates cumulative growth".

### Peculiarities of Agricultural Finance

Agriculture as a form of economic activity differs from trade and industry on many accounts. One is the nature and length of operations involved in it, another being that agricultural production exhibits certain peculiar and characteristic features, which are not present or at least less prominent in other industries.<sup>13</sup> These features make the problem of agricultural finance quite distinct from the problem of finance for trade or industry.

In agriculture the predominant production unit is small, and essentially a one man concern—the credit available for the business unit is limited to the credit of one man or one family at the most. Agriculture has not experienced the same concentration and collectiveness

12. Brahmananda, P.R., "Agricultural and Industrial Development" in Ellis, H.S. & Walsh, H.C. (eds.) *Economic Development for Latin America*, (London, 1963) p. 420.

13. For example, the law of diminishing returns is of greater importance in agriculture than in industries. Similarly, the different factors of production are less clearly marked off from each other in agriculture than in manufacturing enterprises: the dividing line between land and capital, and between wages and profits is less discernible.

which is the hallmark of modern industrial production units. It remains scattered, individualistic, and small scale, and therefore is unable to enjoy certain benefits which association under the collective joint stock principle has given to industrial concerns. The method of raising capital by the device of joint stock enterprise—through the subscription to shares—is not available to agriculture. Thus, “while the manufacturer raises his capital by subscription, the farmer must raise much of his by credit”.<sup>14</sup>

Agriculture by its very nature is rural, while organized finance as it has originated and developed is urban. The agricultural borrowers live and operate in villages, far away from the financial centres. This distance between the lender and the borrower makes it difficult for the banker to judge the credit needs or credit-worthiness of the later.<sup>15</sup>

In fact, as the Departmental Committee on Agricultural Credit pointed out, “it is not easy for the banker to gauge correctly the financial standing of farmers, who often cannot gauge their own by reason of risks of production and inadequate accounts”.<sup>16</sup> Unlike manufacturing industry which is mainly the mechanical transformer of raw materials according to a regular process, agriculture yields living organisms, both vegetable and animal, under conditions of uncertainty arising out of the weather and vagaries of nature, over which man has little control. This creates uncertainties about the outcome of the efforts of the farmer and makes the return on capital investment unpredictable. The production risks also arise because of the relative inelasticity of the supply of agricultural products in general, as well as of particular crops. This inelasticity of supply is the result of manifold causes, such as the predominance for natural factors in agricultural crops, the difficulty of adjusting output to the changes in demand, and chaotic, unorga-

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14. O'Brien, G. *Agricultural Economics* (London, 1929) p. 78.

15. It might be suggested that this is not universally true, for in villages the moneylenders and the borrowers live together in the same villages, and it is not difficult to judge the credit-worthiness of the borrower. To some extent it is true, but one of the reasons for the high interest charged by the moneylenders is to cover themselves for the default in re-payment. However, so far the institutional credit agencies are concerned this lack of proximity does restrict the supply of credit to agriculture.

16. *Departmental Committee on Agricultural Credit in Ireland* (1924), cited in O'Brien, G. *op. cit.* p. 78.



mized condition of the producers and their remoteness from the market. Farmers' efforts to adjust output to cover the anticipated changes in demand may be nullified by forces beyond their control. The output instead of increasing, for which they might have brought more land under cultivation, or used more intensive methods, might decline because of the failure or excessiveness of rain and because of floods and storms. The reverse may happen when good weather conditions result in bumper crops, and this increases the total yield, on smaller acreage. Again adjustment of supply to the changing conditions of demand becomes difficult, as the farmer does not possess to the same degree the devices for controlling production as are available to an industrialist. An industrialist can increase output by introducing double shift or even treble shift working in the factory. While the production can be slowed down or completely stopped by shutting down the factory on the decline of demand in industry, this is not possible for an agriculturist. If land is not cultivated, it will grow weeds, the removal of which would require investment and effort at a future date. But more so, the abandonment of farm implies the abandonment of the home; and is undertaken far less readily than the abandonment of a workshop. The need for finance remains constant, even though production is not profitable.

The inelasticity of supply of agricultural products is due to the inelastic supply of factors of production. The supply of land is more or less fixed in an old country, and even in a new country it cannot be increased immediately. It takes considerable time and expenditure to increase the supply through irrigation, drainage, and reclamation, etc. It is abandoned even more slowly.

In certain cases it is not possible to put the land to some other crop, because of the nature of the soil. Similarly, the capital sunk in land takes a more permanent form than in industry, and consequently its supply by way of addition or subtraction also becomes relatively less elastic. Again, it is not possible to change over the fixed capital from one use to another. Thus farmers unwillingness to abandon capital, or inability to put it to some other use, makes them continue production even when the prices are falling. Adjustment is less ready in

a downward direction. In any case there is a "lag" between the re-adjustment of supply to the changes in demand, and this "lag will be more marked in a period of falling than in a period of rising prices."<sup>17</sup>

Neither is the supply of labour elastic. In agrarian economies, where there already exists "under-employment" and lack of other avenues of employment, the supply of labour in agriculture would be highly inelastic, particularly so in cases where the farm is operated by the owner and his family. The amount of labour used for the cultivation will hardly show any response to the changes in demand for agricultural products.

The existence of very large numbers of small and independent farming units, operating without any co-ordination, creates chaos in production and marketing. The total supply changes infinitesimally by the actions of individual producers, which makes it insensitive to the changes in demand and price. In fact in many cases, the supply by individual farmers increases with the fall in price as they try to compensate for it through increased sales, and decreases with the rise in price as it enables the farmers to have the same incomes with smaller sales, leaving a larger surplus for self-consumption. Thus the inelasticity of supply, and the inability or unwillingness of the farmers to adjust the supply to the changes in demand makes the investment in agriculture "risky", and affects the flow of credit to agriculture.

Another difficulty in the sphere of agricultural credit arises on account of the security which the borrower can offer. The farmer, if he is the owner, can offer land or movable assets like cattle, jewellery, household goods, etc. as security. But these assets are not suitable forms of security from the banker's point of view. Land is not a "readily" saleable asset, and its price is liable to wide fluctuations owing to peculiar influences.

Moreover, it requires special machinery for the assessment of its value. The difficulties in connection with titles and restrictions—customary or statutory—on their transfer make land less acceptable as security to the

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17. O'Brien, *G. op. cit.*, p. 10.

lenders. The more liquid and more easily realisable assets of the cultivator to back up a banking credit are his crops or livestock. But these are also not without defects as security. Livestock are liable to lose value with the passage of time, overwork or underfeeding by the mortgager—with whom they remain. The crops are also liable to risks, owing to the hazards of nature. And even the most honest, and thrifty farmer may fail to repay his dues in time, because of the failure of crops, or wide fluctuations in prices. All these factors affect the supply of credit for agriculture.

The problem of agricultural credit becomes further complicated because of the subsistence nature of agriculture in the underdeveloped countries. Agriculture is a means of livelihood rather than a business. In such a type of farming, food crops are grown by the farmers for his own and his family needs, for the payment of rents and other charges, mostly in kind. Any surplus left over, as well as the small amount of non-food crops, is sold in the market in order to obtain money for purchasing other requirements of daily use.

Holdings being small, operations are of poor standard, resulting in small size of output. This means low income for the farmer, which is hardly sufficient to meet his consumption needs. He borrows to carry out his consumption needs. He borrows to carry out his productive enterprise, repaying the debts at the time of harvest. But since very little is left after repaying the debts, need for borrowing arises afresh, at the time of sowing. This cycle goes on. However, the failure of crops, when it occurs—and this is quite common—leads to the accumulation of debts. The “credit-worthiness” of such a farmer is very low. Institutional credit agencies are seldom prepared to lend to him. The private credit agencies make the credit available at a very high cost.

In a nutshell, the scattered nature of agricultural operations, large numbers of small sized operational units, poor organization of the farmers, uncertainty about the output and prices, lack of suitable security and subsistence nature of agriculture, hamper the flow of credit, especially from the institutional sources, into agriculture and raise its price for the borrower.

## Types of Credit

A borrower obtains credit in order to acquire control over a larger quantity of resources than he actually owns. The object may be to add to his income by using these resources for productive purposes or to enjoy the use of more goods than his income can allow. The former may be termed "production credit" and the latter "consumption credit". Borrowing can be for different periods consistent with the use to which the credit is to be put. For example, if the borrower wants to purchase capital assets such as land, machines, etc. he will have to borrow for longer periods. On the other hand, the length of the period will be shorter if the purpose is to meet the operating expenses connected with the production. Similarly in consumption the period of loan will be short if it is to be used for the purchase of food, clothes, etc. and long if used for more durable and costlier goods such as radios, cars, houses, etc.

Agriculturists, like other borrowers, borrow for either or both of these purposes. In fact they have been known to borrow since times immemorial. According to Mr. Nicholson, "The lesson of universal history from Rome to Scotland is that an essential of agriculture is credit. Neither the condition of the country, nor the nature of land tenure, nor the position of agriculture affect the one great fact that agriculturists must borrow."

On the basis of the use of credit we can broadly classify credit into production credit and consumption credit. Funds borrowed for production are used to assist in production and increase the income of the farmer. The principal and interest charges are met out of this increased income. On the other hand, consumption credit is used to buy consumer goods and services, to satisfy the desires of the farmer and his family. This might become necessary because of the failure of the crops or to meet social and familial obligations for which he has not saved. Thus, while funds borrowed for the first purpose are "invested", they are "consumed" in the later case. "Production" credit can be sub-divided into investment credit and operating credit, on the basis of whether it is to be used for acquiring capital assets of a permanent or durable nature or for meeting the "running expenses" of the enterprise. Thus we can broadly classify

agricultural credit into (I) investment credit (II) operating credit and (III) consumption credit.<sup>18</sup>

(I) *Investment Credit*. Before any agricultural operation can be undertaken the farmer must have land to cultivate, buildings to house him and his cattle, machines and implements to exploit the land. These assets serve as the basis for any agricultural production and have a longer productive life. The credit for purchasing these "long-life" assets is termed investment credit. These assets cost considerable sums, therefore the amount of credit required will be larger and the period for which it is desired longer. This is why this type of credit is also called "long term credit".

The various "capital assets", however, differ in the degree of permanence (and hence in the period of productive life) and cost; therefore the period for which the credit is required will differ for different assets.

*Land is permanent of all the assets which can be purchased with credit.* The borrower's capacity to repay in case he obtains credit for this purpose will

18. Different writers have given different classifications of agricultural credit. Murray gives a five-fold classification, as according to him one would not serve all the purposes. His classifications are :

(I) *Time classification* (a) short term and intermediate credit (b) long term credit.

(II) *Purpose-wise classification*. (a) production loans (short term) to purchase seed, food, fertilizers, livestock feeders and equipment and to meet operating expenses. (b) real estate loans (long term) to purchase farm, additional land and to finance buildings, drainage and other improvements.

(III) *Security classification* (a) un-secured loans (b) secured loans. Short term loans being secured through chattle mortgage, warehouse receipts and other collateral securities. Long term loans are secured through real estate mortgage.

(IV) *Lender classification*. Loans obtained from (a) relatives and friends (b) private investors (money lenders) (c) commercial banks and (d) other institutional credit agencies.

(V) *Borrower classification*. Loans to (a) crop farmers (b) livestock farmers (c) general purpose farmers and (d) special groups.

Murray, W., *Agricultural Finance* (4th ed.) (Iowa, 1946) pp. 12-19.

For other classifications of credit please refer to :

Belshaw, H., *The Provision of Credit with Special Reference to Agriculture* (London, 1931) pp. 16-20 and pp. 72-77.

Boyazoglu, A.J., *Agricultural Credit* (London, 1932), Chap. I.

Binn, B., *Agricultural Credit for Small Farmers*, F.A.O. (Rome, 1952), Chap. I.

Tilkaratna, W.M., *Agricultural Credit in a Developing Country-Ceylon* (Colombo, 1963), Chap. I.

Reserve Bank of India, *All India Rural Credit Survey* : The Survey Report, Vol. I. Part I. (Bombay, 1956) pp. 263-64.

depend on (i) the productivity of land (ii) the price of agricultural produce in the coming years and (iii) borrower's willingness to accumulate saving out of his surpluses. If the productivity of the land is maintained properly through the use of manures and fertilizers, etc. the period of repayment can be hastened. Similarly the repaying capacity is improved if the price of agricultural products increases and *vice versa*. The willingness to accumulate savings will depend on his frugality and the intensity of the desire to end the mortgage and assume ownership.

Two methods can be adopted for the discharge of debts. In one the loan is repaid by the payment of the entire loan on the expiry of the term but interest is paid every year which is treated as a part of current expenditure. The other and most commonly used in the United States is the amortization loan, in which payment can be made through a continuous series of partial payments. "It arranges for annual payments of interest and principal which will pay off the loan completely when the last payment has been made".<sup>19</sup> This may, however, create difficulties when output or prices fluctuate. To overcome this the flexible or variable payment plan can be adopted. In this payment of interest or of principal or of both fluctuates with crop yield or income.

Generally, credit is obtained for a period of 20 to 30 years for the purchase of land.

*The other capital assets such as machinery, buildings, etc. for which credit is obtained are less permanent than land and depreciate in value either because of physical deterioration or changes in usefulness or natural factors. Their productive life being shorter than land, the term of credit is also comparatively short—being limited to the "life" of the asset in question. The ability of the farmer to redeem debt and pay interest charges depends on the increase in production (and hence in income) their use shall bring and the period over which these can function economically. The period of loan should not exceed the normal use period of the asset financed. In fact it is better to keep it shorter in order that the*

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19. Murrery, *op. cit.* p. 101.

borrower may accumulate over and above what is needed for the repayment of debt. This would help the farmer to replace the assets without having to borrow again for this purpose.

Investment credit can be effective if the sum advanced is sufficient for the purpose concerned, and is repayable from the margin of profits of the borrower's holding without entailing any reduction in his domestic or occupational financial needs, or necessitating borrowing from another source or of selling his holding to discharge the debt.

(II) *Operating Credit.* It is normally required to meet the running expenses connected with the agricultural operation. It can be divided into short term operating credit, intermediate operating credit and marketing credit.

The *short term operating credit* is used to meet expenses involved in growing and harvesting a particular crop or crops in a particular season. The period of loan varies from 3 months to a year depending on whether it is required for one particular crop or for a particular season in which more than one crop can be grown. The loan may be used for "crop-production", the basic purpose being the preparation of land, purchase of seeds, manure, hiring of labour or machines and maintenance of farmer and other working family members during the harvest time. It may also be used for marketing the crops or for payment of government dues, etc.

The loan as well as the interest is a charge on a single crop or crops grown in the season. These ought to be liquidated out of the sale proceeds of crop or crops. In case there is a partial or total failure of crops, extension of credit should not be withheld by the lenders.

These loans are usually obtained on "Personal security" or on the "pledging of crops". Such credits, if geared to the production needs of the farmer—as proper fertilizers, balanced food rations, better seed and the like—can become self-liquidating.

This type of credit is an important constituent of the credit requirements of the farmers in underdeveloped countries, and if given in time, in adequate amounts, and on reasonable rates of interest,<sup>20</sup> can go a long way in increasing the output of the farm.

The credit used to meet the development expenses of a non-recurring type is known as *intermediate operating credit*. It is used to purchase assets that have a productive life of more than a year, such as agricultural implements, livestock, etc. and bring about improvements such as through the clearance of bushes, sinking of wells, etc. The assets are needed for improvement, adjustment or expansion of the farm in order to increase the earning capacity of the farmer. The assets or improvements brought about do not exhaust themselves in one single crop production or even in one year. The redemption of debt cannot be a charge in one crop or on a season's income, but over the whole life period of the investment. Since in most cases there is a time lag between the investment and the flow of return, the repayment should not be demanded until that time when improvements start giving results in the shape of higher yields.

One of the important constituent items of operating credit is the *marketing credit* required to enable the farmer to market his product in an orderly way. Such a credit is used to meet the cost of transport, storing and insurance of the product, to enable the borrower to withhold it until a time when he can get a better price. Since agriculture is a seasonal industry, the farmer gets his whole year's product ready at one time, while the demand for it is regular throughout the year. The only way in which a sharp fall in its price can be avoided is to regularise its supply by enabling the farmer or farmers' association to withhold it and pour it out in the market gradually. The farmer has to pay off his debt, meet government dues and other expenditure immediately after the harvesting of crop, and unless he gets a new credit to meet these obligations, he might be compelled to sell the product at an un-economic price. The problem can also be solved by inducing the

20. For an analysis of the requisites of the short term credit, reference be made to *Madras Banking Enquiry Committee Report* (Calcutta, 1930) pp. 129-131.



lender to lend him not just for the period of production but for a period long enough to enable the farmer to market the crop as well. Similarly the amount of loan could also be increased beyond what is needed for crop production to meet the expenses connected with the marketing as well.

The loan for this purpose is generally made available on the security of crop. The term of loan depends on the period necessary to sell the produce in an orderly way. If the product requires a period of six months for sale, either the old loans could be extended by that period or new credits made available for that period. The time required for marketing varies considerably with different crops. It depends on the nature of the product and the cost of holding it. In the case of animals the cost of holding them off is so great as to counteract any advantage in price which may occur. Similarly, the cost of "preserving the perishables" might be too high as to deter from holding them for long. It is in products like wheat, jute, tea, which can be kept for a longer period (and at comparatively low cost) that the farmer faces the problem of marketing finance.

Credit must be forthcoming to enable him to improve his bargaining position and have a better price for his product.

The principal and the interest, of course, ought to be paid off as the last unit of the crop is disposed off.

(III) *Consumption Credit.* The credit which is used to purchase goods and services for satisfaction of wants of the farmer and his family is termed consumption credit. It is believed that this type of credit does not increase the productivity of the farm and the income of the farmer. It is, therefore, suggested that credit should be denied for such purpose. But many experts consider this is not a realistic view.

Agriculture is a seasonal industry and, therefore, the income of the farmer is discontinuous. This increases the need for working expenses. Owing to subsistence nature of agriculture, a large portion is used as the living

expenses. It is very difficult to draw a line between the two, especially in a subsistence agriculture, and to find how much is needed for production expenses and how much for living expenses. The non-availability of credit for the later purposes would adversely affect production in agriculture.

Again, agriculture is open to natural hazards, and crop failures are not very uncommon. The farmer not only needs credit for starting agricultural operation, but also for sustaining himself and his family. Denial of credit for sustenance would mean starvations (even if it did not result in deaths) and reduction in working capacity. Production would be hampered if credit for consumption is not forthcoming, or credit obtained for production is used to meet consumption needs. Incomes of the farmers are low and so are their living standards. Their efficiency increases if credit is available to enable to have a better and more nutritious diet, better clothes to protect them well from the onslaught of weather, and if they get better medical treatment. The increased efficiency would result in increased agricultural output which would enable them to pay off the debts. Thus the credit for such purposes should not be denied and is rightly termed as *necessary consumption credit*.

Credit is used not only to purchase consumer goods which are essential (for maintaining or increasing the efficiency) but also certain durable goods such as radios, sewing machines, cycles, etc., or used on extravagant types of food, clothes and other household goods. The farmer's income is not increased (since use of these goods does not increase efficiency, nor is it reduced if they are used), and therefore credit for such goods is termed *unnecessary consumption credit*.

A strong case exists against such loans. The goods which are purchased are expensive and require the payment of high installments for the redemption of debt. As the income of the farmer is not increased by their use, he repays either by reducing expenditure on necessary consumer goods or borrowing afresh. In the former case, his efficiency is likely to be affected adversely

and in the later it increases his indebtedness. Such loans it is contended should be positively discouraged.

Yet even here we cannot be very dogmatic. The farmer, especially in the developing countries, lives far away from the centre of social and cultural activities. He works from dawn to dusk in the busy season. His life is a colourless existence, with very few bright patches here and there. His work is monotonous and full of drudgery. He requires something to mitigate "the drudgery of daily routine work."<sup>21</sup> A radio or gramophone may not be an essential of life, yet it is a source of entertainment, a medium to keep him in contact with the life outside his village. It is a means to have a few moments of happiness, a way to circumvent the monotony. Similarly credit for redecorating the house is considered necessary, yet this is going to make him and his family have a better feeling, happy, more zealous about life and more cheerful. All this will have an indirect effect on his efficiency.

Another type of consumption credit which is not related to the agricultural operations of the farmer is the *credit for social and ceremonial expenditures*. In fact, in low income and economically backward countries, this constitutes a large proportion of the total credit obtained by the farmers. Since the incomes of the farmers are low, their savings are also very low. They resort to borrowing on such occasions as marriages, births, deaths and religious festivals, etc. According to the National Sample Survey of India (1950/1)<sup>22</sup> the annual expenditure on social ceremonies amounted to Rs. 82-90 per family, while the same survey estimates the savings of a rural family to be Rs. 23-25 in that year.

This credit has been the target of scathing criticism. It has been called wasteful and unproductive not only from the point of view of the individual farmer, but also of society.

21. Binn, B. *op. cit.* p 11.

22. Refer to Pannikar "Rural Saving in India", *Economic Development and Cultural Change* (October, 1961).

The financial institutions do not advance loans for such purposes. This results in agriculturists contracting loans from private lending agencies who are not very sophisticated about the use of credit. This has exacerbated the problem of accumulation of rural debt in many countries.

The need for credit to meet the capital and ceremonial expenditure is a part of man's social obligations. This cannot be curbed merely by condemning these expenses or by prohibiting banking institutions from making advances for such purposes. Man is the product of social environment and he must live within the existing socio-customary framework unless his attitude towards this framework undergoes a change. Education may be one way to do it, but as long as this does not happen, such requirements can be ignored. In drawing up any scheme of agricultural credit, credit for consumption and for meeting the socio-religious and customary needs has to be taken into account. Efforts should be made to keep such needs to the minimum, but complete negation of such credit will drive the farmers to the non-institutional lenders.

Credit is not only obtained at high interest rates from these source, but in many cases is given on the understanding that the borrower sells the produce to the lender. This makes the credit from non-institutional sources a first charge on the income of the farmer, and results in the piling up of unredeemed loans of financial institutions.

### **A Summing Up**

Demand for credit is composed of production credit and consumption credit. In both cases the credit required may be for short, intermediate and long periods. Production credit may be used for investment in permanent assets or for meeting running expenses, while the other might be required for meeting necessary or unnecessary consumption needs and social obligations.

Credit requirements are a function of the nature of the economy under which the cultivator carries on his agricultural operations. The agricultural economies of

the developing countries suffer, more often than not, from a deficit, and are characterized by a level of living, very near the subsistence level, use of primitive techniques and outmoded implements, small size of holdings and restricted marketability of the limited marketable surplus available from the cultivators. In these circumstances, credit has been mostly used for meeting running expenses and living expenses and has failed to bring about any perceptible increase in the productive capacity of land. This has resulted in keeping down the repaying capacity of the borrower and in the problem of growing indebtedness.

# **Industrial Credit in Pakistan\***

ASAD ELAHI

## **I. INTRODUCTORY STATEMENT**

“Credit has done more, a thousand times more to enrich nations than all the mines of the world,” emphasized Daniel Webster. This prodigy is beyond suspicion particularly in underdeveloped economies where meagre sources of credit have to be supplemented by consistent credit creation in order to finance the industrial sector. The greater the availability of credit, the greater is the pace of the expansion of industrial sector as it stimulates “block investment” or fixed investment. In Pakistan the importance of such investment is very great, for the public response to investment in stocks is not encouraging and investment in uncommon or long term industries is shy to come by.

The sources of industrial credit may be external as well as internal and what follows is a detailed discussion of these sources with the ultimate objective of appraising the state of industrial credit in Pakistan.

## **II. EXTERNAL SOURCES**

A fair amount of foreign exchange is needed to fulfil the capital needs of the rapidly growing industrial sector. Raw materials, spare parts and machinery have to be imported to maintain the present industries. Again, machinery is required to set up new industrial plants. All these requirements need huge bulk of foreign exchange which is difficult to obtain from the home resources because of the deteriorating prices of the raw material exports in the international market. A reliance has thus to be made on foreign assistance in the form of govt. to govt. loans and aid from international

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\*Based on author's dissertation accepted by University of the Panjab in partial fulfilment of M.A. degree. The project was undertaken at the Deptt. of Economics, Govt. College, Lahore during 1967-68.

agencies and private foreign investment. We shall now proceed to discuss these three sources of foreign credit one by one.

### A. Government Loans

Pakistan has been securing adequate foreign assistance to finance its industrial development. This can be seen from the following table.

**Position of Utilisation of Foreign Loans and Credits  
upto the End of March 1967**  
(million rupees)

Country	Allocation	Commitment	L/c Opened	Disbursement
Belgium	6.20	0.52	0.52	—
Canada	8.20	8.20	8.20	8.03
China	1.00	—	—	—
Czechoslovakia	3.00	2.94	2.94	0.71
Denmark	8.41	7.60	7.41	7.41
Netherlands	7.70	6.39	5.34	3.76
France	50.16	34.34	26.06	10.68
Germany (West)	112.83	112.27	103.16	96.89
Italy	9.72	7.99	5.57	1.16
Japan	181.46	171.64	130.74	114.00
Poland	3.94	2.95	2.95	0.29
USSR	9.67	0.94	—	—
Switzerland	11.48	3.60	1.12	—
Sweden	0.35	0.30	0.30	—
UK	92.23	81.39	76.29	67.72
USA	431.61	378.35	376.55	369.55
Yugoslavia	14.19	12.04	10.17	2.95
<b>Total</b>	<b>952.15</b>	<b>831.46</b>	<b>757.32</b>	<b>682.15</b>

TABLE 1

The figures above show a slight departure from the traditional sources of credit. The most important feature of this diversification process has been an increased flow of aid from socialist bloc. A new addition to the capitalist donors is Sweden.

“Industrialization requires a large part of national income in poor countries than it does in rich countries,

because as between countries the cost of industrial capital per worker does not vary much." President Kennedy while stating the need for foreign capital for these countries said : "To these new states.....of half the globe struggling to break the bonds of mass misery we pledge our best efforts to help them help themselves, for whatever period is required. The free society cannot help the many who are poor, it can never the few who are rich".

Foreign assistance has certainly been instrumental in accelerating the rate of industrial progress in the economy. New industries were set up thus providing a strong industrial base to the economy which could provide self-sufficiency to us in consumer goods. But loans have to be repaid and that also in foreign currency and along with huge rates of interest. President Ayub stated : "If the developing countries were to secure the real and substantial benefit of their rising production, they should be enabled to dispose off their products in markets from which they could hope to take back a return in terms of raw material, machinery or money which they initially received in the form of aid in order to be able (i) to repay the loans and (ii) to expand and enhance the rate of their own economic growth."

Thus the President of Pakistan made these suggestions.

1. Developing countries should be given "un-tied" loans as far as possible by the developed countries.

2. If the donor countries find it necessary that the loans should be "tied" then prices should not be "cocked up" or arbitrarily raised.

3. When aid is given by a consortium of several countries, then the whole consortium should be treated as one trading unit and the loans should not be tied to individual donor countries.

4. If loans are "tied" then repayment of loans by the receiving countries should also be "tied".

5. Besides aid, private investment should be encouraged and governments of developing countries should give risk guarantees.



The foreign loans and grants carry with them the interests of the aid-giving nations. The needs of the aid-receiver are superseded by the interests of the aid-giver. In the case of Pakistan it has been the desire of the Government to set up a steel mill of its own raw material but no foreign assistance was available because iron with a considerable amount was imported and no nation was willing to lose its export.

The loans from the European countries carry huge rates of interest and with the high cost prevailing in them the cost of foreign aid becomes too high. It is, therefore, desired that diversion should be made towards socialist countries in procuring foreign assistance.

It is desired that barter agreements should replace foreign aid. They will not only fulfil our foreign exchange needs but also boost our exports giving further acceleration to the industrial sector.

## B. Loans From International Agencies

### (1) *Export-Import Bank of Washington :*

During the 2nd Plan period \$100 million was pledged by USA as loans from the EXIM Bank. The year-wise pledges being :

1961-63	\$ 50 m.
1963-64	\$ 25 m.
1964-65	\$ 25 m.
	\$ 100 m.

TABLE 2

Outside the consortium loans worth \$ 50.7 m. have so far been contracted with the EXIM bank for periods ranging from 5 to 25 years at an interest rate of 5.7%. The main projects financed were the Intercontinental Hotels at Dacca, Lahore, Karachi, Rawalpindi and Peshawar, purchase of railway equipments, aircrafts for PIA and foreign exchange requirements of small scale industries through the Industrial Development Bank of Pakistan. The year-wise position of EXIM loans has been as follows :

<i>Year</i>	<i>Commitment (\$ million)</i>
1960-61	6.40
1961-62	12.10
1962-63	16.16
1963-64	5.90
1964-65	3.35
1965-66	4.28
1966-67	2.50
<b>Total</b>	<b>50.69</b>

TABLE 3

(2) *International Finance Corporation :*

The International Finance Corporation, an affiliate of the IBRD has taken an active interest in making investment in industrial enterprises in Pakistan.

It is an investment institution designed to supplement the activities of the Bank by encouraging the growth of productive private enterprise in member countries particularly in the less developed areas.

(1) It provides financing, in association with private investors, without government guarantee of repayment in cases where sufficient private capital is not available on reasonable terms.

(2) Seeks to create investment opportunities by bringing together domestic and foreign investors and experienced management.

(3) Endeavours to stimulate the flow of private capital into productive investment in member countries.

In Pakistan it has sanctioned investments worth \$ 1.38 m. during 1st Plan and \$ 9.52 m. during 2nd Plan, mostly in association with PICIC.

Foreign assistance from these international organizations can be regarded as more beneficial and economically feasible. They carry a lower rate of interest and are not tied. They have played a considerable role in developing our large scale industrial enterprise particularly jute, paper and cement factories. Loans from this source are however, thoroughly inadequate to meet the demands of

the economy. Further, efforts to augment aid contributions from these sources may be foiled if they come into conflict with the interests of the big powers—the virtual rulers of these organizations.

### C. Foreign Private Investment

The Government of Pakistan has always shown its willingness to accept private foreign investment as an instrument to pace up the process of industrialisation. In order to attract foreign investors it has offered a number of incentives :

- (i) Adherence to private enterprise and economic liberalism.
- (ii) Freedom from nationalisation.
- (iii) Guaranteed repatriation of capital investment including capital gains, if any.
- (iv) Unrestricted remittance of current profits.
- (v) Unrestricted remittance of approved royalties and technical fees.
- (vi) Flexibility regarding the extent of local participation.
- (vii) Tax holidays for periods ranging from 2 to 6 years, depending on the avenue of setting up of the industrial complex.
- (viii) Liberal depreciation allowance.
- (ix) Income tax exemption to foreign technicians for three years.
- (x) Availability of long term credit facilities from the industrial financing institutions.
- (xi) Facility for family remittances to foreign nationals.
- (xii) Tariff protection to deserving industries.
- (xiii) Guaranteed import of raw materials and spares subject to availability of raw materials.
- (xiv) Handsome export incentives like Export Bonus Scheme, etc.
- (xv) A central organisation to deal with the problems faced by these foreign investors.
- (xvi) Relief from double taxation.

- (xvii) Guarantees to US investors against losses due to possible expropriation and currency inconvertibility under the US Investment Guarantee Programme.

In addition to these incentives the Government has taken some concrete steps to ensure growth in the private investment flow into the economy. They are :

(1) Interested and potential investors are allowed the facility of obtaining the pre-sanction letters to intent so as to prepare the feasibility report of the projects they are interested in.

(2) Publicity is given to the incentives offered by the Govt to foreign investment.

(3) An investment cell has been set up in New York and similar cells are proposed to be opened at Dusseldorf, Tokyo and London.

(4) Seminars emphasizing the importance of private foreign investment are arranged at the important financial centres of the world

(5) Interested parties are offered to make an on-the-spot study of investment opportunities in the country.

(6) Possibilities for the conclusion of bilateral and multilateral agreements are constantly explored.

The sincere and dedicated efforts by the Government to promote private foreign investment in the country have met with considerable success. This can be noted by seeing at the rising annual figures.

<i>Year</i>	<i>Flow of Foreign Investment (million rupees)</i>
1957	89.7
1958	67.5
1959	86.4
1960	76.6
1961	90.6
1962	70.6
1963	76.7
1964	134.2

TABLE 4

Private foreign investment during the Third Plan period is expected to be around Rs. 700 million which is 45% higher than the Second Plan period. During the first 1½ year of the Third Plan Rs. 200 million have been sanctioned and it is hoped that despite some obstacles this target shall be achieved.

Foreign investment is greatly determined by the political, social and economic factors existing in an economy. During the pre-Martial Law era the country lacked political stability which deterred the business community from launching any ambitious ventures. It was an era of speculations and it was not possible to start with a strong industrial revolution. The foreign investors were, therefore, both shaky and hesitant to invest in our economy. The Government did adopt some policies in 1949 to allure foreign investors by providing tax incentives and certain other facilities but the political climate of the country was the main obstacle to the promotion of foreign private investment in the country.

After 1958, things changed considerably. The country got a stable government and the economic progress for the economy was planned. This provided a healthy climate for the foreign investment. Numerous incentives, as already noted, have been provided. The results were impressive : foreign private investment rose from 667.5 million in 1958 to 134.2 million in 1964 and 200 million during the first 1½ years of the 3rd Plan.

Foreign private investment carries the great benefit that it does not carry any political pressure. Further, it provides the economy an opportunity to gain from the experience of the highly advanced foreign technicians. Further still, the profits secured by them are retained in the economy boosting the GNP.

Exports are increased, for the goods produced with cheaper factors of production in an under-developed country can be sold at a cheaper price than the same goods produced by the sister organisation in the developed economies where costs are very high.

This type of investment, however, carries one big disadvantage and that is that the foreign entrepreneur carries a large share of the profits to his own country causing a huge drain of foreign exchange resources.

Summing up, we could say that the advantages of foreign private investment outweigh its disadvantages and it could be proposed that steps be taken to increase its share in the capital formation.

### III. INTERNAL SOURCES

The capital requirements of the industrial sector can be classified as (1) working capital requirements (2) fixed capital requirements.

The first type of requirements being short term in nature suit the banking temperament and hence are being met by the banking system. To meet the fixed capital needs, the Government has set up specialized credit institutions, *i.e.* PICIC, IDBP and the Small Industries Corporation. We shall now proceed to discuss in details these different sources of capital in the economy.

#### A. Commercial Banks

The banking system in a country like ours has a crucial role in capital formation, *i.e.* encouraging the people to consume less and save more and then to divert the funds so saved to productive channels. This task can be performed by that banking system which is extensive in coverage and efficient in its operations. So far the performance of our banking system with regard to the rehabilitation, strengthening and broadening of the financial base of the country as well as the development of national economy has been most creditable.

Bank advances to industrial sector have kept pace with its rapid growth, as is evident from the table below.

#### *Bank Credit to Industrial Sector*

<i>Year</i>	<i>Total Credit (million rupees)</i>
1953	70.9
1957	125.9
1959	202.8
1961	462.5
1964	1959.9
1966	3321.1

TABLE 5

Bank credit rose from Rs. 70.9 million in 1953 to 3321.1 million in 1966 which is 45 times more. According to an estimate by the Planning Commission, the additional loans made by commercial banks during the 1st Plan period averaged at Rs. 52 million per annum while the total additional loans during the same period were averaged at Rs. 94 million per annum. During the 2nd Plan period the additional bank loans to industrial sector were averaged at Rs. 100 million per annum while the total loans were averaged at Rs. 140 million per annum. Loans to commerce have declined from Rs. 77.1 million in 1954 to Rs. 37.40 million in 1966 and those to industry have increased from Rs. 13 million to Rs. 41.20 million over the same period.

This diversion to credit from commerce to industry has been partly caused by the growing demand in that sector and partly by the qualitative controls approved by the State Bank of Pakistan.

To meet the needs of the small industries the National Bank of Pakistan took the lead in introducing People's Credit Scheme in 1964. The minimum and maximum limits of the loans were Rs. 250 and Rs. 50,000 respectively. The Scheme is functioning through 629 branches of the Bank throughout the country. During the last three years, the Bank has sanctioned loans under the said Scheme amounting to Rs. 32.15 crores to 33,648 borrowers, of which 26,210 borrowers got loans of Rs. 10,000 and below. Recently, State Bank gave instructions to the banks on the mechanics of refinancing their term loans to individuals, partnership firms or corporate bodies for financing capital expenditure of existing or new industrial projects. The instructions reject a basic orientation in augmenting institutional credit preferentially to small and medium industries. This clearly reveals the desire to promote credit to smaller entrepreneurs.

Commercial banks have been somewhat shy of lending on long term basis for reasons of liquidity and solvency. J.A. Schumpeter has stated: "The short term character of bank credit is one of the fictions of banking theory and rests on the prejudice that banks essentially lend their depositor's money whereas their essential function lies in the creation of money, not in acting as

intermediaries between borrowers and depositors. Moreover, even the most proper credit for working purposes is short term only in a legal sense. In fact it is as long lasting as if it were granted once and for all, instead of being renewed automatically. The real significance of legal shortness of maturity is even here only in the possibility of the banks on timing control and intervention at will, and in greater adaptability to clients' requirements and to the general position of the banks and of the national economy".

The short term credit supply has been increasing considerably and if the medium term advances are provided bank advances would rise at even faster rate. This would of course need a greater understanding and mutual co-operation between the clients and bankers which is also essential for the smooth running of a financial system.

The commercial banks have confined loans to a few parties which is not in pursuance of the policy of a balanced grow-up in the industrial sector. Although credit is a trust which can only be reposed in the trusted parties but both for the sake of profitability and national productivity the loans must be extended on "most-favoured client" basis.

The commercial banks as we have noted have confined themselves to fulfilling credit requirements of the large scale industries. The courageous experiment of People's Credit Scheme by the National Bank has been successful in the sense that there has been a recovery to the extent of 70%. This step should be followed by other banks too.

It is true that industrial credit has been expanding to fulfil the requirements of the industrial sector but there has still been a considerable restraint on the part of the banks to expand credit owing to the lack of good secondary reserves and the cash transaction nature of the economy. For this it would be necessary on the part of the Govt. to set up stock exchanges at important commercial centres of the country.

Ending up, we should note that commercial banks must now provide facilities to the industries in the back-



ward regions of the economy. The problem of regional disparity is chronic which must be resolved if the nation has to attain overall progress.

## **B. The PICIC**

The Pakistan Industrial Credit and Investment Corporation which was established in an atmosphere of distress is now experiencing an era of gleaming hopes. The saga of consumer goods surplus has been attained and now the stage is well set for establishing capital goods industry in the country. The manufactured goods have become a considerable part of our annual exports. All these standards show the development made in the industrial sector. The PICIC has played a commendable role in reaching this stage. It on the one hand has provided foreign and local credit to the industrial class and on the other has given them guidance in project formulation, a technique with which they were not conversant.

By adopting direct borrowing policies it has secured loans from the international credit agencies, thus playing a major role in attracting foreign capital in the national economy. In an under-developed country, foreign capital is generally shy to come by, but the existence of a semi-government corporation partnered by foreign investors gave confidence to the foreign investors to invest in our national projects. Again, the Corporation could judge the feasibility and economic benefits of a foreign loan in a much better way than a private investor. The Corporation owing to its technical personnel could study and compare terms of loans offered by different investors for a particular project and then accept the most suitable one, while the private entrepreneurs lacked both the experience and the resources to do so.

The PICIC is an organisation which has mixed development function with profit. Like any other bank it carries the inducement of profit. These profits earned are again ploughed-back into the industrial sector in the form of loans thus playing prominent role in increasing the rate of capital formation of the economy.

The PICIC has provided more than 23% of its loans to Karachi Region while 48% has gone to West Pakistan,

thus leaving only 29% to the Eastern Wing, which is detrimental to the principle of regional parity. The reason for this may not be intentional for the trend of business activity in 50's has been mainly in the Western Wing. The results of it were by no means negative for it provided a strong investors' class which was later on to play a major role in our national problems. It, however, created the problem of limiting wealth to a few 'lucky-ones' who dictated terms to the consumer market. Again, there is the problem of maldistribution of wealth with the rich getting richer and the poor getting poorer. After the Martial Law the Government has been trying to alter the cycle by investing in the un-developed areas but it will take a long time to remove this disparity. The PICIC has devoted 32% of its finances to textiles which has led to the development of a strong textile industry which provided self-sufficiency to the country in textiles. With the announcement of a new industrial schedule the trend in the classes of industrialisation has changed and so has the lending policy of the PICIC.

Since its inception the Corporation has sanctioned loans for a total sum of Rs. 118.29 crores to 519 projects of which Rs. 114.45 crores were in foreign currencies and Rs. 3.84 crores in local currency.

The Corporation's minimum lending limit for one project is Rs. 15 lakhs in foreign currency and Rs. 25 lakhs in local currency. Recently, PICIC has lowered the minimum lending limit to Rs. 10 lakhs in foreign currency for any one project to be set up in East Pakistan. Under a special arrangement made by the Government of Pakistan with the IBRD the Corporation has been authorized to lower its lending limit for any one loan to Rs. 2.50 lakhs for balancing, modernisation and replacement requirements. It has assisted seventeen projects through direct participation in their equity capital amounting to Rs. 1.57 crores, it has underwritten eighteen public issues for Rs. 5.91 crores. In addition, it had directly arranged finances from abroad for eleven of its larger projects totalling Rs. 23.71 crores and arranged twenty joint ventures which resulted in the inflow of foreign private capital of Rs. 5.75 crores. Total effective assistance amounted to Rs. 155.20 crores.

### C. Industrial Development Bank of Pakistan

The Industrial Development Bank of Pakistan which came into existence as a replacement to the Pakistan Industrial Finance Corporation has played a commendable role since its time of inception in catering to the credit requirements of the medium and small scale industrial class. Prior to this, the industrial finance had been mainly devoted to meet the needs of the large scale industrialists but with its establishment the medium and small scale industrialists had been in a position to avail of its facilities. This institution performs the dual functions of a commercial bank and that of a development agency, the first function being adopted recently. The later function has played a considerable role in the establishment of a strong, medium and small scale entrepreneurial class in the economy and the process of industrialisation has moved both horizontally and vertically, greatly in pursuance of the Government policy of achieving a balanced growth in the industrial sector. The small scale entrepreneurs procure from the Bank on the recommendation of the Small Industries Corporation what can be regarded as a double check system. The provision of the Bank to extend loans with real assets as collateral is praise-worthy for it not only brings security to its credit but also enables a greater expansion of credit. This policy has also been an asset in the national endeavour to remove the bane of regional economic disparity.

The Bank since its inception has sanctioned loans amounting to Rs. 129.6 crores covering 2986 cases. The amounts of loans sanctioned so far are :

## LOANS BY IDBP

YEAR	EAST PAKISTAN		WEST PAKISTAN		ALL PAKISTAN	
	No. of cases	Amount	No. of cases	Amount	No. of cases	Amount
1 8-1961 to 30-6-62	107	8.7	154	8.1	261	16.0
1962-63	178	11.1	283	6.9	461	18.0
1963-64	403	19.5	597	14.9	1000	34.4
1964-65	223	8.6	288	15.0	511	23.6
1965-66	181	4.7	304	14.9	485	19.6
1966-67 (July-March)	116	4.3	152	12.9	268	17.2
	1208	56.9	1778	72.7	2986	129.6

TABLE 6

The Bank activity strives to remove economic disparity between the two Wings of the country. Accordingly, considerable emphasis is laid on the development of industries in the private sector of East Pakistan. Upto 1967, 44% of loans had been sanctioned to East Pakistan.

The foreign currency had amounted to Rs. 928 crores which is 72% of the total amount of loans sanctioned by the Bank.

The recent provision adopted in the charter of the Bank to start commercial banking functions is quite appreciable. By accepting deposits in the bank it shall be in a position to provide more short and medium term loans to the industrial class. The commercial banks have the alternative of providing capital to different sectors of the economy but the IDBP shall provide credit exclusively to the industrial sector which shall not only increase our rate of capital formation but also increase the ratio of 'plough-back' of capital into the industrial sector.

#### D. Non-Scheduled Sources

So far we have discussed institutional sources of credit. A less important source is non-institutional credit, consisting mainly of credits on personal contacts, non-scheduled and sahokara banks. No reliable data is

available on these sources and we can only make some general observations. Personal credit is very limited and is characterized by an un-economic term structure.

Certain cooperative, non-scheduled, banks have provided a limited amount of short term credit to co-operatively based industries. A personal enquiry from a *sahokara*, private non-scheduled bank led the author to the following conclusion.

Such institutions carry a very high rate of interest on their loans making it practically unproductive for the industrialists to borrow. Interest rates vary from 6% per month to 40% per annum. Moreover, they are not freely available to the industrial class.

The loans are given for a very short period and that also on very authenticated guarantees. These banks play a very minor role in the industrial sector. They in a way are successors of the old money-lenders carrying initiative of less business and high profits. There is no particular need for the existence of these institutions in their present shape. The Government must set up a commission to suggest such remedies as would overhaul the entire present structure of these institutions. This shall certainly be a wise step for the smooth running and the setting up of a sound financial *infrastructure*. Again, if certain amendments are made, they can serve as a good source of credit to the small scale industrialists.

#### E. Role of State Bank

The State Bank of Pakistan, besides maintaining a monetary discipline, has played a commendable role in the development of a financial *infrastructure*. Its promotional activities have included the setting up of National Bank of Pakistan, Eastern Mercantile Bank and the newly acquired Bank of Bahawalpur. These banks have played a leading role in mobilising domestic savings and in meeting growing credit requirements of the economy. Again, the setting up of the PICIC and IDBP financing facilities have been provided to the industrial sector thus increasing the rate of capital formation in the economy. This growth in the institutional structure as well as in the flow of credit must be viewed as a part of the overall growth of our economy.

A credit system cannot prosper unless it is firmly founded upon the expanding base of the entire economy. The present situation is not too hazy for we have set in the perspective both credit expansion and increased productivity. With the availability of the Export Bonus and other exchange measures the prices have risen considerably. The claims have outstripped the availability of real resources. The fundamental solution to our problems lies, therefore, in cutting down claims on the available resources. It would be dangerous to allow the pressure to accumulate or to imagine that the situation will correct itself without any positive action. What is needed is a most comprehensive review of all spending plans, whether current or prospective and their arrangement in a system of priorities. It is necessary to husband our resources with the utmost care and to eliminate all waste and inefficiency. The economy is fast expanding and if necessary measures are not taken it might lead to the eating up of entire productivity attained so far.

#### IV. AN APPRAISAL OF THE CREDIT SYSTEM

##### A. Problems of Foreign Credit

(1) *Debt-Servicing Charges* : The problem of debt servicing has achieved a considerable importance during the past few years. Loans may be difficult to procure but to return them is a far more complex and strenuous job. The nation on the whole has to strive first to achieve maximum productivity by utilization of these loans and then to save adequately in the form of foreign exchange to pay back.

The national income of the country at present stands at 33,20 crores out of which 11.7% is contributed by the industrial sector. The national income from industry

equals  $\frac{117}{100} \times 332 = 388.44$  crores.

The industrial production index shows a marked rise to 233 from 100 in 1959-60. This shows a considerable influence of foreign credit in boosting up national economy.

The loans have, however, mainly to be repaid in foreign exchange. Hence the importance of raising

exports. The setting up of a rapid industrial sector has shown a rise in the exports of the manufacturing sector to 111.28 crores in 1965-66 and 96.56 crores from July-March 1966-67.

During 1965-66 imports of industrial raw materials were 130.03 crores which formed 35.9% of the total imports. The bills for the capital goods imports equalled 153.99 crores which is 35.9% of the total imports. This clearly shows that our balance of payments position is not yet satisfactory. It is, however, hoped that by the end of the 3rd Plan period the exports will rise to 500 crores which, if realised, shall be a tremendous achievement.

The implication of the foreign credit as a source of capital formation is that our debt-servicing charges shall rise to 75 crores by the end of the Third Plan period and with the terms of trade still deteriorating the problem might assume serious dimensions. Another implication is that these loans are not being utilised in a proper way, *i.e.* the investment criteria is not commensurate with the national interests. This is borne out by the fact that most of our income has so far been from the consumer goods industries which has further increased our dependence on foreign raw materials. We must not, however, forget that at the time of Partition we were dependent on all our consumer goods on foreign suppliers and the present industrial sector has given us surplus amount of these commodities and also provided us with employment.

We have reached the stage where more sophisticated industries can be viably developed. The realisation of this objective, however, depends on the terms and conditions of loans. The larger nations always have their own interests and are reluctant to give loans for setting up such industries which may reduce their export bills. For instance, USA has always shown its reluctance to finance steel mill project in Pakistan because it would affect its export bill.

(2) "*Tied-Loan*" Policy: Funds provided under US assistance prior to October 1959 were given to enable the borrower to purchase on world wide basis from the cheapest source. The U.S. Govt., however, in 1959

discontinued the practice by introducing "Buy American" policy. To begin with, emphasis was put on the purchase of goods and employment of services of U.S. origin. Later, however, purchases were authorised almost entirely from US sources. The new policy received some support from the fact that other developed countries also provided tied assistance.

This policy had negative effects on the developmental planning of the under-developed countries who now had to pay a higher price for a similar project with the result that many plans had to be discarded because now they were no more economically feasible. Again, the condition of importing foreign technicians who were actually neither qualified enough nor experienced enough to deal with the problems of these countries was a great burden to the already scarce financial resources of these countries.

(3) *Political Pressure* : Most of the loans available are to the nations in which the big capitalists have their vested interests. According to U.N. Report (E/3131) to the 26th session of Economic and Social Council in 1958, 20 nations secured economic aid equivalent to \$ 1004 million in 1956-57. Of this, \$ 336 million went to S. Korea, \$ 246 million to S. Vietnam, \$ 41 million to Cambodia, \$ 49 million to Laos and \$ 3½ million to Libya. The remaining 15 countries with a population of 670 million received only \$ 400 million, about 60 cents per head. This is because the above mentioned countries are better situated to help them meet what they describe as "Communist challenge." There are others who deserve more but obtain less simply because their political policies do not serve the purpose of the capitalists.

In Pakistan's case, too, after the September War despite the fact that Pakistan had been subject to aggression from India it had to pay heavily in the form of postponement of consortium meeting. The discontinuation of aid from the capitalist countries was because of her political affinities with China.

(4) *Non-Utilisation Problem* : In spite of earnest efforts the utilisation of project aid has been slow due to various reasons :



- (i) Time taken to finalise the projects.
- (ii) Delay in preparation of specifications for equipment and machinery.
- (iii) Processing of documents.
- (iv) Selection of most suitable supplies and the placement of contracts on world wide basis.
- (v) Shipping difficulties.
- (vi) Changes in the world prices of goods and equipments.

The utilisation of project aid has shown some progress during the past few years. Some of the measures taken in this direction are :

- (a) Efforts are made to finalise the allotment of funds well in time.
- (b) Status reports of the project progress are prepared to remove impediments in the utilization of aid.
- (c) Periodical project reviews are carried out.
- (d) A Foreign Aid Review Committee was appointed to conduct a critical review of the entire programme in 1956 and suggest remedial measures.
- (e) A Technical Assistance Review Committee was appointed in 1958 to examine technical assistance programmes and indicate the measures to expedite utilization.
- (f) Special staff to watch procurements and clearance of equipment, etc., has been provided.
- (g) A Projects Division was set up in the President's Secretariat to watch the progress of projects and remove bottlenecks.
- (h) A Senior Liaison Officer was posted in East Pakistan with this object.

(5) *High Interest Rates* : Most of the loans from the developed countries carry interest rates varying from 5½ to 7½% with the maturity period ranging from 7 to 10 years. The developing countries are generally lacking in a good social over-head *infrastructure* which is essential for a rapid "take off". They have, therefore,

to invest on the social overhead projects which although have effective economic bearing but have returns in the longer gestation period. It is, therefore, necessary that the interest rates should be considerably reduced and the times of maturity be increased. This will also enable these countries to plough back the productivity gained from initial employment of the foreign capital in the industrial sector and thus achieve further growth.

## B. Problems of Internal Credit

(1) *Maldistribution of Credit* : Our present credit structure suffers from the basic defect of maldistribution of credit facilities to various sectors of the economy. "There is an obvious concentration on large sized advances in the activities of both PICIC and PIFCO. These industrial units are also in a position to obtain significantly large advances from commercial banks not only for their working capital needs but at times for longer term investment and are also able to have the full benefit of market facilities for equity and loan capital", as the Credit Enquiry Commission noted. Credit both for fixed and short term requirements has generally been fixed for the large scale industrial class who already owns the bulk of the monetary resources. This has been a discouraging feature of our economy for the process of industrialisation with such a state could be limited to a minority class thus affecting the overall growth rate. The Government has been trying to change this course and in this context a number of steps have been taken. A special industrial credit fund has been set up by the State Bank to help the small investors and the Industrial Development Bank has entertained majority of applications from the middle and lower strata of investing public. Still, however, the small scale industries secured 22% of the total loans sanctioned by the IDBP till March 1967. This inherent defect in my view must be removed if a steady growth has to be maintained in the industrial sector. The large scale industrialists with the already huge financial resources at their back cannot be neglected but the small and medium class of investors must be sided for the acceleration of the development process. Our economy is suited for small scale industries and, therefore, more attention should be paid to this sector.

(2) *Regional Disparity* : “In no country of the world has at any time planned development been consciously and deliberately directed towards regional inequality” noted Dr. Rehman. Even in the field of industrial credit this trend continued till the end of the 1st Plan period. After that considerable efforts have been made to reverse the process but it will still take some time to achieve the equilibrium in the level of growth.

This was the problem of inter wing-disparity. There exists another problem of equal importance and that pertains to the regional inequality. During the past industrial activity has generally been limited to the already developed city centres thus creating diversity in the living standards of the people living in different areas. The commercial banks and the credit institutions cannot be fully held responsible for this because as profit making organisations it is their aim to earn profits and to invest in places where capital is safe. Again, there was lack of initiative amongst the entrepreneurs to invest in these areas. However, the Govt-run financial institutions carrying the dual functions of being development institutions and credit corporations could have played a more important role in developing the undeveloped areas. The PICIC till March 1967 had invested 20% of its total loans in Karachi which shows the extent of preference given to such areas. During the past few years trends have of course changed considerably. The Govt. has given considerable inducement to attract capital in less developed areas. The IDBP too is giving preference to applications from the undeveloped areas.

In this respect following recommendations can be made.

- (i) Lower interest rate be charged on the loans granted to the entrepreneurs desiring to install industries in the backward regions.
- (ii) Comparatively long term loans should be granted for industries installed in the under-developed areas.
- (iii) The Small Industries Corporation must set up more industrial estates in the under-developed

regions of Sind and NWFP in West Pakistan and similar regions in East Pakistan.

- (iv) Applicants desirous of obtaining loans for setting up industries in the undeveloped areas must be given preference.
- (v) Other terms and conditions pertaining to loans must be relaxed for applicants from such undeveloped areas.
- (vi) The ICP must provide more capital for industries set up in these areas.
- (vii) Banking facilities should be enlarged for industrialists in such areas.

(3) *High Rates of Interest* : The rates of interest charged both by the commercial banks and the other credit corporations are comparatively high for an under-developed country like Pakistan. The fact cannot be argued that higher rates of interest would mean a high cost of production, leading to high prices making the domestic products uncompetitive in foreign markets. High cost of production is one of the reasons for the *defacto* devaluation in the form of the Bonus Scheme. We must in the long run lower our costs in order to face international competition.

The present rate of interest may not be too high in relation to the rate of interest prevalent in some of the developed countries but we must note that the majority of our industries are medium scale and high rate of interest would mean a greater percentage of receipts going in the form of interest making it unattractive for these industrialists to expand their output.

(4) *Inflation and Development*: All the under-developed countries while employing tools of inflation to achieve the much cherished goals of prosperity have to keep a balance between the two. Too much of inflation would eat up the gains of productivity and too little of it would stagnate the rate of capital formation. Particularly in Pakistan where any rise in the price of eatable crops would increase the level of prices considerable watch has to be kept by the State Bank about when to expand credit and when to contract it. It is hoped that when we shall achieve self-sufficiency in eatable crops by

the end of the 3rd Plan this functional relationship between inflation and supply of crops shall come to an end and our economy shall run more smoothly.

(5) *Recovery* : The process of recovery from the industrial sector particularly from the small scale industries is a great hinderance in the expansion of credit to the small scale industries. The law is not strong enough to make a speedy recovery of the loans and hence the banks have to be cautious enough to extend credit. The legal procedure for catching the defaulter is not quick and is hence detrimental to the growth of industrial credit. It is proposed that special courts may be set up to deal with cases pertaining to defaulters.

(6) *Procedure of Loans* : The present procedure of loans is highly inefficient and unproductive. The commercial banks generally provide credit to those parties who are either known to them or who are influential enough to provide them with bulks of "fixed deposits". This has led to misallocation of resources, for influential people are in a position to get loans although their capacity to utilise them is doubtful. On the other hand less influential but more efficient industrialists are not in a position to obtain credit and hence the economy suffers from this social malady.

(7) *Redtapism* : There exists a considerable amount of redtapism in the finance-cum-development corporations, i.e. IDBP and PICIC. Every loan before being finally sanctioned has to pass through different phases before being presented to the Board of Directors in Karachi. This process takes a lot of time which has been estimated to extending from 1 to 2 years. This process is highly inconvenient discouraging new comers to apply for loans. It would, therefore, be advisable to make a steady progress through decentralization giving more power to regional officers.

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## Capital Market in Pakistan\*

TAYYABA ISHAQ\*

“The capital market comprises of the suppliers and users of capital funds in the form of long term assets and securities.” The suppliers may take the shape of various intermediary institutions or agencies like commercial and saving banks, insurance companies, stock markets, building societies, business corporations and postal institutions. The users of capital funds may be individuals, industries, corporations, local government authorities including municipalities, states, or provinces as well as quasi-governmental boards and other investors. The commodity which is dealt in the capital market is long term money. Long term money corresponds to those funds and assets which are comparatively illiquid in the sense that there is a greater possibility of substantial loss in their purchase or withdrawal. Liquid and short-term assets are dealt in money market. “The basic difference between these two major sections of the credit market, the long term (or capital) market and the short term (or money) market, is that short term funds are usually needed for working capital purposes while long term credits are normally used for the purchase of fixed capital goods.”

Definition of capital market as a medium of allocation of long term funds is too wide and exhaustive as well as a bit confusing. For purposes of analysis and understanding it may be defined in a narrow sense and in a broad sense. The former is the market where bonds, shares, and debentures are sold. The volume of these transactions measures the size of stock exchange which is of particular importance here. The later “covers the whole range of institutional arra-

\*This paper was read and discussed in Prof. Fiza-ur-Rehman's seminar group.

\*\*Student of M.A. (final), Deptt. of Economics, Govt. College, Lahore.



ngements and instruments through which savings are directed to investment.”

### Growth of Capital Market

Capital market has been described as a “creature” of highly advanced countries. In an under-developed economy, lacking a financial *infrastructure*, a developed and well organized capital market is hard to conceive. Its necessity, however, is borne out by the very solution of the problem of underdevelopment: a mechanism whereby the meagre resources that are available are directed into productive channels is a *sine qua non* of the process of development.

The capital market in Pakistan has followed the pattern of socio-economic development. It has originated fairly recently and, like the country, is developing. The basic cause of its sluggishness has been the Managing Agency System which emerged at the time of independence and developed due to the shortage of entrepreneurship, capital and lack of technical know-how. The migration of non-muslims brought to the forefront families with resources and savings enough to finance the small scale industries of the new-born nation. The same persons came to be the suppliers and users of investible funds. But the growth of industrialisation required that resources and funds of the small savers should be pooled together and made available to potential investors. Consequently a stock exchange was organised and registered in Karachi in March 1949 to attract savings and to channelise them into desired industrial fields. Another stock exchange was established at Dacca in April 1959 which is not as active as the Karachi Stock Exchange.

Capital is acquired by the investors from the savers either through the floatation of bonds and shares on the stock market or through loans from the monetary and credit institutions. Therefore, another attempt was made by the Government to solve the problems of long term financing through the creation of financial corporations and specialised institutions, such as the Pakistan Industrial Finance Corporation (1949) which has been replaced by the Industrial Development Bank of Pakistan since July 1961. According to an estimate, the Bank

financed about 35 percent. of the total industrial investment including foreign participation and units sanctioned under Bonus . Voucher and Pay-As-You-Earn Schemes during the first half of the Third Five-Year Plan. Total loans sanctioned by the Bank upto March 1968 stood at Rs. 155.7 crores of which Rs. 117 crores were in foreign currency.

Similarly, to meet the long term credit needs of the agricultural sector, Agricultural Development Bank of Pakistan came into existence in February 1961, as a result of the merger of the former Agricultural Development Finance Corporation and the Agricultural Bank of Pakistan. Total loans advanced by the Bank and its two pre-merger constituents totalled Rs. 84.41 crores upto March 1968.

Pakistan Industrial Credit and Investment Corporation, set up in October 1957, is another long-term lending institution. Besides providing finance to private sector of industry in the form of long or medium term loans in local or foreign currencies, it also affords assistance to industries through share participation or purchase of debentures. It can under-write any public issue of shares and debentures and also guarantee and counter-guarantee loans and obligations. Total loans made by the Corporation upto 31st March, 1968 aggregated to Rs. 137.71 crores of which Rs. 131.84 crores were in foreign currencies.

House Building Finance Corporation is another such institution which, at present, caters to the credit needs of 167 cities and towns in the country.

However, the most important components of the capital market in Pakistan are the Investment Corporation of Pakistan (ICP) and National Investment Trust (NIT) which are discussed separately because of their crucial role in the development of capital market in Pakistan .

Securities and gilt-edged market in Pakistan is now constituted by commercial banks and insurance compnies, which have developed during the past few years into an important part of what is there of an organized capital market.

## Stock Exchange

The term stock exchange refers to an organisation, usually unincorporated, which *inter alia* provides a place where members trade in securities both on their own account and on the account of others. It is a medium through which capital of the country in the form of stocks, shares, bonds and debentures changes hands. It is the stock exchange where investment in one particular enterprise can be liquidated and then directed to any other concern. Thus stock exchange provides for an easy flow of new capital and permits movement of the existing capital. It is an important and essential component of the capital market of a country.

It has been already referred to that the only active stock exchange in Pakistan is the Karachi Stock Exchange as Karachi is the financial centre of the country. It was registered in March 1949. At that time only 13 companies were listed and about half a dozen shares were floated on the market. The paid up capital was only Rs. 10.78 crores. Since then the number of shares and volume of transactions has grown enormously. The market saw its first boost in 1952, when imports were restricted owing to the suspension of the Open General License and the resulting decline in export trade diverted investment funds to the share market. The tendency continued and the number of companies listed grew to 44 in 1955. The upward trend continued during 1955 and 1957, but the highest stimulation of the market took place in 1958, because of the various steps taken by the Government. Introduction of the Export Bonus Scheme during the same year gave a new impetus to the market. However, the market turned bearish in 1960 following State Bank restrictions on speculative transactions.

The year 1963 brought good prospects and the market saw its boom in the second half of the year as a result of the concessions offered to the industrial sector in the budget for 1963-64. The trend continued during 1965 and was maintained during early 1966, whereafter a declining tendency started which was checked in 1967 by "a conscious Governmental doctoring of the system".

The State Bank of Pakistan index of share prices (Base, 1960=100) indicates the following trend :

“A fairly steep rise from 1960 (91) to June 1963 (21) thereafter a decline which did not level out until 1966 (around 105) a recovery from January 1967 which gathered momentum in March 1968 and which has not yet peaked, although it has touched a new height of 140.0. Transactions show a similar rise, from 48 lakh shares in 1964 to 55 lakh in 1967 and it has already exceeded 123 lakh shares in 1968”. Now shares of 210 companies are quoted with a paid up capital of Rs. 272 crores. The early condition of offering at least 3% of the shares for companies to get-enlisted has been raised to 60%. A close coordination between Capital Issues Wing of Ministry of Finance and the Stock Exchange exists to achieve the objectives of favourable investment climate, broad-based ownership and protection of the interest of shareholders.

Though the Karachi Stock Exchange is developing a healthy investment trend in general, it covers less than 3 percent. of the total registered joint stock companies in Pakistan. It will, however, grow with the growth of the economy.

### **Investment Corporation of Pakistan (ICP)**

Though the Karachi Stock Exchange had developed a healthy investment trend till 1964-65, it became sluggish and inactive in the beginning of the Third Five Year Plan. Share prices declined and market turned bearish owing to the September War and many other causes. Various fiscal and monetary measures undertaken by the Government and the State Bank of Pakistan to revive the market and to improve the general investment climate proved ineffective “Investment activity remained shy and equities failed to evoke much interest”.

As the problem assumed serious proportions the Government of Pakistan sought the help of the President of the IBRD who appointed Prof. Louis of Harvard University to probe into the causes of the lack of depth in the capital market. He reported that “there was no merchandising mechanism of the kind which is necessary to reach the upper middle and middle classes that are growing in size (professional men, retired senior civil servants and military personnel, medium sized merchants and so on).....[The need is of] educating these classes to change

their investment habits from land and gold ornaments to shares in publicly held companies". A committee of officials appointed by the Government in July 1965 for the same purpose also highlighted the insufficiency of existing facilities and inefficiency of existing institutions to support and stimulate investment activity in the country. Particularly, the lack of institutions for merchandising and underwriting new issues was hampering the growth of capital market in Pakistan.

Solution of the above-mentioned problems was found in the organisation of an "investment banking affiliate" which would "help in overcoming the middle class investors' diffidence, which is largely due to their ignorance of investment business".

Consequently, the Investment Corporation of Pakistan was established under the Investment Corporation Ordinance, 1966, which was passed by the National Assembly in March 1966 "to encourage and broaden the base of investment and develop the capital market in Pakistan". To achieve this object, the Corporation was entrusted following functions :

1. To underwrite new issues.
2. To open and maintain investors' accounts, advance loans for the purchase of shares, buy and sell shares to the account-holders and provide professional advice relating to investment business.
3. To help in converting the closely held companies into public companies.
4. To merchandise stocks and securities and stabilise the capital market.

An Investor's Scheme was started by the Corporation on 24th January, 1967. The Scheme provides an efficient and modern mechanism for investment banking. It operates two types of investment accounts, operative investment accounts and fixed return investment accounts. Holders of these accounts are eligible for Corporation's loans under different terms and conditions for each of these accounts. "Through this Scheme the Corporation provides free of charge the entire range of investment banking services—designing of investment plans, manag-

ment of investors' portfolio, safe custody of scrips, and periodical reports on the behaviour of investors' portfolios".

Since May 6, 1966 when ICP started functioning till October 20, 1967, it approved 30 out of 93 applications for the underwriting of public issues. Its own underwriting commitments amounted to Rs. 6.08 crores, 2.82 crores for East Pakistan and 3.26 crores for West Pakistan. The Corporation has tried its best to stimulate the interest of the general public and of all sectors of the economy. For this reason, its operations have been sufficiently diversified, the 30 approved projects relate to twelve different sections of industry. Fifteen out of these belong to East Pakistan and 11 to under-developed areas of W. Pakistan.

The ICP since its inception has provided great impetus to the capital market through credit purchases and through its underwriting and merchandising operations. Till October 20, 1967 it had promoted a total equity investment of Rs. 26.41 crores. The entrepreneurs of 17 out of 30 projects approved and assisted by the Corporation have entered the stock market for the first time.

### **National Investment (Unit) Trust (NIT)**

The establishment of NIT on 12th Nov., 1962, is another step of the Government towards bridging the gap between the small savers and the equity market through a framework of institutions which is required for this purpose. "Unit Trust may be described as a device whereby a great number of individual investors pool their resources and create funds large enough to be soundly invested in a diversified portfolio of shares". The Trust came into being by a Deed of Agreement empowering National Bank of Pakistan to act as the trustee and custodian of the funds and property and NIT Limited to act as managing agents.

Since the motive is to encourage and mobilise the savings of the people of modest means, the funds are obtained by the sale of the Units valuing Rs. 1,5,10,50 for small savers. But the Units of the denomination of Rs.100,1000, and 10,000 are also available for individuals

and organisations with means to purchase them. The assets of the Trust are the sale proceeds of these Units, which can be sold and repurchased by the holders. Units are in the form of Registered Certificates or Bearer Certificates which have been declared "approved securities" and "approved investments." In order to popularise them tax rebates and reliefs are allowed on incomes from investment in the Units.

Eversince its inception the Trust has been quite successful in its operations and there has been a fairly progressive increase in the size of the Fund. At the end of the first year of its operations, the number of the Unit holders was only 6,000 and the sale proceeds amounted to Rs. 4.08 crores. The number of the Unit holders rose to 20,000 and Investment Fund amounted to Rs. 9.39 crores on 31st March, 1967. It is now regarded as one of the most significant investor on the stock exchange.

The purchases of the NIT and ICP have been significant catalysts in the Stock Market. They are estimated at Rs. 12 crores during 1966-67. The formation of both the ICP and NIT shows that the problems of the expansion of equity finance and the development of capital market are getting vital importance in Pakistan.

### **Concluding Observations**

Though Pakistan has been successful in setting up an institutional framework to cater the specific credit needs of the various sectors of the economy, a capital market in the real sense of the term has not yet evolved. "The conception of capital market consisting of issue houses, saving associations and syndicates still does not hold good in the case of Pakistan." There are no specialised institutions in its capital market for merchandising, underwriting and marketing of new issues and securities, except ICP and NIT.

Pakistan is predominantly an agricultural country and this fact has also retraded the growth of capital market. The needs of the industrial sector have largely been met by the managing agents. This sector has started making use of the stock market quite recently. Bonds and debentures are still not popular

in the country due to the financial conservatism of our general public. Even the banking system of the country confines its investment activities to the gilt-edged and government securities. Therefore, development of a livelier capital market requires changing the whole financial climate of the country. An active and prosperous capital market can flourish only when people are in the habit of making use of it and when there exist side by side such institutions as saving associations, insurance companies, investment trusts, issue houses, credit and investment corporations and agencies which become a source of constant and adequate flow of capital to be transacted in the market.

In Pakistan, the progress of equity investment is necessarily slow because of monopolistic developments in share dealings, inadequate support by investment institutions, low dividend yields and poor management of certain companies. Common and small shareholders are deprived their legitimate rights. But the overall lethargy of stock market can be attributed to the fact that "neither the share holders have so far realised their responsibility towards their own investments nor have the existing firms cared to gain their confidence through better management, higher returns and quicker distribution of profits". The imposition of a 5 per cent. tax in June, 1967 on undistributed incomes of the companies proved ineffective in discouraging the tendency of delayed distribution of dividends. No doubt the Government of Pakistan, in order to encourage middle class investments and to create better conditions and prospects for capital market, has created the ICP and NIT and other corporations, "it has been pointed out that, at the present time, some of these institutions held Government funds at five per cent. and keep those funds on deposit elsewhere at  $7\frac{1}{4}$  per cent, thus earning a profit of  $2\frac{1}{4}$  per cent, without effort and using money which is not theirs or that of their share-holders". The ICP Investor's Scheme is also not so active in mobilising small savings and individual savers as it was expected to be. The market still suffers from the lack of spread in ownership and only 25 per cent of the total stock is held by the small investors while the remaining 75 percent is owned by big-moneyed class.



Another point which must be mentioned in this connection is the lack of variety and diversification of investors on the Karachi Stock Exchange. The most represented and dominant sections are finance and textile, the former covering 14 per cent. and the later 25 per cent. of the total number of companies listed. The tendency must be mitigated because one criteria for measuring the development of a stock exchange is the coverage of economy.

We can conclusively say that the development of a healthy and buoyant capital market depends upon the efficient working of the institutional machinery necessary to garner funds and to channel them into capital market.

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