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IMPACT OF AVAILABLE POLICY OPTIONS ON TRADE AND MACRO ECONOMIC BEHAVIOUR

by J.A. DöCKEL
University of South Africa

INTRODUCTION

The South African economy has always been characterised by its relative openness, with about 52 per cent of the GDP being generated in the foreign sector. This interdependence between South Africa and the rest of the world is further emphasised by rapid changes in technology (especially in respect of communications), changes in the structure of the international economy such as in the flow of goods and services, capital movements, floating rates of exchange and periodic monetary instability.[1] The traditionally protected agricultural sector has also experienced the influence of these structural changes in the world economy. It can even be alleged that the agricultural sector is just as vulnerable to these macro economic effects as to the influence of the weather - the variable that immediately springs to mind. A further factor that affects the agricultural sector to a greater or lesser degree is emphasis on free market principles. Price control has been systematically abandoned over the past few years. Control measures specifically applicable to agriculture have not yet been essentially changed except with regard to access to the money and capital market, where market-related interest rates now apply to the agricultural sector as well.

The question is how these changes affect agriculture. It is frequently argued that agriculture has little effect on the rest of the economy. This misconception has been disproved by the past few years of drought.[2] The direct and indirect linkage effects of agriculture with the rest of the economy can be measured by means of the national input-output models. It has been found that a 20 per cent drop in agricultural yield will cause the GDP to drop by 1,5 per cent. The direct effect on inflation and the balance of payments is obvious, but difficult to quantify.

In this paper, however, the major emphasis will fall on the influence of the rest of the economy on agriculture. In an attempt to analyse this influence Bruce Gardner[3] came to the conclusion that - "Even if I knew the future course of the US business cycle, inflation and the foreign value of the dollar, I could not predict any particular consequences for agriculture (compared to other sectors)." What he implies here is that there are no *a priori* reasons why macro economic factors should have a greater or less effect on the agricultural sector than on other sectors. In this exposition, however, domestic macro economic policy, rates of exchange and internal government programmes for agriculture will be examined from a qualitative point of view only and an attempt will be made to determine their influence on the net farm income.

It is striking that most analyses and models that analyse the interdependencies in the economy contain the following words in the title "excluding the agricultural sector". It is therefore apparent that the influence of economic factors on the agricultural sector specifically has not yet been subjected to an in-depth analysis.

INTERNAL AGRICULTURAL POLICY MEASURES

According to the White Paper[4] self-sufficiency in food and fibre products is a priority, subject to the optimum utilisation of natural resources, land, entrepreneurship, labour, international trade and the consequent maximum contribution to economic development at the national and regional level. Furthermore, these objectives will be pursued by means of the free market system as far as possible. Emphasis is placed throughout, and rightly so, on adaptability of policy measures to changing circumstances. The specific instruments by means of which all these objectives can be attained were not given.

In broad outline, these or similar objectives were approached in the past through official intervention in the markets, which was justified on the basis of the unique characteristics considered important for agriculture. We are all familiar with measures such as fixed price schemes, floor price schemes and quota systems. The object was to stabilise agricultural prices and incomes. This proved a difficult task. The inflationary conditions of the 1970s and 1980s further complicated the implementation of these measures. The process of determining prices consequently became largely politicised and was made subject to pressure groups. The assumption is that official bodies have superior knowledge of markets and future structural changes in these markets. If controversial lines of action are followed, the government is blamed for these problems. The problem is illustrated in Fig. 1, where the percentage change in the producer prices of summer cereals (fixed price scheme), the prices of stock slaughtered (floor price scheme) and those of fruit (market-related prices) are shown. The price fluctuations in the non-inflationary period were great, but from the early 1970s onwards they were

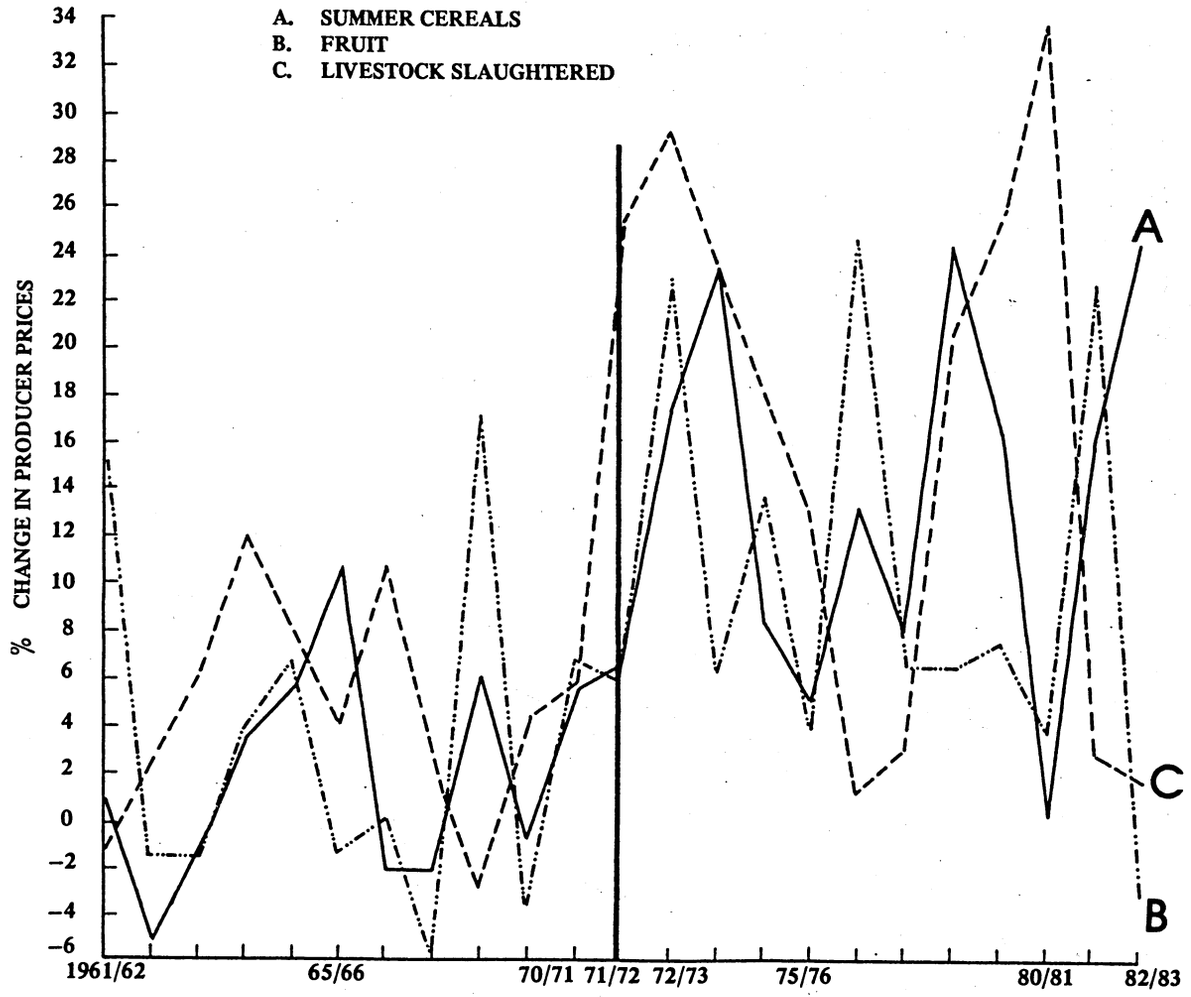

FIGURE 1 - Percentage change in producer prices

even greater. Furthermore, it appears that none of the methods of determing prices was more successful, judged on the basis of price-stabilising effects.

Income stability is rightly emphasised now; this is not necessarily brought about through the price mechanism, but rather via a stabilisation fund where a reserve fund, built up in the good years, has to provide for the bad years. Individual farmers could naturally do the same thing.

Even on purely theoretical grounds the desirability of schemes for stabilsing commodity prices is questioned. Newbery and Stiglitz[5] say: "The major result of our analysis is to question seriously the desirability of price stabilization schemes, both from the point of view of the producer and the consumer."

If one applies the criterion of optimalisation of resources, the market intervention methods brought about a malallocation of resources because they distorted market forces.[6] It should be stated that the effect of decades of control measures cannot be immediately corrected, in any case not without great disruption in the agricultural sector. There is virtually no country in the world where agriculture is practised completely according to free market principles.

The cost of the present control measures is diffused and is difficult to measure. Nevertheless the social cost and social benefits of these measures should be estimated; in the final instance the system followed is a political decision. In my view a second best solution should be sought. One form or another of minimum price scheme with a direct vote of Government funds to administer the system should be investigated where practicable. The advantage of this would be that the cost of the measures would be directly visible in the national budget, that it would allow market forces to operate to a great extent and also counteract excessive downward fluctuations in the market.

INFLATION

The period 1946 to 1972 in South Africa was characterised by low inflation rates. From 1973 onwards relatively high inflation rates have been experienced. We are all familiar with the disruptive influence of inflation and in the present context especially the malallocation of resources in which it has resulted as a consequence of the disturbance of relative prices. The effect of the general price level on agriculture is approached only by comparing the period of high inflation with that of low inflation.

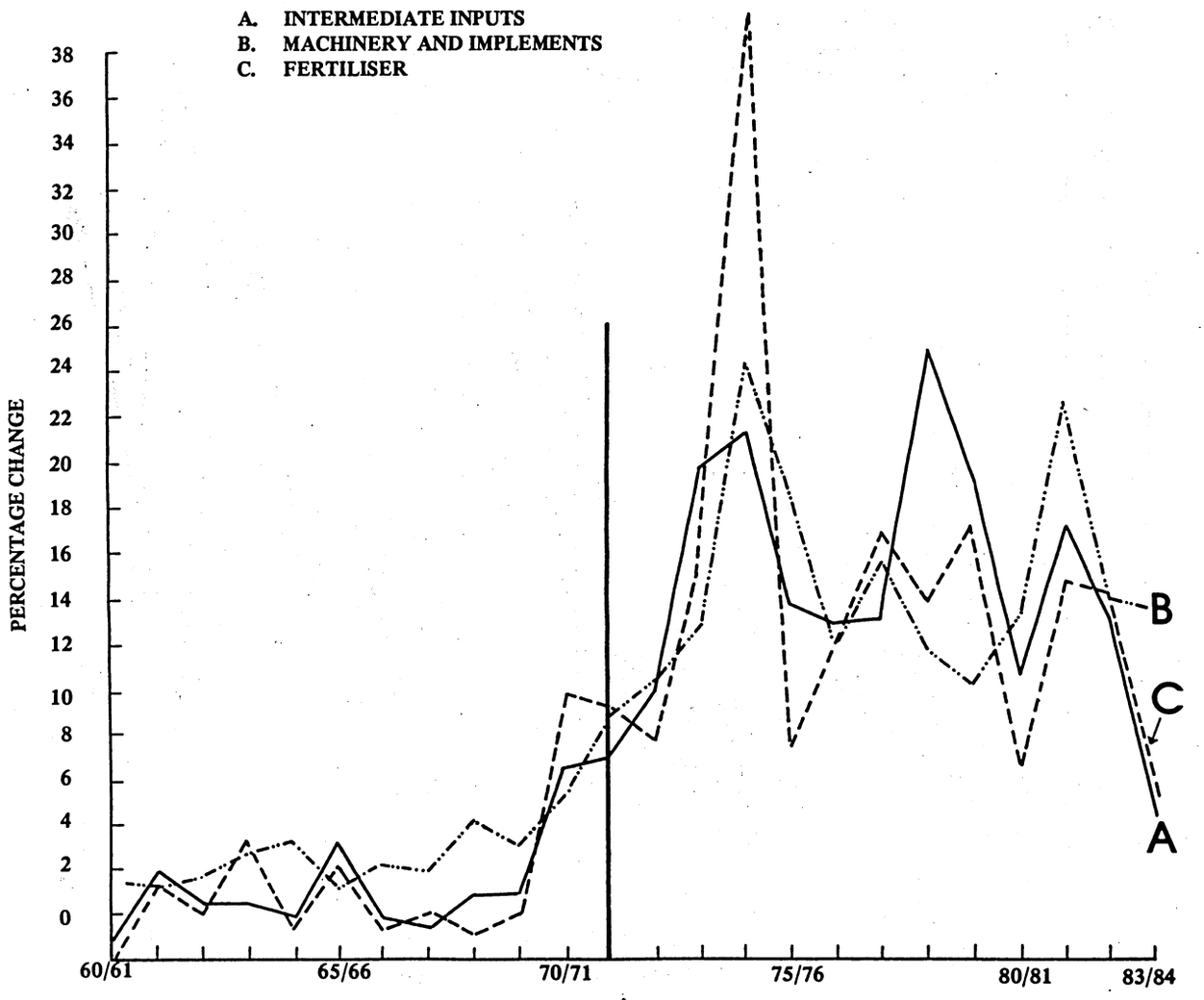

FIGURE 2 - Percentage △ in input prices

In Fig. 2 the percentage change in the prices of the chief groups of agricultural inputs since 1960 is represented. It is especially striking that the annual price rises were relatively low during the non-inflationary period. Since then the percentage change in the prices of all the components has been enormous and it has also varied a great deal from year to year. Many of these price rises were the result of structural changes forced on the economy from the outside, such as the rises in the oil price in 1974 and 1978 in particular or deliberate policy changes such as the substitution of locally manufactured for imported diesel engines in 1982, the influence of sales tax in 1978 and the subsequent rises in the rate of this tax.

These structural changes had cost-increasing effects[7] but the consequent price rises should be ascribed to a general inflation problem and, in the opinion of some people, also to a lack of competition in these markets.

Two further agricultural inputs that can be briefly singled out here are expenditure on farm labour and interest rates. During the period 1971 to 1978 (the last year for which figures are available) regular employees decreased by 8,9 per cent and casual workers by 32,8 per cent. The annual percentage increase in total wages increased by 12,6 per cent, however, which is slightly higher than the average inflation rate. In Figure 3 the dramatic percentage increase in the interest burden of agriculture since 1979 is clearly illustrated. This reflects the general increase in the South African interest rate pattern and also a structural change caused by the abolition of the more favourable conditions under which agriculture used to be able to obtain funds. This cost item is influencing all enterprises very unfavourably at the moment, but its effect will decrease in proportion to success in the struggle against inflation. Where the higher interest burden is the result of abnormal conditions peculiar to agriculture a case can be made out for government support of one kind or another.

As has already been indicated in Fig. 1, some agricultural output prices have flucuated considerably since 1960/61. Fig. 4 emphasises the fluctuation in the percentage change of producer prices and also in that of all farming requisites, especially since 1973. Since that time changes in the price of farming requisites were below the inflation rate for two years only and those in producer prices above the inflation rate for five years. It should, however, be mentioned that there were periods even

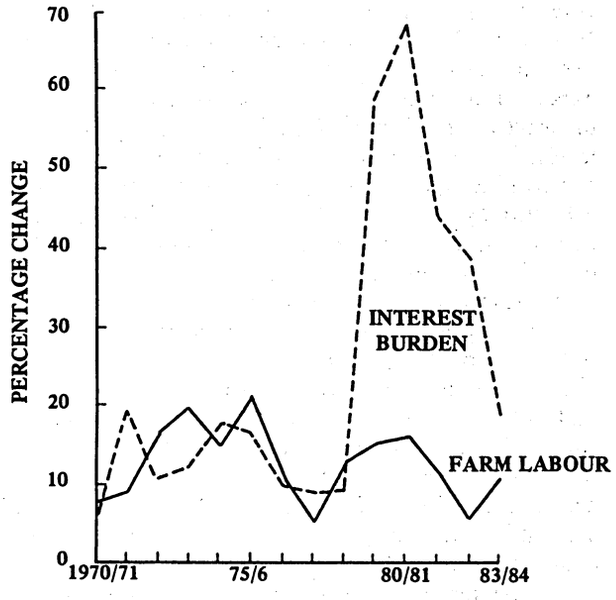

FIGURE 3 - Percentage △ in interest burden and remuneration of labour

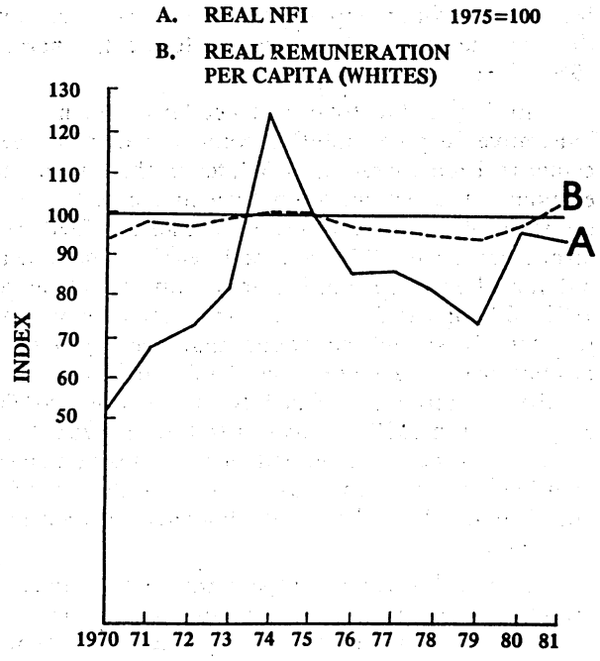

FIGURE 5 - Real income position

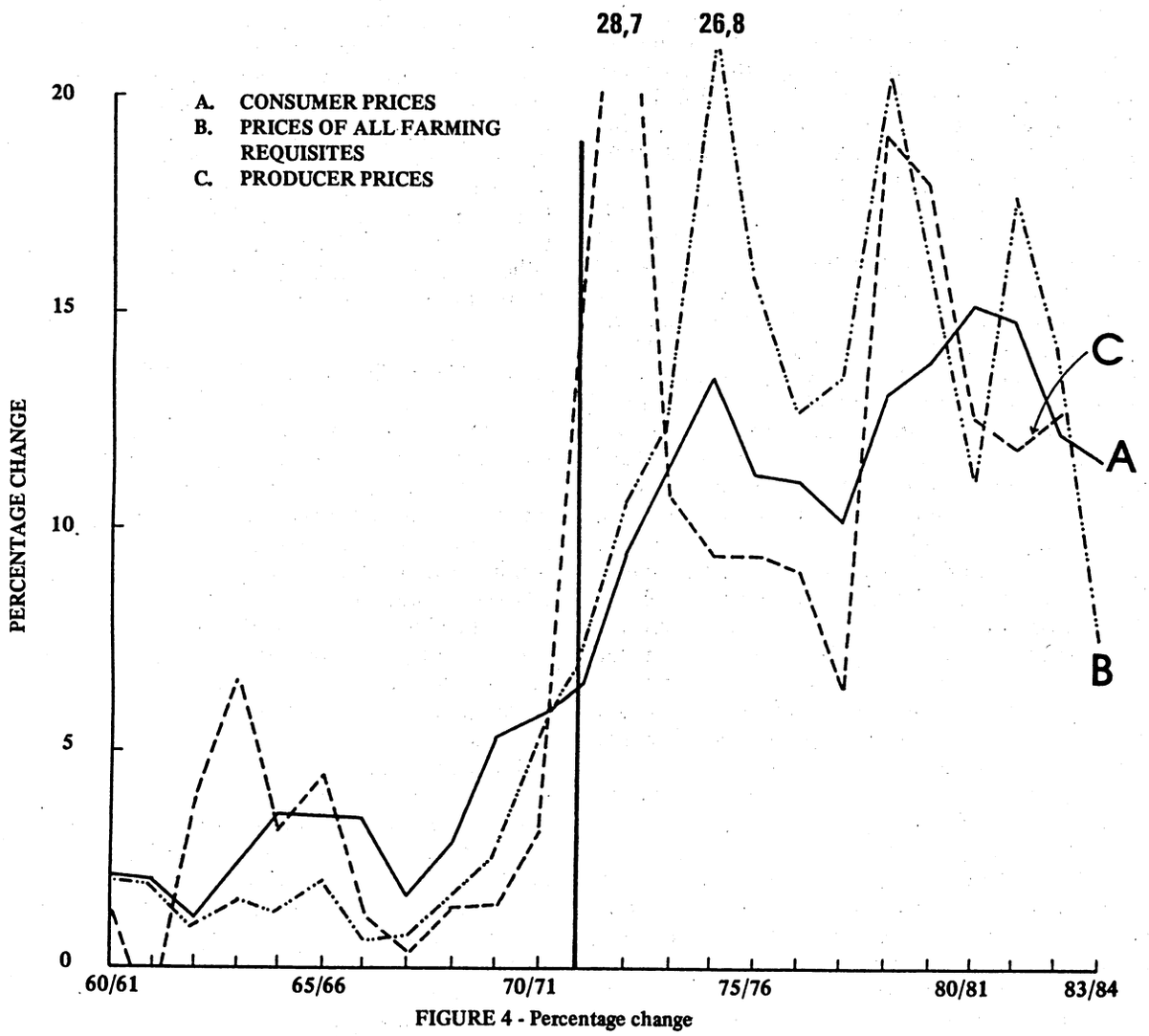

FIGURE 4 - Percentage change

before 1973 when input prices rose more rapidly than output prices, for instance during the period 1966/67 to 1970/71.

In Fig. 5 the total real net farm income (for illustrative purposes only)[8] is compared with the per capita real remuneration of Whites in the rest of the economy. The remuneration level in the rest of the economy did not improve dramatically. Real net farm income with 1975, a "good year", as base year did not show a generally deteriorating trend up to 1981, although it did vary a fair amount from year to year. It should be added that the *per capita* position would have been considerably different - the number of farmers declined from between 100 000 and 110 000 in 1970 to between 60 000 and 70 000 in 1982. It is generally admitted that the position since then has been abnormal as a result of the drought and therefore 1982, 1983 and 1984 have been left out of account.

It would therefore appear that, on an overall basis, the income position in agriculture did not deteriorate dramatically during the inflationary period despite the spectacular changes in agricultural inputs in particular. The extent to which this general milieu of price variability affected productivity and resulted in malallocation of resources is difficult to determine.

It is virtually impossible to predict what inflation will do in the longer term. It would appear, however, that the structural change that has taken place in agricultural inputs over the past decade will not easily be repeated. The reasons for the general rises in the price level since 1973 varied from imported inflation in the early 1970s, when South Africa's trading partners had relatively higher inflation rates, the inflationary effects of devaluations, structural problems in the South African economy, including lack of competition, the rise in oil prices, the rise in Goverment expenditure from 17 per cent in the 1960s to an average of 22 per cent for the period 1970-1983, the reduction in the wage gap, and criticism of the ability of the Reserve Bank to limit the growth in the money supply. All these factors, in addition to various others, undoubtedly played a part. It is striking, however, that the inflation rate in South Africa did not explode and exogenous factors prevented the inflation rate from dropping to below 10 per cent at least twice. When the inflation rate remains high for a long period inflationary expectations are created and in fact a kind of implicit indexing in the economy is observed which is difficult to break in the short term. In order to break this inflationary cycle one can depend on two groups of policy measures in particular.

The first group relies on reduction in demand by means of strict monetary and fiscal policy. This is the method being followed in South Africa at present. Over the past few years fiscal policy was not as restrictive as was required, with the result that since 1982 especially reduction in demand has depended chiefly on monetary policy, with the consequent high interest rates, which rose to extraordinary heights in 1984/85. The result of the measures is that enormous pressure is placed on certain sectors of the economy, especially on smaller enterprises, including the agricultural sector. However, this policy requires restrictive measures over a fairly long period to break inflationary expectations and can be accompanied by high unemployment figures, especially at the less skilled levels. The political risk attached to a policy package of this kind may be fairly high. The degree of success achieved by this method in the U.S.A and Britain is questioned by some writers. Beckerman[9] contends that the greatest deflationary influence in Britain came from declining commodity prices and not from monetary policy. On the other hand there is the other group of policy measures that proposes wage and price control measures to reduce demand. More and more voices are heard advocating a kind of social cotract to restrict wage and price increases in the national interest. Such control measures are accompanied by inefficiencies familiar to agricultural economists and do not necessarily control the basic causes of inflation.

The present policy package should reduce the inflation rate in the short term, however. The inflationary prospects for the longer term are somewhat more problematical. In the long term there is a direct link between the demands that market participants make on the economy and the contributions they make to the economy. Some economists[10] contend that South Africa finds itself at a stage of "rising entitlement", especially in respect of the new political order, *inter alia*, militancy from the trade union movements etc., which implies higher demands on the economy. Inflation will therefore not readily drop far below 10 per cent in the long term. On the other hand South Africa's principal trading partners have very low inflation rates. Whether they will be able to maintain these low rates in the longer term is open to question, however.

GROWTH AND PRODUCTIVITY

The growth rate in the economy is naturally one of the most important macro-economic goals, especially since a growing economy can create more job opportunities for the rapidly growing population. For agriculture growth implies rising buying power within South Africa, which will stimulate the demand for agricultural products.

The long-term growth rate in an economy depends especially on growth in the production factors labour and capital and growth in productivity. On the basis of trends over the past decades in the growth of production factors and technological progress (productivity), it is calculated that the long-term growth rate in South Africa will fluctuate between 3,5 and 4 per cent.[11] De Jager and Small come to the conclusion that attempts to try to maintain a higher growth rate would imply that the savings ratio would have to be increased, in addition to an increase in the growth of productivity. If growth in these factors cannot be increased, higher growth rates can only be made possible by the continuous inflow of foreign capital and furthermore

there would be a continuous tendency towards inflation caused by shortages of high level manpower. The South African economy is subject to extraordinary problems in respect of its labour force. In the prophetic words of Prof. J.L. Sadie, no economy can perform better than it is permitted to do by the quality of its human material.

The increase in productivity in South Africa is fairly low. A thorough analysis of South Africa's growth in productivity is available only up to 1972.[11a] The inflationary period following this is therefore not covered. Since productivity increases are a long-term phenomenon, these figures should still provide an indication of the productivity position in South Africa.

TABLE 1 - Productivity increase in south Africa[12], 1960 to 1972

Sector	Percentage
Agriculture	3,36
Mining	2,53
Manufacturing	1,62
Other sectors	1,13
Total	1,76

The increase in productivity in the economy is relatively low, but productivity in agriculture shows the biggest increase — 3,36 per cent a year.

The most interesting aspect of the influence of inflation and the structural changes in agriculture probably relates to adaptation at the farm level. Aspects such as choice of branch of farming, the intensity of input application and substitution between inputs come to mind here. Only a few aspects of the broad structure of agriculture are emphasised. As has already been mentioned, the number of employees dropped by 8,9 per cent from 1971 to 1978 and the number of casual workers by 32,8 per cent. It would also appear that this labour has not been replaced by capital. The capital: yield ratio [13] shows no trend from 1960 to 1981 and varies around the figure of 2,0. Judging from these data the capital stock did not increase excessively and productivity in agriculture was not stagnant either.

EXPORTS

Agricultural exports [14] as a percentage of total exports dropped from 30 per cent in 1970 to about 20 per cent in 1981 and 1982. Nevertheless agricultural exports amount to about 35 per cent of the gross value of total production (maize an average of about 32 per cent, wool 79 per cent, sugar 44 per cent, deciduous fruit 15 per cent). On the other hand the index of prices of agricultural products did not rise to the same degree as domestic prices. Domestic prices rose by 15,3 per cent a year on average from 1970 to 1983 and export prices by 9,2 per cent. The export prices of sugar in particular and to a lesser degree of maize, deciduous fruit and citrus, performed less well and wool underwent higher price rises. South Africa's competitive position had therefore deteriorated considerably by the end of 1983.

Trade in agricultural products began to play an important part in world trade only relatively recently, because a high degree of self-sufficiency is generally regarded as a definite national priority. Trade in agricultural products is by no means the result of free market forces and comparative advantage.

As Hathaway puts it [15]: "Despite its significance agricultural trade policy is almost universally a hostage to every country's national domestic agricultural policies. There is no evidence that most countries are inclined to make domestic policy changes in response to trade issues. Thus we can continue to expect friction on agricultural trade."

It is espcially striking that the export share of the developing countries dropped and that of the developed countries rose. On the other hand the developing countries and the centrally planned countries became importers.

Industrial countries are starting to dominate agricultural exports and to import less. As a result of artificial stimulation of agricultural production trading patterns are distorted. Furthermore there is no prospect of agricultural policy in these countries changing since it is built into the political structure of each country. Unless agreement can be reached at international level on universal restrictions on policy instruments in agriculture there can be no question of free international markets. Furthermore the following have become usual in international markets:

(a) Centralised buying and selling organisations (these organisations contravene the rules of free trade).

It may be asked: Who needs import quotas if a central agency determines what and how much is to be imported? Who needs export subsidies when export prices are available to individual buyers only and each individual buyer negotiates a different price with different credit arrangements etc.?

(b) Long-term trading agreements in terms of which the importer undertakes to buy a minimum quantity and the exporter guarantees this quantity at least. A contract of this kind guarantees the exporter a bigger share of the market and gives the importer security. These fixed arrangements upset the market adjustment that would have taken place in a free market.

The economic shocks of a change in the supply then act upon a steadily shrinking free market. The result is that instability in the markets is magnified. This instability is especially important for a country like South Africa where uncertain weather conditions may cause the volume of exports to vary. In such circumstances it is more difficult to conclude long-term contractors and such countries have to fall back on the unstable "open market".

These factors are also responsible for further restrictive measures. Countries experiencing a shortage of food are encouraged to push up domestic prices artificially in order to become less dependent on food imports.

If these practices are not restricted at the international level an agricultural exporting country like South Africa would be foolish not to resort to

similar measures.

As has been mentioned above, the export prices of agricultural products did not do very well in comparison with domestic prices during the 1970s and 1980s. Furthermore, the South African inflation rate has reached higher levels, especially than the inflation rate of our trading partners. These relative inflation rates are particularly important owing to their influence on South Africa's international competitive position and their influence on the exchange rate of the rand. If the exchange rate adapts to neutralise these differential price movements parity of purchasing power will be retained and the competitive position of South Africa will not be influenced. Rates of exchange are enormously variable in the short term. The changes in the rate of exchange that occurred in 1984/85 in particular had nothing to do with differences in inflation rates.

In order to determine whether the parity of purchasing power theory has any value in the long term, the effective nominal rate of exchange of the rand [16] was weighted by the price ratio of an overseas to a domestic price index. The weighting of the effective rate of exchange by the production price index is more applicable because many goods and services that appear in the consumer price index are not traded internationally.

The real effective rate of exchange of the rand is reflected in Fig. 6 [17]. Over the period 1957 to 1971 the Bretton-Woods system was still in operation and the effective real rate of exchange was very stable. From 1971 to 1978 the monetary authorities experimented with various rate of exchange regimes - with the chief deviations caused by the devaluations of 1971 and 1975, which may have been introduced in order to protect the rand income of the gold mines, especially in the light of the declining gold price. Controlled floating has been practised since 1979 and this has coincided with sharp increases in the gold price; it is clear that by 1983 the rand was fairly overvalued in terms of the theory of parity of purchasing power.

The drop in the rate of exchange since 1983 has been partly a reaction against this overvaluation. It is also clear, however, that there has been a fair amount of overreaction in the adjustment of the rate of exchange since then. The nominal movement in the rate of exchange of the rand is therefore fairly sensitive to any movement in the relative foreign price ratios.

It would appear, however, that the concept of parity of purchasing power is not much use in the short term in boosting export prices in rand terms particularly in the case of agricultural products. The necessity for measures to bring South Africa's inflation rate in line with the inflation rates of its trading partners is therefore increased because a compensatory change in the rate of exchange of the rand cannot be depended on. It follows by implication from the above that the rand's rate of exchange is fairly sensitive to movements in the gold price. There are various correlations between the gold price and other economic variables, but it is difficult for an economist to interpret them. With regard to agricultural exports in the short term, the current low rates of exchange are very favourable to the export sectors. Non-economic factors that have nothing to do with the behaviour of the real sector may influence the rate of exchange. Here one thinks of factors such as the influence of politics, the influence of Third World debt and the influence of that upon the gold price, all of which affect the rate of exchange of the rand in turn and can have an adverse effect on the export sectors at a given stage. This short-term instability is not beneficial to exports and may bring about considerable losses or profits for agriculture from time to time.

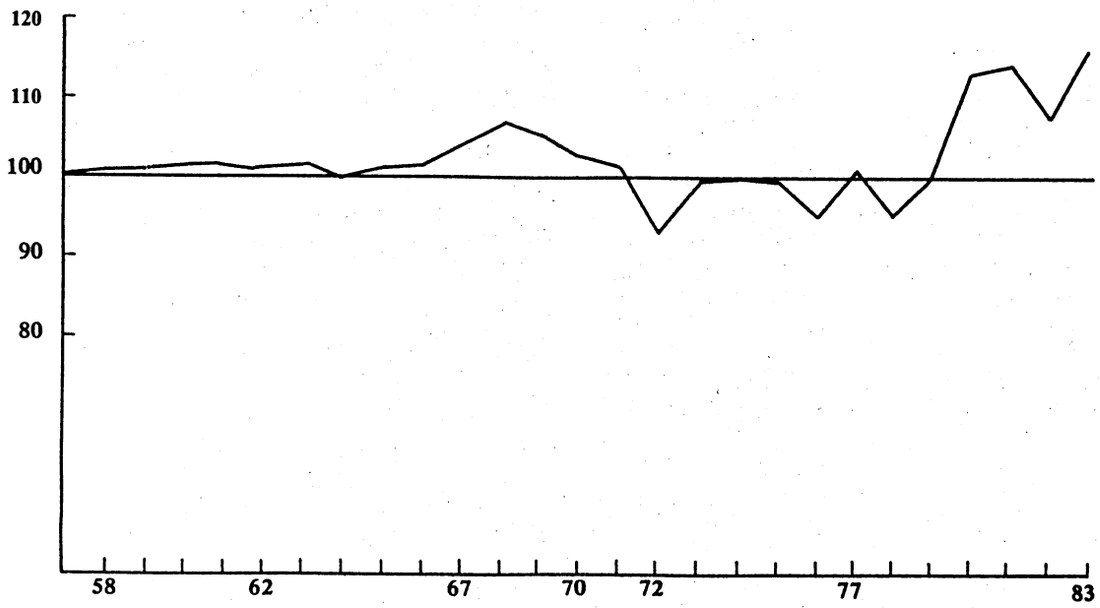

FIGURE 6 - Real effective rate of exchange of the rand, 1957-1983 (Based on production prices)

SUMMARY

The interdependence between the various sectors in the economy and between countries has increased, especially over the past decade. Macro economic factors such as inflation, changes in the rate of exchange and monetary instability are playing a greater and greater part in the profitability of the agricultural sector. However, up to and including the drought that started in 1982 the agricultural sector succeeded in maintaining its position and showed increases in productivity despite high inflation rates, major rises in the prices of inputs and rate of exchange instability. Agricultural policy has to promote maximum efficiency and this implies a market-directed orientation. The adverse effects of inflation on resource allocation and possibly also on productivity are known. With an inflation rate that is higher than the rates of South Africa's trading partners the competitive position of agricultural exports is adversely affected, especially in the short term. Restrictive monetary policy (together with high interest rates) in the short term is a necessary price that has to be paid for curbing inflation. The long-term stability of the country is dependent on a disciplined approach of this kind.

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