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INTERNATIONAL SCHEMES FOR REGULATION OF SUPPLY

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THE trade cycle brings in its train not only changes in business psychology and political outlook but even changes in the meaning of words. During the post-War boom, restriction of output connoted a policy of 'ca' canny' on the part of the workers. To-day restriction of output is advocated as the way of salvation for primary producers. It has come to connote orderly marketing of commodities and adjustment of supply to demand, particularly in agriculture.

This paper is concerned with the working of so-called restriction schemes of which the plans for rubber, tin, sugar, and coffee are the outstanding examples. They represent attempts to adjust supply to demand in world markets by regulation in place of *laissez-faire*. I prefer to call them, in the words of my title, 'International Schemes for Regulation of Supply'.

At the World Economic Conference held in London a year ago a special Sub-Commission was appointed to examine this subject under the title of 'Co-ordination of Production and Marketing'. After keen discussion a resolution was adopted to the following effect:

1. In order to assist in the restoration of world prosperity, it is essential to increase the purchasing power of the producers of primary products by raising the wholesale prices of such products to a reasonable level.
2. In the exceptional conditions of the present world crisis, concerted action is required for this purpose. Apart from any other measure that may be taken to restore the purchasing power of producers and consumers and thus to increase demand, it is desirable that plans should be adopted for co-ordinating the production and marketing of certain commodities, of great importance for world trade, in which there is an excess of production or stocks.[1]

The resolution then went on to lay down certain conditions of suc-

[1] League of Nations, *Journal of the Monetary and Economic Conference*, No. 16, June 28, 1933.

cess for such plans, which may be briefly summarized as follows: the plan must be sufficiently wide in scope to embrace the majority of the producers; it must be fair to consumers and not discriminate against particular countries; it must be effectively enforced by the Governments; it should be flexible, of sufficient duration to ensure success, and compatible with a reasonable degree of efficiency.

The Sub-Commission thus expressed a remarkable unanimity among the governments in favour of schemes for international regulation of supply. The only reservation was that expressed by Mr. Bruce, the Australian delegate, who would have preferred to say that a policy of restriction 'may be necessary' rather than 'is desirable'. Restriction of production, he urged, is no remedy for general impoverishment. The same point was pithily expressed by Mr. Ogden Mills at a recent meeting of the Academy of Political Science in New York. He said, 'You will never solve the paradox of want in the midst of plenty simply by doing away with plenty'.[2]

Let us agree with Mr. Bruce and Mr. Mills that restriction of output all round is the precise opposite of the economic good. Let us concede that there is little or no statistical evidence to show that an excessive increase in primary production played an important part in causing the world depression. But the fact remains that the subsequent stagnation of industry and reduction of consumption through unemployment has led to a severe crisis of over-production in relation to demand in many branches of primary production. As Mr. Hawtrey has said, falling prices generate unemployment in industry and over-production in agriculture. Planned expansion of consumption through reduction of unemployment is a more rational objective than planned restriction of output. But the world seems to find the former even more difficult than the latter.

Restriction is thus no more than a temporary corrective; like the governor of an engine it generates no steam and inspires no enthusiasm. But regulation of supply by planning and concerted action looks farther ahead than mere restriction. It seeks to adjust production not merely to a reduced demand in the present but to an increasing demand in the future. It claims to represent the application of man's collective intelligence to the elimination of the harsh and often wasteful ruthlessness of *laissez-faire*.

This view differs from that of the Preparatory Commission of Experts who prepared the Agenda for the World Economic Conference. They regarded regulation of supply by producers' agreements as an expedient undesirable in itself as a permanent policy but

[2] *Proceedings of the Academy of Political Science*, April 1934.

justifiable as a temporary palliative. A closer analysis may show that international agreements for regulating the supply of primary products may, if successful, contribute more than a temporary alleviation of the world's present disorders. They may even provide a corrective to the excesses of economic nationalism and a stabilizing influence in combating the evils of the trade cycle.

I do not wish to over-emphasize these claims. I put them forward as claims to be examined. Each scheme is an experiment in itself encountering stupendous practical difficulties and varying degrees of scepticism and opposition. It should be the business of economists to examine their working objectively with the minimum of preconceptions based on *a priori* reasoning. Most economists start with a certain bias against planning, and this is natural since it is so much easier to plan badly and make mistakes than to plan well and achieve success. Even advocates of planning would admit that bad planning may be worse than no planning at all; but if the world insists on experimenting with planning, a critical analysis of the conditions of success and failure becomes an urgent necessity. After all, planning and *laissez-faire* are logical abstractions. What we have in the real world is a mixture of both; and the practical problem is to find the right degree of admixture.

An excellent critical account of these restriction schemes is contained in a series of articles by Mr. Rowe, published in the London and Cambridge Economic Series. Some of the significant features of the principal schemes may be mentioned before we attempt to draw any general conclusions.

Rubber. The story of rubber is well known. A rubber-tree takes five to six years to come into bearing and some ten years to reach maturity. The rapid expansion of the motor-car industry stimulated excessive planting, and as the new trees came into bearing the demand failed to keep pace with the supply. During the slump the production of motor-cars in U.S.A. fell by 55 per cent. in two years, and the price of rubber, after touching 4*s*. 6*d*. a lb. in 1925, fell from 10*d*. at the end of 1929 to $1\frac{5}{8}$*d*. in June 1932. The Stevenson Restriction Scheme broke down in 1928 mainly because it was confined to British territory, but partly because a mistaken forecast led to the price being raised too high. A year ago stocks were more than twice the normal and the existing surplus capacity pointed to a potential increase of nearly 100 per cent. in world output within the next few years. Here, if anywhere, some central scheme to adjust supply to demand seemed called for.

For some time attempts to bring in the Dutch East Indies failed owing to the difficulty of controlling either the production or the export of native rubber in Sumatra. But the discussions at the Sub-Commission of the World Economic Conference under the chairmanship of Mr. Colyn prepared the way for co-operation and a world-wide agreement for rubber regulation was signed on May 7 of this year. An International Rubber Regulation Committee has been appointed with offices in London, the contracting parties being the Governments of France, the United Kingdom, India, the Netherlands, and Siam. The agreement provides for a reduction of exports on the basis of a monthly quota for each rubber-growing territory or group of territories. The full quota was allowed to be exported in June and July of this year, 90 per cent. in August and September, 80 per cent. in October and November, and 70 per cent. in December 1934. New planting is virtually prohibited. Fortunately there was a marked improvement in 1933 in the absorption of rubber, which exceeded that of the previous peak year of 1929. At the time of writing the price of rubber has recovered to 7½*d.* a lb., which is twice that of a year ago.

Coffee. Control of coffee has been in existence in Brazil for nearly thirty years. The demand for coffee is less subject to rapid changes than that for rubber; but the natural fluctuations of supply are much greater. It is a plantation crop like rubber, and the bush takes three or four years to mature. The berry is harvested annually and the harvest varies greatly, partly owing to seasonal conditions but mainly owing to the state of the trees. A bumper crop may be expected once in every three or four years, and is nearly always followed by a short crop. The Brazilian Coffee Valorization Scheme, like Joseph in Egypt, aims at holding up supplies and regulating sales in bumper years and liquidating the surplus during the succeeding lean years. Until the present slump the scheme appears to have worked fairly successfully. Mr. Rowe's conclusion is that the general effect has probably been to give the producers about what would have been the average price over a period of years under *laissez-faire*. The principles of the scheme appeal to the producers' desire for stability and sense of fair play. The present crisis is exceptionally severe owing to the combination of two good harvests with the world-wide depression of trade. It is being met by prohibition of fresh planting and by a levy on exports which is used to buy up surplus stocks for destruction, or for use as fuel. The limitation of the scheme to Brazil, though it has a virtual monopoly of the cheaper kinds of strong coffee, is a source of weakness which has not yet been remedied by an extension of control to areas producing mild coffee.

Sugar. The most ambitious and comprehensive scheme of world planning that has yet been attempted is the Chadbourne Sugar Plan of 1931, embodied in an International Agreement to which Producers' Organizations and Governments in Cuba, Java, Germany, Czechoslovakia, Belgium, Poland, Hungary, Yugoslavia, and Peru are parties. Since the World Economic Conference the British Colonial Empire, France, Italy, and Japan have also agreed to limit production.

Since cane and beet sugar are annual crops, the supply is capable of rapid expansion. The demand, on the other hand, is fairly steady and inelastic. The normal increase in consumption varies from about 3 per cent. to at most 5 per cent. per annum, but during the last five years consumption has remained more or less stationary with an average slightly below the 1928–9 figure. Restriction was first introduced in Cuba in 1926, the President being given power to prohibit further planting and to fix both the total output of sugar and the output of each factory. The abandonment of Cuban restriction in 1928–9, and the expansion of production in Java and Europe, precipitated a crisis which finally induced Java and the beet-sugar countries in May 1931 to agree upon restriction. The Agreement provided for limitation of exports and production, and for segregation of surplus stocks amounting to 3¼ million tons. Cuban production has fallen from more than 5 million tons in 1924–5 to 2 million tons at the present time. Java has reduced output from 3¼ million tons in 1928–9 to about 600,000 tons in the current year, with stocks amounting to 2¼ million tons.

The necessity for this drastic reduction has been due partly to the decline in total consumption but mainly to a considerable expansion in protected areas. Sugar production in the Plan countries has fallen from 12·5 million tons in 1929–30 to 6·9 million tons; but in countries outside it has increased from 14·7 million tons to 19·3 million tons. After some improvement last year, the world price of sugar is now less than half its 1928 level.

At the recent Conference in Brussels, Java was unable to accept a revised quota of 750,000 tons for the current year, and the future of the scheme seems likely to depend on the result of negotiations with the United States and other countries outside the Plan.

Tin. The Tin Restriction Scheme has achieved a greater measure of success. In its present form it is based upon an agreement between the Governments of Malaya, Nigeria, the Dutch East Indies, Bolivia, and Siam. The existing agreement embraces more than 90 per cent. of the world's output. Export quotas are allotted to the participating countries in proportion to agreed figures of output in 1929. Production in the four principal countries has been cut by two-thirds since 1929. In 1931 an International Tin Pool was formed to segregate 20,000 tons of surplus stock. The minimum price at which it undertook to sell its holdings was fixed at £165 a ton. These stocks have now been liquidated at a considerable profit, and a proposal has recently been approved for the creation of a new Buffer Pool, comprising about 8,300 tons, to assist in adjusting supply and demand without undue fluctuations.

As a result of the scheme, the price of tin rose from £120 per ton in April 1932 to £180 in May 1933 and £235 in March 1934. Since March last the price has been steady at about £230. It is significant to note that, whereas the prices of copper, lead, and zinc stand at about the lowest level reached in the nineties, tin is now more than four times as high.

Wheat. Of more interest to agricultural economists is the International Wheat Agreement signed on August 25 of last year by sixteen of the chief exporting and importing countries. At the time of writing, the International Wheat Advisory Committee, set up by the Agreement, is meeting in London to review the working of their plan for regulating the world's wheat supply. The salient features of the original scheme were a limitation of exports by the United States, Canada, Australia, and the Argentine on the basis of agreed quotas and reduction of acreage by 15 per cent. in the United States and Canada with complementary measures in Australia and the Argentine. The scheme is now being reconsidered in the light of altered circumstances and an attempt is likely to be made to establish new quotas for the coming crop.[3]

Tea. The Tea Restriction Scheme introduced as from April 1, 1933, applies to India, Ceylon, Java, and Sumatra, which account for about 90 per cent. of world production.[4] Export quotas are laid down based on standard exports in either of the years 1929–31, and for the first year they were limited to 85 per cent. of the standard year. New planting is prohibited and export of tea seed is forbidden. An International Tea Committee has been set up to administer and fix export quotas. The duration of the scheme is limited to five years.

Bacon. Brief reference may perhaps be made to what is in effect

[3] Secretary Wallace, in replying to a recent statement by the Argentine Minister of Finance that the United States' acreage had only been reduced by 8·6 per cent. is reported to have said: 'We were in the process of buying up additional wheat acreage, when the drought did the job for us.' (*Commercial and Financial Chronicle*, New York, July 28, 1934, p. 510.

[4] China, Japan, and South and East Africa were outside the original scheme.

an International Bacon Regulation Scheme. The requirements of the United Kingdom, which is virtually the sole importer of bacon, were laid down in the Report of the Lane Fox Commission. The amount to be supplied from home production is determined on the basis of long-term contracts between the Pigs and Bacon Marketing Boards, and the balance is allotted by means of import quotas to Denmark, Holland, and other exporting countries. Steps are being taken to regulate pig production in Holland and Denmark with the twofold object of smoothing out the pig cycle and adjusting supply to the requirements of home and export markets.

CONDITIONS OF SUCCESSFUL REGULATION

The conditions of success or failure vary so much with each commodity that experience is worth more than theory in determining what form of plan will work best. Experience, however, suggests points of resemblance and contrast from which certain general conclusions may be drawn.

The first and most essential condition of successful regulation is accurate statistics. Statistics and market intelligence, which may be reasonably adequate under *laissez-faire*, are generally quite insufficient for deliberate planning. Even in wheat the margin of error in world statistics is of the order of at least 100 million bushels. The difficulty of securing reliable statistics has been one of the chief problems in the application of the Five-Year Plan to Russian agriculture.

It would be interesting to speculate on the influence that the publication of agricultural statistics has had on the working of *laissez-faire*. When David Lubin persuaded the King of Italy to establish the International Institute of Agriculture, he hoped that its statistics would go a long way to solve the farmers' marketing troubles. Recently I heard a business man attribute the fall of prices mainly to the newfangled fashion of publishing crop forecasts. Pure *laissez-faire* marketing, as illustrated, say, in an Indian bazaar, needs no market intelligence. It is the economic statistician who is undermining *laissez-faire* by encouraging people, first, to take views about supply and demand, and then, as a natural development, to attempt to regulate supply by collective action.

The statistics of tin and sugar are reasonably good because tin-mines and sugar-factories keep adequate records. Rubber and wheat statistics are less satisfactory, since they are largely produced by peasants and native growers who keep no records. It should be observed, however, that planning very soon improves the statistics and provides a wealth of data for the economic investigator. Economists who are interested in fact-finding rather than theory may for this reason be expected to have a bias in favour of planning. In this respect there is possibly some analogy with medical science, which has been built up not so much on *a priori* reasoning but on knowledge gained from surgical operations and other forms of experimental interference with the natural processes of the human organism.

A second condition of successful regulation in the field of primary products is a considerable measure of government backing. This usually takes the form of giving statutory effect to agreements approved by the majority of producers and creating statutory bodies with power to administer the schemes. This may be supplemented by customs regulation at the ports, and in some cases a levy on exports or sales may be collected for equalizing internal and external prices, or for disposing of surplus supplies at a loss. Rationalization and the Trust movement in industry have hitherto been developed mostly without government aid and sometimes in spite of statutory or Common Law restraints on combination; but 'cartelization' in agriculture and primary production looks to government co-operation as an essential condition of its realization.

The third and most obvious condition of success is that the scope of the scheme must be sufficiently wide to include the greater part of the supplies entering world markets.

The tin scheme covers over 90 per cent. of the world's tin production. The tea restriction scheme covers India, Ceylon, and Java and is thus virtually complete except for Chinese exports. Rubber restriction broke down in 1928 because it covered only Malaya and Ceylon, and the benefits of the scheme were obtained largely by the Dutch East Indies. Brazil's Coffee Valorization Scheme and the Chadbourne Sugar Scheme have been handicapped by increase of production outside the restricted area. Both in sugar and in wheat, success will ultimately depend on the extent to which exporting countries can secure the co-operation of importing countries in limiting expansion of production inside protected areas.

As regards the technique of restriction schemes, we may regard them as standing on a tripod, of which the three legs are:

regulation of *exports*,
regulation of *production*, and
regulation of *stocks*.

Control of exports at the ports at national frontiers is easy enough to work, once national quotas, based on an agreed datum line, have been established. In rubber, however, there is a special difficulty, particularly in Sumatra, of controlling smuggling.

REGULATION OF PRODUCTION

Regulation of exports, however, is unlikely to improve prices to the producers without regulation of production. If production continues in excess of the amount required for meeting home demand and exports, internal prices will tend to fall below the level of prices obtained in world markets.

Two or three alternatives are then available. Either production quotas may be allotted to the actual producers, or steps may be taken to buy up and dispose of the surplus production for destruction or for disposal at a loss, or the surplus stocks may be segregated for gradual liquidation over a period of years.

The technical difficulties of directly regulating the production of agricultural commodities are of course enormous. The United States Agricultural Adjustment Administration, largely through having to its hand the nation-wide personnel of its agricultural extension service, has achieved the unprecedented task of limiting acreage under cotton and wheat by contracts with a million and a half individual farmers.

One of the most detailed schemes is the control of pig production in Holland and Denmark. In Holland each producer has a quota of pigs allotted to him which are literally ear-marked, and there is a penal tax on any fat pig offered for sale without the official mark on its ear. In Denmark the destiny of every pig is governed by the issue of cards which are allotted to pig-producers on a basis designed to favour the small producer who combines pig-producing with dairying. Pigs delivered without their official cards have to pay a substantial tax to the Bacon Committee.

In rubber the problem of assessing native holdings presents the chief difficulty and the means by which this will be accomplished in the Dutch East Indies has not yet been announced.

In the case of sugar, quotas are allotted to the factories, which then make their own arrangements with the actual producers.

SURPLUS CAPACITY

A problem of considerable importance in some schemes is that of surplus capacity and the treatment of the less efficient high-cost producers. When schemes are introduced to meet what is thought to be a temporary emergency, there is a natural tendency to extend the shelter of the scheme to all producers. Production quotas are based on existing capacity and a percentage cut is then applied equally all round. This may mean bolstering up the less efficient and postponing their elimination. It would sometimes be more economical to concentrate production in the more efficient units and devise a scheme of compensation for the closing down of the less efficient. In industrial cartels this can be arranged by collecting a levy from those who wish to exceed their quotas, and compensating those who are willing to fall short. Alternatively quotas or parts of quotas may be transferred by negotiation from the less to the more efficient units. This is allowed under the tin restriction scheme in Malaya. It appears that in Denmark trading in pig cards is not unknown, though it is there regarded as contrary to the intentions of the scheme.

REGULATION OF STOCKS

Under *laissez-faire* stock-holding is the function of the private merchant or dealer; but since the War, partly owing to the greater risks involved, and partly owing to the growth of producers' organizations on the one hand and manufacturers' combines on the other, there has been a tendency for the dealer to be supplanted. Manufacturers and traders are more prone to buy from hand to mouth, and producers' pools or statutory boards have been storing stocks in the country of origin. During the depression the piling up of visible stocks has undoubtedly been accompanied by some diminution of invisible stocks. Unfortunately the extent to which this has happened cannot be determined with accuracy, though estimates have been made in the case of sugar.

Since it is difficult to forecast demand and still more difficult to adjust production quickly to changes in demand, regulated stock holding is for many commodities the pivotal point in regulating supply and demand. Both in sugar and in tin, provision is made for the segregation of an agreed amount of existing stocks for the purpose of holding them off the market and gradual liquidation. It should be observed that this policy of segregating stocks by international agreement, to be released according to an agreed plan as part of a scheme for restricting production and exports, differs fundamentally from the purchase of stocks by the Federal Farm Board in the United States. The Federal Farm Board started to buy wheat and cotton when prices were relatively high and held them off the market during a period of rapid deflation. They exercised a bearish influence on world markets. The tin buffer-stock scheme is primarily designed to prevent prices rising unduly owing to a temporary shortage rather than to raise prices above their equilibrium level.

REGULATION OF IMPORTS

Restriction of imports by quotas may be, and sometimes is, a useful adjunct to an international agreement for regulating supply. In the case of bacon, for example, the British Government has initiated an attempt to flatten out the pig cycle by something like an international bacon cartel. The amount of British imports is fixed by Great Britain, but the regulation of supply is left in the hands of the exporting countries. Since no import duty is imposed, this gives foreign producers the full benefit of the higher prices ruling in London.

The chief argument of general application in favour of restriction schemes is that surplus stocks and over-production of primary products, with their accompaniment of falling prices and bankruptcies, exercise a depressing and deflationary influence on trade and enterprise. This was the standpoint of the Sub-Commission of the World Economic Conference. But Professor Copland, in a recent article in the *Economic Record*,[5] has argued on the contrary that restriction of output has a deflationary influence and can do nothing to promote a general rise in prices. It is true that, if we assume that the volume of money and the velocity of circulation are strictly limited, a rise in the price of one set of commodities would tend to depress others, and on balance increase costs rather than profits. But when Central Banks and Governments are pursuing a cheap money policy and desire to see a general expansion of credit and increased velocity of circulation, it seems possible that restoring confidence and the possibility of profits in such important markets as wheat, tin, sugar, &c., may have a favourable psychological effect all round, and thus help to stimulate a revival in industry and the restoration of capital investment.

I come back, therefore, to the point where I started. Planned restriction of output is a *pis aller* forced upon the world, because of its failure to plan expansion of consumption. But planned regulation of supply, and particularly international control of reserve stocks of primary products, may prove to be an experiment of profound and permanent significance, which is not necessarily incompatible with, and may even conduce to, a greater volume of international trade and a more stable monetary system.

[5] *Economic Record*, Dec. 1933, vol. ix, no. 17, p. 293.