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STUDIES IN THE ARTIFICIAL CONTROL OF RAW MATERIAL SUPPLIES

BY

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No. 1. SUGAR

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Part I. SUGAR INDUSTRY OF CUBA

Part II. MARKETING OF JAVA SUGAR

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PART ONE

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PART I.

THE SUGAR INDUSTRY OF CUBA

I.—A GENERAL CONSPECTUS AND SOME CONCLUSIONS.

THE sugar industry of Cuba in its modern form may be said to date from the beginning of this century, for the Civil War (Revolt against Spain) of 1896–98 virtually extinguished the industry of the nineteenth century. This industry had reached an output of just over 1 million tons in 1895, but in 1899 only one-third as much was produced, while in 1900 a great drought coming on the top of the ravages of the war, reduced the output to 284,000 tons. The industry of the nineteenth century was essentially an industry of the Cubans, financed by Cuban capital and managed by them, both as regards the production of the cane and its manufacture and sale, though these were mainly in three separate hands. The cane farming was on a relatively small scale, and the mills were small and therefore numerous, while transport largely depended on the ox-cart. The new industry which was rebuilt after the Civil War was to be vastly different. The Civil War, while it drove Spain out of the picture, brought in the United States, and though from the political point of view the American occupation ended in 1902, from the economic point of view it was but just beginning, for the reciprocity treaty concluded with the U.S. in that year, whereby Cuban sugar obtained a 20 per cent. preference in the U.S. tariff (in return for general preferences on United States imports of manufactures into Cuba), is really the foundation stone of the modern Cuban-American sugar industry. By 1903 the million ton output of 1895 was again reached: already American capital had begun to trickle in, but the conclusion of the reciprocity treaty quickly turned this into a torrent which has steadily grown until the depression of the last few years. American capital not only built new sugar mills and bought up and re-equipped existing mills, but was poured into the provision of railway and port developments, largely, of course, for the use of the sugar industry, while a not inconsiderable amount has been devoted to the more general development of the country. Up to about 1909—that is, for the first six years of the treaty—the United States annual requirements exceeded the whole Cuban crop, and Cuba therefore normally obtained most of the preference. In 1909 the Cuban crop exceeded $1\frac{1}{2}$ million tons, and the effects of the flood of American investment were only just beginning to show themselves. In the next year the crop amounted to 1,800,000 tons. In 1911 the weather reduced it to 1,480,000, but in 1912 it reached nearly 1,900,000 tons, and in 1913 it jumped to 2,429,000 tons, while another 100,000 tons more was added in 1914. For the five pre-war years the U.S.A. was still taking on the average over 90 per cent. of even this rapidly expanding production, despite the fact that Philippine sugar had been admitted free since 1909 up to a limit of 300,000 tons, which limit was removed in 1913, while the domestic production of sugar (U.S.A., Hawaii and Porto Rico) had risen from 971,000 tons in 1902–3 to 1,792,000 tons in 1913–14.

The Great War reduced the output of European beet sugar from $8\frac{1}{4}$ million tons in 1912–13 to 5 million tons in 1916–17, and finally to 2·6 million tons in 1919–20. Cuba was for practical purposes the only source from which Europe could make good the deficiency. Prices began to rise sharply despite the rationing of supplies in Europe and later in the U.S.A. Production in Cuba was further enlarged as much as was humanly possible under the more difficult general conditions created by the World War; in 1916 the 3 million mark was passed, and in 1919 the crop nearly reached 4 million tons. But the lowest point of European production was reached in the same year, and with the peace treaty signed, Europe insisted on having all the sugar which was in existence entirely irrespective of the price. The sugar famine in the U.S.A. and Europe had as its counterpart the "dance of the millions" in Cuba. In May 1920 the c. and f. price New York reached 22·5 cents per lb. A few months later the market registered 3·6 cents. At the same time as the consumer "went on strike" in the matter of sugar, the general post-war boom plunged down into depression.

The complete collapse of prices marks the beginning of a third phase in the history of the twentieth-century Cuban sugar industry. From 1902–14 the dominant note is expansion to meet the needs of the United States with its population growing both in numbers and wealth, and while it was a tremendous expansion, it was hardly more than was necessary. From 1914 to 1919 is a second phase characterised by an equally tremendous expansion, but this time primarily to meet the needs of a Europe temporarily shorn of its beet industry. The third phase, from 1920 to the present day, contains the story of Cuba's struggles to meet the varied results of the world sugar famine, and of the restoration of the European beet industry.

In bare outline the story of the last ten years has been as follows. From May 1920 prices rapidly and more or less steadily declined until a level of 2 cents c. and f. New York was reached at the end of 1921. Soon after the New Year, however, an equally steady, though much smaller, rise began owing to a rapid increase in consumption, and the average price in 1922 was just over 3 cents.* The year 1923 was extremely prosperous from the producer's point of view, the average price being no less than 5·28 cents. During 1924 prices fluctuated considerably, but averaged over 4 cents. The end of that year, however, marks the beginning of the world sugar depression, for the world crop of 1924–25 was 3·6 million tons larger than in the preceding season, of which increase the European beet industry supplied 2 million tons and Cuba 1 million tons. Although statistical consumption increased by 3 million tons, this excess, combined with the prospects of a further large increase in production, was sufficient to drive prices back again to the 2 cent level in October 1925. It is extremely difficult to generalise as to costs of production in Cuba, but it may be said that very few producers can show a profit at 2 cents c. and f. even to-day, while fewer still could do so in 1925. The marginal producers in Cuba probably require 2·75–3·0 cents to make ends meet, though perhaps two-thirds of the production would be distinctly profitable at 2·5 cents. This is, of course, on the basis of unrestricted production. The price was forced down to this extreme of 2 cents owing to the endeavours of the Cuban producers to clear their unsold stocks, and when that had been achieved, there was a considerable reaction. But as the new Cuban crop became available during the early spring of 1926, the price again collapsed, and would probably have gone well below 2 cents if Cuba had not artificially restricted her crop by 10 per cent. Chiefly on this account, the New York c. and f. price averaged just over 2·5 cents during 1926, or exactly the same as in 1925, and at the end of the year had reached 3·31 cents. The Cuban crop of 1926–27 was restricted still more drastically to 4·5 million tons, and both on this account, and owing to bad weather in Europe and Java, the world's production was nearly 1 million tons less than in 1925–26. But consumption now came to an abrupt halt, and prices did not average quite 3 cents. Though almost in despair, Cuba decided to intensify the policy of restriction rather than abandon it, and in 1927–28 the Cuban crop was restricted to 4 million tons, while an attempt was made to ration the U.S. market in the hope of obtaining at least a part of Cuba's tariff preference, the balance of the crop being marketed to other countries by an Export Corporation, established for the purpose. But the attempt to raise the New York price more or less completely failed owing to a great increase that season of the U.S. duty-free supplies, and though the Export Corporation's sales to Europe were for a time relatively satisfactory, this failure of the U.S. market resulted in a steady decline in prices. By midsummer opinion in Cuba was swinging against restriction, and eventually matters were brought to a head by what amounted to an ultimatum on the part of the American sugar companies, who had never been wholly in favour of the policy of restriction and were now actively opposed. All control of marketing was abandoned in August, and prices rapidly dropped to the 2 cent level, and as the full unrestricted crop of 1928–29 came to market, prices steadily declined to an average of 1·75 cents c. and f. New York for the month of June 1929. The Cuban mills and the Cuban Government were thoroughly frightened, and the American interests seriously perturbed, by the effects of uncontrolled production and marketing, while in addition there was the still more alarming prospect of a further increase in the U.S. sugar tariff now due for revision. Eventually a scheme for compulsory co-operative marketing

* Throughout this study, all statistics of price refer to the New York c. and f. price, unless otherwise described.

of the whole crop was established. This had an almost instantaneous effect on prices, and from August to December 1929 the average was over 2 cents. But owing mainly to personal factors, the Single Seller scheme was handled by men with insufficient experience of world marketing, while it eventually proved impossible to arrange the requisite finance. As the 1930 crop became available, the Single Seller held out vainly for a 2 cent level, but inability to make sales at this price, and the consequent financial difficulties of the mills, resulted in internal disruption and termination early in April. The effects of the world trade depression on consumption, and the unwillingness of merchants and speculators to carry greater stocks, have since then steadily forced down prices to a level of 1·25 cents c. and f. New York, despite the fact that a large proportion of the Cuban crop is still unsold.*

A glance at the table on p. 42 will confirm the proposition that in general the cause of all the trouble has been excessive production: little fault can be found with demand even though it may be true that consumption would be even greater than it is if the pre-war rate of expansion had continued unchecked. It is also clear that there was no appreciable excess production until the 1924–25 season. In that year the Cuban crop increased from the 4-million-ton level of the preceding five years to a 5-million-ton level. This was due to the policy of expansion which Cuba had adopted in 1922–23, in the belief that the European beet crop would require many years to regain its pre-war level of 8 million tons, and that the higher U.S. tariff would not rapidly stimulate an appreciably greater duty-free production. In 1924–25, however, the European beet crop jumped from 5 to 7 million tons, while the rest of the world produced 600,000 tons more, of which Porto Rico, Hawaii and the Philippines supplied a very large proportion. The immediate cause of the depression was, however, the unexpectedly rapid recovery in the European beet crop, largely, of course, as a result of high protection and/or bounties. Cuba made a terrible mistake in expanding production in 1922, though it is difficult to say that she ought to have known better. For even a 5-million-ton capacity in Cuba and a European beet crop completely restored to the pre-war level † would have been required within two or three years, and the Cuban restriction policy was based on this assumption. Again, however, Cuba was wrong, because by 1928–29 there was a further increase of $2\frac{1}{2}$ million tons in the world's production. Of this, 1 million tons came from Java, more than 400,000 tons from Formosa and Japan, more than 250,000 tons from Hawaii and the Philippines, and the remainder in smaller amounts from almost every cane-producing country in the world. The argument that restriction by Cuba was responsible for this additional increase is very weak. It certainly had little to do with the increase in the Java crop, for that was almost wholly due to the introduction of a new high-yielding variety of cane. The same is true of Formosa and Japan, where the increase was undoubtedly due to a high protective tariff, while the U.S. tariff was responsible for the increase from Hawaii and the Philippines. Tariff protection also accounts for much of the increase from the rest of the world, and restriction in Cuba can hardly be made directly responsible for an increase elsewhere of more than 200–300,000 tons at the most. Since the sugar famine, the consumers of the world, or their Governments, have been determined to develop supplies under their own control, no matter what the cost. The lower the price of sugar, the more tariff protection or bounties have been increased. Cuba has, in fact, been very largely the innocent victim of the consumer, who has deliberately preferred to obtain his supplies in a more expensive way than was economically necessary. This is not to say, however, that the existing producers in Cuba might all have continued in existence if the world had required a 5-million-ton crop, or even more, from Cuba. As this study will show in detail, the American-owned mills are in general much lower-cost producers than the older and smaller Cuban-owned mills, which produce about one-third of the output of the island. The Cuban Government gave its support to the policy of restriction largely in order to prevent the extinction of these high-cost producers, and the consequent complete domination of American capital, as well as the profound disorganisation of the economic life of the country which would have resulted if the process of extinction had been wholesale and rapid. Nothing can, however, prevent this process in the long run, for the Cuban mills have not the necessary finance for modernisation even where that is physically possible. As well as the struggle between Cuba and the rest of the world, there has been going on an equally desperate struggle between the high-cost and low-cost producers within Cuba, or, in other words, between the Cuban-owned mills, with the Cuban Government as an ally, and American capital. Properly located, organised and equipped, the sugar industry of

* At the time of writing, namely, mid-August 1930.

† *I.e.* a further addition of 1 million tons to the 1924–25 crop.

Cuba would be able to produce 5–10 million tons far more cheaply than any country in the world with the possible exception of Java. But the world does not want sugar on an economic basis.

Without a proper appreciation of the "make-up" of the Cuban sugar industry and the general attitude of the Cuban Government, it is impossible to weigh the merits and demerits of a policy of control as compared with *laissez-faire*; hence the justification for the somewhat detailed treatment of these matters in the following pages. The additional capacity created in one form or another from 1922 onwards was essentially low-cost capacity, and while this expansion would certainly have been very much smaller if the prospects of the recovery of the European beet crop had not been so completely misjudged, the existing high-cost producers would ultimately have been replaced by new low-cost producers. But whereas this process might have been gradual, the sudden great addition of low-cost capacity to meet a demand which was, in fact, satisfied from other sources, now necessitated a wholesale retirement of high-cost capacity. For even if by artificial control the whole existing capacity had been preserved until consumption had increased to the requisite extent, the high-cost capacity would have very quickly been rendered superfluous again by the introduction of new low-cost capacity, since if the existing marginal producers were making a reasonable profit, such new producers would be able to reap quite abnormal profits. Under *laissez-faire*, the high-cost producers would first be decapitalised in order to facilitate modernisation where that was possible, and where that was even then uneconomical, plantations and/or mills would have been abandoned, and any subsequent increase in demand would have been met by the establishment of new low-cost capacity. In other words, the old high-cost small mills and plantations in exhausted land in Western Cuba would have been abandoned, and new large-scale mills and plantations would have been established on the rich fertile lands of Eastern Cuba. But there were two great objections to *laissez-faire*: first, that the old high-cost producers were in the main the Cuban-owned concerns, and the low-cost producers were American concerns, while any new low-cost concerns would be the same owing to the lack of Cuban capital; and secondly, since the extinction of the low-cost producers would be on a wholesale scale, owing to the wholesale expansion of capacity, a severe contraction of Government revenues and widespread unemployment would have been inevitable. No Cuban Government was desirous to see the complete domination of American capital, but, what was far more important, no Cuban Government dared to face the economic crisis which was the inevitable accompaniment of *laissez-faire*, without a struggle. The unemployment problem alone would have overthrown any Cuban Government even if it did not lead, as was extremely likely, to insurrection born of starvation. Undoubtedly *laissez-faire* would have been the best policy in the long run from a purely economic point of view, but it was in practice out of the question for the Government to stand aside, while as usual the high-cost producers were unwilling to pass away without a struggle.

Given the practical necessity for some attempt at artificial control, there can be no question that restriction was the right form of control, for the excess of actual and potential supplies was far too large to be remedied by any scheme of stock-holding. In 1926 the prospects of a speedy return to equilibrium were not too unfavourable, and it was probably a sound policy to maintain control in the simple form of crop limitation rather than to make more intricate experiments. During 1927, however, the prospects were entirely altered by the sudden halt in the progress of consumption, and it became clear that control must either be abandoned or greatly intensified. Cuba chose the latter, and probably it was the correct choice, for otherwise the sacrifices of the two previous years would have been entirely in vain, while there was still a sporting chance that a wholesale collapse might be avoided, even though, as has been argued above, the high-cost Cuban-owned mills were ultimately doomed in any case. The Export Corporation scheme must also be judged better than no control of marketing, though ideally the whole crop, and not merely the surplus beyond the requirements of the U.S., should have been marketed by one authority. But such a Single Seller scheme was impracticable on financial grounds, and at that time the American mills would not have given their support even in the most nominal manner, for many of them had already exhausted their belief in artificial control and their patience with the Cuban Government. As it was, the control of 1927–28 broke down because the great increase in duty-free supplies to the U.S. market actually reduced the amount of sugar which the U.S. had to purchase from Cuba, with the result that prices went lower and lower, while costs in Cuba had been greatly increased by the drastic restriction to 4 million tons. At this point there was room for a stock-holding scheme: if even 250,000 tons could have been firmly held by producers in Cuba instead of being pressed on to the world's markets, it would have made all the difference, for the price might have been maintained near the 3 cent level, and the Cuban mills and the Cuban Government might not have lost heart so completely as they did. At the same time, if any stock-holding could have been avoided without causing the loss of all faith in a policy of control, so much the better, for Cuba would have faced the future clear of what must by its nature be a serious encumbrance. But Cuba did lose faith, and the American interests were able to bring all attempts at control to an end.

The actual handling of the termination of control could hardly have been worse: on this point there can be no two opinions. Whether Cuba was right to abandon the policy of control is obviously a more doubtful issue. From the purely economic point of view, it must be reiterated that *laissez-faire* was the only ultimately sound policy. But once committed to control, it may well be argued that Cuba abandoned it just when such success as any control could bring was appearing on the horizon. During the season 1927–28 the world's visible carry-over had increased by only 79,000 tons, and before January 1, 1929 Cuba had disposed of the whole of the previous crop. Consumption after its halt in 1926–27 had resumed its rapid increase, and if Cuba had continued to restrict her crop to 4 million tons, the total world production in 1928–29 would have amounted to just 26 million tons, while consumption was eventually to reach nearly 900,000 tons more than this amount. Stocks would therefore have been reduced well below 2 million tons, and with a continued increase of consumption, the position might have gradually righted itself, for the expansion of tariff-protected and bounty-fed supplies had already approached its limits. Admittedly much of this reasoning is in the light of subsequent history, while the final outcome is, even so, highly conjectural. But at least it may be said that a policy of continued control had a reasonably sporting chance. As it was, Cuba produced a 1928–29 crop of 5,156,000 tons, and even with prices below the 2 cent level, stocks increased by 300,000 tons. Within a period of twelve months Cuba was forced to resume a policy of control, and she certainly did so in circumstances far less favourable than they would have been if control of some sort had been maintained continuously.

Before consideration is given to the marketing control of 1929–30, a word must be said as to the immediate results of the restriction years on the financial position of individual producers; in other words, were the prices realised for the restricted crops sufficient to compensate the increased costs of production of those restricted crops? On the whole the balance probably lay in favour of producers. Put crudely, the 10 per cent. restriction of 1925–26 hurt no one very much, while it certainly had a stimulating effect on prices. The 1926–27 restriction to $4\frac{1}{2}$ million tons was more drastic even than it appears, for the acreage of cane was larger than in the previous year, but with an average price of nearly 3 cents most producers probably covered their costs. The still more drastic restriction of 1927–28 undoubtedly increased costs more than proportionately, while prices were depressed to a $2\frac{1}{2}$ cent average level, so that a substantial number of producers probably lost money. It must be remembered that the overhead costs of the low-cost producers are more than proportionately heavier than those of the high-cost concerns, and therefore it does not follow that if the marginal producers made ends meet, the low-cost producers made any considerable profit, though a few undoubtedly were able to do so. Taking the three years together, the balance, as has been said, probably lay with the producers, a conclusion which is supported by the improvement in the cash position of many American companies during the period, and by the fact that no important Cuban mill was forced to suspend operations.

It remains to consider the Co-operative Export Agency of 1929. The great argument put forward in favour of marketing control as opposed to restriction of output by the American leaders of the industry was that competition in production would continue even if competition in marketing was ruled out: that centralised marketing would not therefore bolster up the less efficient producers as did crop restriction, and that those concerns who could not make ends meet would now quietly be forced out of existence. In theory this is undoubtedly true, but in fact the scheme was virtually forced on to the Americans by the Cuban Government and the Cuban-owned mills, and the latter hoped to use it in self-preservation, while the Cuban Government approved of it for that very reason. There can be no doubt that the scheme was intended not merely to put a stop to "weak" selling, but to force up prices to a reasonable level by putting any excess supply into storage. The argument was that if half-a-million tons or so could be held up for a twelvemonth, consumption would have outrun production; such a hope was not entirely unjustified. But the prevention of weak selling as well as any such stock-holding demanded adequate financial backing. Cuba herself was powerless in this respect, and though great efforts were made to secure the co-operation of American banks, the latter were not in the mood for a gamble after the Wall Street crash, while those already actively interested in the Cuban sugar industry, like the National City Bank, had no desire to hold out a helping hand to their Cuban-owned competitors. Without adequate means to finance the mills, the efforts of the Export Agency in the spring of 1930 to hold the price at 2 cents were foredoomed to failure, especially when they had complicated the task by not getting rid of their old crop sugar. That the objective of the Agency was to exercise some control over the general level of prices, and not merely to prevent weak selling, is clear from the the history of its operations: it carried the prevention of weak selling to the point of no sales at all. Even the prevention of weak selling demands some means of financing those producers whose want of finance is the reason for the weak selling, but the Export Agency was powerless even in this limited field.

Whether a large-scale stock-holding scheme would have been sounder or not, however, centralised marketing would undoubtedly have been of inestimable benefit to Cuba during the last ten years. It has special limitations in the case of Cuba, because Cuba, unlike Java, is surrounded by many competitors whose output is large enough to enable them to step in and fill the gap, should Cuba withhold supplies for too long a period: it cannot give Cuba any real monopolistic control. But centralised marketing is the logical development in any market where the sellers are many and the buyers are few, and it has obviously special advantages where the sellers have the advantage of a tariff preference for more than half their crop. That Cuba ever will develop such an organisation may be doubted for many reasons, not the least of which is that as the industry passes more and more into American hands, the units will become fewer and larger, and combination will render any co-operative scheme far less necessary than it has been in the past.

It would perhaps have been more logical, and certainly more usual, to place these personal conclusions by the author at the end rather than at the beginning. A study of the Cuban sugar industry during recent years must, however, be of a somewhat detailed and many-sided character, and the present procedure has been adopted mainly in the hope that a general conspectus of the subject may be of assistance, and that the author's conclusions may provide a hypothesis with which the reader may compare his own impressions as he proceeds. Since the primary object of this study is not to state a case but to provide the reader with material on which to form his own judgements, the above conclusions will not be further directly elaborated. In such problems as those now under discussion there can be no final judgement, and the reader's own conclusions are likely to be at least as important as those of anyone else.

II.—THE POSITION AND PROSPECTS IN 1921–22.

The c. and f. price New York averaged a fraction over 4 cents for the month of January, 1921: for the month of December 1921 the average only just succeeded in keeping above 2 cents. The total imports into the U.S.A. in 1921 were only some 400,000 tons less than in 1920, but imports from Cuba dropped by nearly 1 million tons. During the sugar famine, supplies had been obtained from a variety of unusual sources, and the U.S. importers were apparently in no hurry to patronise Cuba again on the former scale. For in January 1921 a law was passed in Cuba prohibiting all sales by individual mills, and providing that the whole of the 1921 crop, apart from such tonnage as had already been sold forward, should be handed over to a body known as the Cuban Finance Committee. This committee was composed of certain leading producers and the representatives of the American banks in Cuba. An advance was to be made against all sugar as it was produced and consigned to the Committee, which would make sales as opportunity offered: the surplus proceeds would eventually be divided amongst the mills in proportion to their production. The scheme was designed to prevent weak selling by mills whose normal methods of securing financial accommodation had been disturbed by the collapse of the Cuban banks, and in general to try and prevent any further fall in price, for at that time 4 cents seemed a ruinous price level after the 22 cents of 1920. It is not proposed to study the operations of the Finance Committee in detail, for its history has only a transient interest. Since the U.S. importers naturally disliked its monopolistic character, they purchased elsewhere rather than from Cuba, so far other supplies were available at roughly equivalent prices. As a result, the Finance Committee not only failed to stop the decline of prices, but failed to sell as much as Cuba might otherwise have sold at these prices. On the other hand, without the scheme weak selling might have carried the price down to 2 cents at the beginning rather than the end of the year; and on balance this might have been worse for Cuba than the actual results.

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In any case, the scheme was terminated at the end of the year, at the request of a large proportion of the industry, the general opinion being that, though conditions would have been bad in any case, this control of marketing had only served to make them infinitely worse. The Cuban crop of 1921 was only a little larger than that of 1920, but the reduced demand from the U.S.A., combined with the considerable increase in the European beet crop and the poverty engendered by the general trade depression, resulted in a carry-over of nearly 850,000 tons on January 1, 1922.* Any appreciable carry-over in Cuban ports was an unheard-of phenomenon, and there is little wonder that the price was so depressed. But with the beginning of 1922, demand began to revive with amazing vigour. The Cuban crop of 1922 was almost exactly the same as that of the previous year, and the European beet crop, which in 1920–21 had showed a recovery of more than 1 million tons was only 300,000 tons larger in 1921–22. Prices began to rise, reaching an average of 3 cents c. and f. New York for June 1922, and 3·5 for July, while after a break in September the advance was resumed, and for December the average was 3·9 cents. Apparently thriving on this advance in price, demand grew daily stronger: the U.S.A. consumed 1 million tons more than in 1921, and imported from Cuba 1·2 million tons more. The result was that by January 1, 1923, the whole of the carry-over from the 1921 crop, and the whole of the 1922 crop, had been disposed of, and stocks in Cuba were negligible. The European beet crop of 1922–23 registered a further advance of ½ million tons, but at approximately 4½ million tons it was still only one-half of the pre-war production. The only disturbing factor from the point of view of Cuba was the possible effects of the successive increases of the United States tariff. The full duty had been raised by the President in virtue of his emergency powers, from 1·256 cents which had been in effect since 1914, to 2·0 cents in May 1921. This raising of the tariff was intended to secure two main objects: to preserve the existing scale of U.S. domestic production through the price slump which was obviously in progress, and then later, to increase the scale of production so that the U.S. might become less dependent on foreign supplies, and thus make impossible any repetition of the recent sugar famine. The general revision of the U.S. tariff was due in 1922. Proposals for a further increase were fought tooth and nail by the American sugar interests in Cuba, but despite all their endeavours, the full rate of duty was raised to 2·206 cents in September 1922. This very greatly increased protection would obviously tend to increase the U.S. domestic production, but opinions as to the probable or possible extent of the increase varied enormously. The high prices of 1919–20 had led to an increase in the U.S. beet sugar production from a level of 650–700,000 tons to over 950,000 tons. This increase was more or less maintained in 1921–22, but in 1922–23 the crop fell to 600,000 tons. It was clear, therefore, that high prices could stimulate production, but beyond that the matter was largely guess-work. High prices had greatly increased the Louisiana cane crop, but this crop, even at 300,000 tons, was really an insignificant factor. Porto Rico had not responded much to the high prices of 1920, though clearly the island could produce considerably more. But by far the greatest potential danger to Cuba lay in Hawaii, and still more in the Philippines. The higher tariff would almost certainly result in greatly increased production here, though it might take some considerable time to build up the requisite labour force in Hawaii, and to effect the necessary general industrial development in the Philippines. That Cuban sugar interests feared the results of the new tariff is evidenced by their unparalleled efforts to defeat it.

What policy would have been adopted by a Dictator of the Cuban industry surveying the position on New Year's Day 1923? Though such a personage was, of course, at that time non-existent, the question itself merits attention because it is precisely what every producer of Cuban sugar, whether American or Cuban by nationality, was asking himself at approximately that date, and while it is always a difficult operation to put oneself back in time and to assume an ignorance of what has actually happened since, the effort is perhaps worth while on this occasion. The major factors in the situation have already been sketched. At nearly 4 cents c. and f. New York, the price was already extremely remunerative, and it seemed certain that the cumulative rise, which had been in progress for nearly a year was by no means at an end: 1923 was fairly certain to be a really prosperous year, even if consumption, after its enormous increase in 1922, were to show little or no expansion, while the Cuban crop about to be harvested would almost certainly be reduced owing to prolonged drought. But was there any reason to suppose

* Harvesting in Cuba usually begins in the latter half of December, though in recent years grinding has been prohibited before January 1, and in one year January 15. New cane is planted in the autumn of the previous year, but ratoonage is almost universal, *i.e.* the cane is cut down at harvest, and shoots again by itself.

that, even if temporarily checked, consumption would not resume its expansion very shortly? Demand seemed very inelastic, and with the revival of general prosperity now fully under way in the U.S., and apparently dawning in Europe, there seemed every prospect that at least the pre-war annual average increase of 3 per cent. would be required, and very likely more. Even the 1922 consumption was no greater than the immediate pre-war consumption. Assuming, therefore, a steady increase in consumption, could the Western world obtain such increased supplies without recourse to Cuba? There were obviously two possible sources: an increase in the domestic production of the U.S., under the stimulus of the new higher tariff, and the rapid restoration of the European beet industry to something like its pre-war proportions. The former would undoubtedly take place, but it would probably be some years before the actual tonnage increase would be appreciable in comparison with world production. The restoration of the European beet industry would also presumably take place, but, judged by the slow advance to date, it seemed very improbable that the process would be completed within five or even more years. For at any rate four or five years, it seemed certain that any large increase of supplies would have to come from Cuba, and by installing up-to-date milling machinery and extending the whole scale of operations, it might be possible for Cuba to compete with even the most highly protected or bounty-fed producers, while, as the memory of the sugar famine grew more dim, the consumer might not be so willing to pay for such protected supplies. It seems, in fact, more than probable that our Cuban Dictator would have arranged for a considerable expansion of the island's production, perhaps of the order of one-third to one-half million tons annually for the next three years or so at least, while he would have pushed on with the modernisation of milling plant, and sought by all possible means to improve methods of cultivation and so reduce also the cost of cane to the mills.

III.—THE CAPITAL ORGANISATION OF THE INDUSTRY.

With the general conclusion that nothing much was to be feared either as the result of the new U.S. tariff or from the European beet industry, and that therefore a policy of expansion was the policy for Cuba, many of the leaders of the Cuban sugar industry agreed. But it is now necessary to attempt some description of the varied and manifold interests which compose that industry, for the divergent attitudes and policies of these different interests have been of very considerable consequence in the last ten years. As was said earlier, the nineteenth-century Cuban sugar industry was managed and owned almost entirely by the Cubans themselves, but the tremendous expansion of the period 1902–14, and equally the expansion during the war period, was largely the work of American capital. By 1922 American capital owned at least a controlling interest in some 85 mills out of the 188 mills which operated in the 1921–22 season. These 85 mills produced 53 per cent. of the output. In addition to these American mills there are a certain number of other foreign-owned mills, and purely Cuban interests produced only about one-third of the output, though they owned considerably more than that proportion of mills, for broadly speaking the larger mills are all foreign-owned, the really large ones all being American-owned. Thus the first broad line of division is one of nationality, but consideration of this factor may be postponed pending further analysis of the American interests.

The pre-war American investment was almost wholly by private interests; it was not until the war period that the banks and trust companies took a hand, notably the National City Bank and the Royal Bank of Canada. The American Atlantic sea-board refineries became in many cases interested directly in Cuban mills, and banks had interests in these refineries, while in one or two cases the refineries virtually own their own banks. In addition, the banks, and especially the two already mentioned, had developed an ordinary banking business in Cuba on an extensive scale, and played a large part in the normal financing of the sugar mills, both American and Cuban. It is impossible to disentangle the precise relations of private interests, bank interests and refinery interests, but it may be observed that many attempts lead to most erroneous conclusions. Thus it is frequently said that the banks to-day control at least half the crop, and that even this proportion was far exceeded in 1922. The accuracy of this statement depends entirely on the meaning attached to the word "control." The two banks above mentioned had in 1920 made extensive loans on the security of sugar stocks, etc. for the ordinary purposes of crop financing and when the catastrophic price-fall occurred, the security for these loans was no longer adequate collateral. A number of companies could not provide more collateral, still less repay the loans, and the banks therefore had to take over these companies. The National City Bank brought together the companies left on its hands into the General Sugar Estates Corporation, the directors being nominees of the bank: this group with its eight centrals accounted for an output of about 300,000 tons. The Royal Bank of Canada had to take over companies owning 14 centrals, with a total output of rather under 300,000 tons. Even in 1922 the banks *directly* controlled not more than, say, 15 per cent. of the Cuban crop, and since the Bank of Canada has recently succeeded in selling some of its companies, the *direct* control to-day is probably not more than 10 per cent. Indirectly the banks are far more interested, first through loans made on sugar for ordinary crop financing purposes, and secondly by the fact that they acted as underwriters for numerous issues of bonds. But this gives no more and no less control than is ordinarily the case where an industry requires temporary financial assistance from the banks. The banks certainly have " control " of a sort in all such cases, but such " control " must not be confused with the direct " control " or virtual operation of concerns which are the property of the banks.

The extent of control by the Atlantic seaboard refineries is also often greatly exaggerated if any reasonable meaning is attached to the word. Thus an article in the periodical *Concerning Sugar*, dated May 1922, asserts that of the 85 American-owned mills in Cuba, no less than 49 are either owned outright by American refinery companies, or are affiliated to them by interlocking officers and directorates, and that these 49 mills have an average capacity more than double that of the remaining American mills, and nearly three times that of the Cuban and European-owned mills. The validity of this analysis need not be called in question, but the reader is obviously invited to infer the existence of a vast sugar-producing and refining trust. The fact that one, or even two or three, of the directors of a refining company are also directors of one or more sugar mills, does not imply that the refinery controls the policy of those mills any more than that the mills control the refinery. Naturally sugar mills are not averse to the establishment of contacts with a refinery and vice versa, but it is a long step from a liaison of this kind to control in any real meaning of the term. It may be observed that *Concerning Sugar* is a publication of the United States Beet Sugar Association, and that this article appeared during the tariff negotiations of 1922. The real position appears to be as follows. In 1922 the American Sugar Refining Company had recently acquired Centrals Canagua and Jaronu, though the latter had only been built in 1921; it has since been expanded until it is now the largest sugar mill in the world. In 1922 the American Sugar Refining Company therefore controlled only about 70–80,000 tons of sugar; in 1928–29 this had risen to nearly 200,000 tons with the expansion of Jaronu, but even this is only about 12–15 per cent. of its raw sugar requirements. Secondly, the United Fruit Company, which owns the Revere Refinery at Charlestown, Mass., also owns two centrals, Boston and Preston, with a combined output of some 260,000 tons, which is approximately the output of the refinery. Thirdly, the Cuban American Sugar Company owns six mills in Cuba, including the contiguous properties of Chaparra and Delicias which are operated as a single unit and form the largest sugar estate in the world: these six centrals produce about 300,000 tons. The Company owns the Colonial Sugars Refinery at Gramercy, together with sugar lands in Louisiana, and also the Cardenas Refinery in Cuba, which refines mainly for local consumption. In this case the Company's raw sugar production somewhat exceeds the requirements of its refineries. Fourthly, the McCahan Refinery at Philadelphia is owned by a number of companies under the virtual control of the house of Rionda. The Rionda group now account for about 1 million tons* of raw sugar, whereas the McCahan refinery meltings amount only to a quarter of this amount. No other refineries appear to own a controlling share in Cuban mills, nor do other sugar-producing companies control refineries. The position is quite as much that sugar-producing companies control refineries as the reverse position, and my conclusion stated in general terms is that in 1929 producers and refiners were directly associated to the extent of about 1 million tons, or 20 per cent. of the Cuban crop. In 1922 the extent of refinery control was perhaps greater than this. The Warner Sugar Corporation had its huge refinery at Edgewater, N.J., and owned Central Miranda with an output of 70–80,000 tons. The Warner Corporation was one of the concerns taken over by the National City Bank in 1921, and in 1927 the Bank sold the refinery to the National Sugar Refining Company, thus separating the previous vertical combination. Before

* Not including General Sugars Corporation, which it has virtually managed and whose output it has sold since March 1929.

1922 the Pennsylvania Sugar Company's Refinery at Philadelphia was leased by the Atkins group which virtually controlled the Punta Allegre Sugar Company with its six centrals and an output of 300,000 tons of raw sugar: the refinery has since then been handed back to the Pennsylvania Company, probably under pressure from the National City Bank, which has a large say in the general conduct of Punta Allegre. But against this must be set the development of Jaronu by the American Sugar Refining Company. The true position is most difficult to assess at any date, but if we regard 20 per cent. of the Cuban crop, as definitely associated with American refineries, we have a sufficiently sound working proposition for the purposes of the present study, while in addition there is some liaison in many other cases, either by ownership of shares or by common officers or directorates.

To obtain a reasonably complete picture of the organisation of American capital in the Cuban sugar industry it is necessary to make it clear that there are still other concerns with effective control over a number of mills: combination has, in fact, proceeded to a very considerable extent. Mention has already been made of the two groups associated with the National City Bank and the Royal Bank of Canada, and also of the Czarnikow-Rionda group. This last named, with its control of over 1 million tons, is by far the largest group, and its policy in any given situation naturally carries great weight. Its backbone is composed of the Cuba Cane Sugar Corporation and the Cuban Trading Company: the former owns thirteen centrals, and the latter five centrals, including Manati, which is very large. The Punta Allegre Sugar Company is another combine controlling six centrals with a combined output of about 375,000 tons. Other large concerns are the Cuban American Sugar Company, with an output of 300,000 tons from its six centrals; the Cuban Dominican Sugar Corporation, with an output of 200,000 tons from its seven Cuban centrals, and the Guantanamo Sugar Company, with an output of 65,000 tons from three centrals: these concerns are nominally quite independent of each other, but the fact that the same two persons hold important offices in all three may betoken some co-ordination of outlook and policy. Finally, mention must be made of the Cuba Company with its two large centrals producing 120,000 tons, and it must not be forgotten that the American Sugar Refining Company and the United Fruit Company also each have two large centrals, as mentioned above. Thus the American capital in Cuban sugar is centralised and syndicated to a very considerable extent, and in this respect offers a striking contrast to the purely Cuban-owned concerns, which rarely own more than one central, and as has been said, even that is on the average much smaller than the average of the American centrals.

IV.—THE FATEFUL DECISION TO EXPAND PRODUCTION.

It is now possible to return to the discussion of the situation on New Year's Day 1923, and to consider the attitude and policies of these variously interested parties in comparison with the conclusions which, it was suggested, might have been reached by a Dictator for the industry as a whole. The interests of the two banks may be considered first. Put shortly, they had incurred "bad debts," and with bad debts the only alternative to writing them off is to try and convert such assets as exist into propositions which will in time pay off the debt. No one, least of all perhaps a bank, likes writing off a loss, and in view of the not unpromising outlook, there was a strong case for a policy of modernising and enlarging the mills left on their hands in the hope that, with satisfactory prices and reduced costs, they would eventually convert them into satisfactory investments, or be able to sell them off at remunerative prices. Even if the policy of increasing production to the point of lowest costs was copied by other mills, and overproduction resulted, the banks still hoped that with the strength of their financial resources their mills could be brought to a level of costs lower than many would be able to reach, especially the small family-owned Cuban concerns, and that therefore they would survive until a new equilibrium was reached. Accordingly, the two banks decided on a vigorous policy of expansion to secure lowest costs—indeed they had already set things in motion during 1922.

The attitude of the refineries owning mills in Cuba is somewhat less easy to summarise. They have one big common bond with the rest of the industry, namely, opposition to a high U.S. tariff on sugar. For these Atlantic seaboard refineries deal only with imported sugar, and therefore any increase in the U.S. domestic production means less demand for their imported product. Provided that a refinery produces for itself on approximately the same scale as its competitors, it is not specially averse to high prices within limits, since what they may all lose as refiners they will gain as producers. But the sugar famine had sent prices beyond any such limits, and had severely disorganised the refining business, while the American Sugar Refining Company, which then directly controlled no raw sugar supplies, may have felt itself at a disadvantage with the refineries which did own Cuban mills, such as the Revere Refinery of the United Fruit Co., the Colonial Sugars Refinery of the Cuban American Sugar Company, and the giant Edgewater refinery which was then associated with the Warner Corporation's central. Hence the American Sugar Refining Company had proceeded to the purchase of Centrals Cunagua and Jaronu, with the full intention of developing the latter to the utmost: they may also have taken note of the very high efficiency of the centrals belonging to the United Fruit Company. Taken as a whole, however, the refineries appear to have remembered that though sugar famines occur occasionally, it is on balance cheaper to buy sugar than to produce it. There has been no other large extension of vertical combination; on the contrary, there has been some separation of existing combinations, as noted above. But the lead of the American Sugar Refining Company in developing Jaronu was by no means disregarded by the industry.

The attitude of the remaining American mills is still less easy to assess. The idea that they, one and all, deliberately adopted a policy of modernisation and expansion, is probably nearly as misleading as the allegation, often made by Cubans, that their object in so doing was simply and solely the deliberate extinction of the Cuban mills. As to the fact of pretty general expansion by the American interests, subsequent events leave no doubt, but to say that it was the result of a deliberate policy is another matter. Account must be taken of the difference (*a*) in the costs of growing sugar in the fertile virgin lands of the eastern provinces of Camaguey and Oriente, and grinding it in a large-scale mill equipped with the latest and best machinery, and (*b*) of the costs of growing on the long-used, partially disease-ridden lands in the western provinces, and grinding in relatively small mills established and equipped often twenty and more years ago. A representative sample group of mills in the east and in the west would probably show costs f.o.b. to be at least ½ cent per lb., and more probably nearly 1 cent, lower in the east. Costs of production are peculiarly difficult to calculate—reference will be made to this matter later on*—but this generalisation gives some idea of the order of the magnitude of the difference. The expansion of the industry has largely taken the form of a steady progress eastwards, before the war into Camaguey, and during the war into Oriente, and the process does not imply a recourse to less suitable land under the pressure of a growing world demand, but rather the development of new lower-cost sources of supply. A price of sugar reasonably remunerative to producers in the western half of the island is bound to lead to the establishment of new production in the eastern half. At the beginning of 1922 prices had risen to the 4 cent level, which was certainly profitable to the western high-cost mills and extremely profitable to the low-cost mills in the east, while the prospects were by no means unfavourable even for the more distant future. Hence a further development by American interests of low-cost production in the east naturally took place, while the American mills in the western half of the island, fearing greater competition from the east, naturally sought to increase their efficiency and capacity in an endeavour to balance the lower cost of cane in the east by the greatest possible milling efficiency. The idea that a deliberate policy of expansion was adopted is an unnecessarily artificial explanation which rests on no concrete evidence whatever.

Since in my opinion there was no deliberate policy of expansion, the idea that American capital was plotting the downfall of the purely Cuban mills is equally fallacious. But it will be convenient at this point to survey briefly the attitude of the Cubans towards the American interests. At the back of the Cuban mind is the feeling that all was as well before the invasion of American capital as it has lately been ill. At first their attitude was one of good-humoured contempt, the "We have been growing sugar before you left England, so don't think you can teach us" attitude. The early American companies did indeed merit a good deal of such contemptuous criticism. The erection and operation of the actual sugar mill was well within the scope of their experience, but many of them had to buy their experience on the agricultural side, and the Cuban cane farmers naturally saw to it that they paid a suitable price. With their predilection for large-scale methods, the Americans preferred to purchase their cane from as small a number of cane farmers as possible. They therefore let out their land in large areas to manager-colonos, retaining little control beyond arranging the acreage to be planted or worked each

* See p. 18.

season. These colonos were able to take advantage of the absence of supervision, knowing that the American managers had not the necessary knowledge for supervision even if they desired to exercise it. They made the Americans pay far more than was really necessary, and waxed fat on the excess. Most of them lived in the cities and often even abroad, only visiting their plantations now and then: on material standards the life of these colonos before the war was a very pleasant gentlemanly affair. In some cases the Americans tried to farm part of their lands themselves, but they lacked experience; and the salaried official in a foreign country could be persuaded only with great difficulty to make the effort to gain that experience, and to take that interest in the land which good farming of any sort demands. For a long time their "administration cane," *i.e.* cane grown by the company, cost most American mills enormously more than buying cane from even the most rapacious colono. The Cubans soon began to recognise that the Americans were greatly reducing milling costs, both by large-scale operations and superior plant, and also through a more efficient juice extraction, but they felt that the Americans were labouring under the delusion that mill efficiency was the important thing, while in their view this was a secondary consideration to the actual production of the cane. The true doctrine is that neither should be sacrificed or neglected to the interests of the other, but that each should receive the attention necessary to keep abreast with the march of agricultural and industrial technique. If the Americans are to blame for having devoted all their attention to the milling end, they have, at any rate, secured results which may be said to compare most favourably with anything which the Cubans may have effected at the agricultural end.

The good-humoured contempt of the early years gradually changed to one of apprehension. The Americans were learning something about agriculture; they were not indeed following the traditional lines of cane farming in Cuba, but they were certainly developing with some success a technique of their own, an adaptation of arable farming in the Middle West, for which the wide flat lands of Camaguey and Oriente provided a suitable scope. The development there during the war period changed Cuban apprehensions to downright fear. They realised that the whole industry was rapidly passing out of their hands. They still felt—as indeed many do even at the present day—that the Americans did not yet know how to run the sugar industry of Cuba at a profit: they could point to many cases where little or no return had yet been obtained from expenditures of millions of dollars (except during the "dance of the millions" when any fool could make money), and they can still do so to-day. But they began to realise that if there ever was over-production, it would be the Cuban mills which would sink first, not only on account of the stronger financial position of the American companies, but also because of their undoubtedly lower costs of production. The crisis of 1921, though relatively short, confirmed their worst fears. It was the Cuban mills which suffered most, just as it was the Cuban banks which had to put up the shutters. Finance, indeed, was the weak spot. The organisation of banking and of investment in Cuba made it most difficult for the ordinary half-family purely Cuban concern to raise money to rebuild or re-equip its mill on modern lines, while in many cases it was useless to do this because physically impossible to obtain the greater supplies of cane needed for an economical large-scale milling plant. It was still more difficult to launch completely new enterprises in competition with the Americans in far-off Oriente. Hence Cuban capital had played a relatively small part in the expansion of the industry up to 1920, and after the banking crisis of that year it could obviously play only a still smaller part. The fears of the Cuban sugar producers being thus aroused, made them more receptive towards the preachings of the Cuban nationalists, especially on the subject of the dominance of foreign capital. By 1922 the attitude of the purely Cuban mills was one of fear, and the hatred which fear inspires. They realised that unless the world required a large steady increase of supplies, there would not be room for all, and that even if this condition were fulfilled, the Americans would increase their already too large hold on the industry. There was, however, one real bond between the Cuban and American interests, namely, their united opposition to a higher U.S. sugar tariff. Throughout the summer of 1922 the two interests had fought side by side, and the defeat of their combined efforts made them feel the common victims of a great disaster. Moreover, the rise in the price of sugar during 1922 lulled their fears at least temporarily, and it was clearly no time to arouse Cuban public opinion or try and enlist the aid of the Government. The Cuban is temperamental in the extreme: one minute he feels exalted to the heavens and wildly optimistic, and the next he is in the depths of depression and despair. Cast down by his failure to defeat the tariff, he soon took comfort in the steady rise in prices, and as the 4 cent level of January 1923 became the 6 cent level of April, he became convinced that all was well, and set about expanding production with nearly as much will as his American rivals, though with far less means.

It seemed advisable to undertake this somewhat lengthy analysis of the situation towards the end of 1922 because of the rather widespread idea that the expansion of the Cuban crop to the 5-million mark was, so to speak, the inevitable culmination of the expansion begun during the war years. Such an idea is erroneous and extremely misleading. Broadly speaking, the crops of the five years 1919–23 all ran a little below the 4 million mark: the crop of 1923 was only 3·6 million tons, owing to bad weather, and even the 1924 crop only just exceeded 4 millions. There are no satisfactory statistics of acreage under cane for this period, but it is fairly clear that new planting ceased abruptly on the termination of the war, since for five years there was no increase in the crop. Even with a 4-million ton crop, Cuba would probably have experienced difficulties as the result of the sudden restoration of the European beet crop, but these would have been trifling in comparison with the troubles entailed by a 5-million ton crop. The leaders of the sugar industry, whether from the narrow point of view of the profits of their particular concerns, or from the broad point of view of the good of the industry as a whole, committed a terrible error when they decided on a policy of further expansion. Their crucial mistake lay in supposing that the restoration of the European beet industry would take at least another five to seven years to accomplish. Even looking backwards, it is extremely difficult to say that they ought to have known better: as has been suggested, a Dictator would probably have ordered expansion at the rate of one-third, or even one-half, million tons a year. This is not a case of unreasonable optimism by the entrepreneur function, still less an instance of the blind folly which sometimes appears to overtake the capitalist system: it was just a wholly excusable error of judgment, though if it had been entirely inexcusable, the penalty could hardly have been worse.

V.—PRODUCTION, CONSUMPTION AND PRICES, 1923–26.

The actual course of events may now be compared with the expectations thereof. During 1923 everything went according to plan. The Cuban crop was, as has been said, 400,000 tons below normal owing to drought, and this sent prices in April and May well above 6 cents. As it became clear that consumption was not exceeding that of the previous year, prices soon began to decline, but were still about the 5½ cent level in the last two months of the year. The European beet crop of 1923–24, then being harvested, showed an increase of ½ million tons, and the American beet crop showed a substantial recovery from the low figure of 1922–23. The Cuban crop of the spring of 1924 returned to the 4-million mark, and it became clear that cane production was expanding not only in the U.S. possessions and the Philippines under the influence of the increased tariff protection, but pretty generally throughout the world. For the season September 1, 1923–24, the total world production of sugar was nearly 2 million tons greater at approximately 20 million tons, but after its rest during the previous season, consumption once more leaped up by 2 million tons, and the visible supply on September 1, 1924, was reduced by 250,000 tons to the low level of 982,000 tons. Prices, however, were on the decline, and had reached 3·3 cents average for July, though August was better, and September October and November all averaged over 4 cents. This check to the price-fall is somewhat extraordinary in view of the obviously large European beet crop then being harvested, and at least a strong presumption in favour of a much larger crop shortly to come from Cuba. The explanation presumably lies in the almost complete exhaustion of visible stocks in Europe, and their very low level in the U.S.A.: the world had, in fact, calculated things just a trifle too finely in allowing prices to decline quite so far during the summer months.

We now come to the season 1924–25 and its complete destruction of the expectations of 1922. As soon as the European beet crop began to come seriously into the market the price of sugar rapidly fell away. For the month of December 1924 the c. and f. New York price averaged 3·41 cents, and 3 cents was touched: for the month of January the average was only 2·8 cents. The Cuban crop then began to arrive, but for a time the rebuilding of depleted refinery and probably also other invisible stocks, absorbed such supplies as were put on the market. During February, March and April, Cuban sellers were making desperate efforts to arrest the fall in prices and restore at least a 3 cent level. But by May 1, 1925, there were no less than 1,158,000 tons in Cuban port warehouses, and probably a considerable amount more held back at the mills. By June 1 port stocks had increased by a further 150,000 tons, and the average price for July went below $2\frac{1}{2}$ cents. On October 1 there were still nearly 600,000 tons in Cuban ports, and during that month prices finally collapsed. The average for October came out at a fraction over 2 cents, but quotations had been down to 1·94 cents. In the last two months of the year there was a recovery to a $2\frac{1}{4}$ cent level, since as well as the huge increase in production, there was also proceeding a record increase in world consumption. The world's statistical consumption in 1924–25 may be put at the round figure of 23 million tons, an increase of no less than 3 million tons on the previous season. World production in 1924–25 may be put at 23·7 million tons, an increase of 3·6 million tons on the previous season. Of this increase, the European beet crop contributed 2 million tons, Cuba just over 1 million tons, American beet crops 200,000 tons, while the remaining 400,000 tons came from the other cane-producing countries, in which those enjoying the protection of the U.S. tariff were again conspicuous. On September 1, 1925, the world's visible supply stood at 1,612,000 tons as compared with 982,000 tons a year previously. Even if invisible stocks were above the normal level of convenience—a matter of considerable doubt—it nevertheless seems worth drawing attention to the fact that an excess production of 600,000 tons on a total of 23,000,000 tons, or a little over $2\frac{1}{2}$ per cent., was sufficient to drive down prices from an average of 4·18 cents for the calendar year 1924 to 2·57 cents for 1925, or nearly 40 per cent.

The Cuban industry, and indeed the sugar producers of the world, were stunned with surprise by the sudden enormous increase in supplies: they might just as well have been stunned by the enormous increase in demand, if supplies had merely fulfilled expectations. Their surprise at the increase of the European beet crop was only a little greater than their surprise at the increase in the Cuban crop. It may be thought that there was much less excuse as regards the Cuban crop, but it must be remembered that the Cuban Government had no acreage statistics, and even the large American combines were planting in complete ignorance of each other's programmes. It has been said above that the chronic optimism of a capitalist system can hardly be blamed for the adoption of a policy of expansion, but in the execution of that policy the chronic tendency for a large number of competing producers to overdo things is clearly manifest. For the crop might have been even bigger than the 5·1 million tons which was actually harvested. No statistics whatever are available, but it is certain that a considerable acreage of cane, some say as much as the equivalent of another 1 million tons of sugar, was left uncut, simply because the centrals reckoned it was not worth the expense of cutting and grinding with prices, already in May, down to $2\frac{1}{2}$ cents c. and f. New York. But even making allowance for this, the real surprise to everyone was the increase of 2 million tons in the European beet crop. Such an increase in a single season was almost unbelievable: at the most a doubling of the annual $\frac{1}{2}$ million tons increase of the three previous seasons might have been deemed possible. What would have happened if consumption had not also increased by an almost unbelievable amount, hardly bears thinking about from the producer's point of view. On the other hand, if consumption without the inducement of lower prices had increased by only 2 million tons, which is quite within the bounds of probability, and if production had done no more than fulfil expectations—that is to say, $\frac{1}{2}$ million tons extra from Cuba and the same from Europe, making a total world crop of, say, $21\frac{1}{4}$ million tons as against a consumption of 22 million tons—the situation would have been almost equally serious from the consumer's point of view. If our imaginary Dictator had had charge of world production as well as that of Cuba, the consumer would have fared just about as badly as in actual fact producers fared without him.

Towards the end of 1925 every man, woman and child in Cuba, from the mill-owners and mill-managers to the poorest peasants and labourers, were depressed to the point of despair. At "sacrificial" prices the Cuban ports were being more or less cleared of stocks, a noticeable difference to the situation at the end of 1921, but in 1921 there were no large invisible stocks in the form of uncut cane standing in the fields, and there was no prospect of a large increase in the coming crop, as there was now. If there was no calamity in the weather, it seemed more than probable that the crop of 1926 would reach $5\frac{1}{2}$ million tons at a conservative estimate. The European beet crop then being harvested would apparently reach at least $7\frac{1}{2}$ million tons, and some further increase must be anticipated from other cane-producing countries, though bad weather had considerably reduced the U.S. beet crop. The sugar crops of the Far East were up to normal, and Java during the summer of 1925 (which crop is reckoned statistically amongst the world crops of 1925–26) had harvested in a favourable season 2·3 million tons as compared with 2·0 millions the previous year. The outlook was for a world crop of roughly 25 million tons. This meant that consumption must increase another 2 million tons, following the phenomenal increase of 3 million tons in the previous season, and even that would effect no reduction in stocks. As the European beet harvest drew to a close, fulfilling expectations with a crop of 7·6 million tons, and as the Cuban campaign began to get fully under way, despair in Cuba began to turn to desperation. The planters began to feel that full production would knock the bottom out of the market altogether, and the Government, that unless something was done, popular desperation would shortly turn to violence. The stage was being rapidly set for restriction as the only possible remedy in a situation where a definite remedy of some sort was now deemed absolutely necessary.

At this point it will be as well to offer certain conclusions as to costs of production in Cuba. It is extremely difficult to generalise about costs in any form, owing to the fact that the mills purchase about 85 per cent. of their cane from cane farmers, who receive payment in the form of a percentage of the weight of sugar in their cane at an official average price which is calculated by Government officials every fortnight during the harvest. If, therefore, the selling price of sugar is high, the cost of cane to the mills is high, and therefore their total costs are likely to be high. A mill's costs of producing sugar vary, therefore, from year to year, sometimes by a large percentage; thus for the 1921–22 season the U.S. tariff commission estimated the net cost at the mills, including interest but excluding selling expenses, at 2·14 cents, but for the 1922–23 season at 3·67 cents, the difference being due almost wholly to an increase in the price at which the mills purchased their cane, consequent on an increase in the selling price of sugar. Even if complete statistics of costs at all mills were available, such information would therefore be of little use, for no reasonable meaning could be attached to averages calculated from it. The only reasonable meaning which can be attached to such a question as "What are the costs of production in Cuba?" is "What price is required to maintain the existing, or any given, volume of production?"

If such a question is asked with reference to the "long period," in the technical economic sense of that phrase, the price must cover depreciation and interest. With regard to the latter, it may be observed that while bank interest rates are nominally 9–10 per cent., actually this is increased by various commissions, etc., to something nearer 14–15 per cent.: the costs of temporary accommodation, at any rate for the Cuban-owned mills, are therefore high, and in addition most of the mills, American even more than Cuban, have a considerable bonded indebtedness. My personal conclusion, based on a large number of estimates by well-informed persons, is that in 1924–25 Cuba required a price level of 2·5 cents c. and f. New York* to provide the cane farmer with sufficient inducement to continue production, to cover the costs of the mills on that basis, and to meet the necessary selling and transport expenses. Since then, costs have probably been reduced owing to improved technique, etc., and the figure may now be put at between 2·30 and 2·40 cents. To this must be added a rate of profit suitable for such an investment of capital, at the least 5–7 per cent., and it may be concluded that the "marginal cost of production" of a $4\frac{1}{2}$–5 million ton crop is not much below 3 cents, even to-day. Two-thirds of the production, however, would probably be profitable at 2·25 cents or a little higher. Cuba will in due course adjust her sugar industry to a 2 cent price level, but that will not be within the next five years. When consideration is given to "prime" costs, the problem becomes even more difficult, and any conclusions must be still more doubtful. An average figure for depreciation and interest would be 0·5 cents, and costs on this basis would therefore be about 1·85 cents. If the selling price of sugar stood at this level, however, the cost of cane to the mills would be greatly reduced; as the price falls, so this item of cost declines, and even at a low level this item amounts to about one-half of the total costs. For practical purposes, everything depends in the short period on the cane farmer's costs of producing the cane. By reducing his expenditure on weeding, etc., by reducing rates of wages, and so on, the cane farmer can for a year or two produce for a very small sum: the advantage of ratoonage is enormous under such circumstances. Such a lowering of the standard of cultivation is bound to make itself felt in reduced yield, if not in reduced acreage, before long, but Cuba will probably continue to produce $4\frac{1}{2}$ million tons even if the New York price remains below 1·5 cents for another two years. At the same time, if the world ultimately wants such crops from Cuba or an increased production, both plantations and

* The f.o.b. equivalent would be 0·15 to 0·20 cents lower.

mills will be in no physical state to respond for some time, even if the price rises considerably.

These remarks will at least illustrate the difficulties of assessing costs of production in Cuba, even if the figures quoted are subject to appreciable error, as may well be the case. On this subject the only certain truth is that no one knows, or indeed can do so under the circumstances.

VI.—THE RESTRICTION OF THE 1925–26 CROP.

It is unnecessary for our purpose to attempt to trace in detail the developments of opinion which finally culminated in a recommendation from the Planters Association to the President of Cuba that the 1926 crop should be reduced by 10 per cent. from the Secretary of Agriculture's estimate of 5,200,000 tons. Probably at least 80–90 per cent. of the industry were in favour of restriction measures of some sort, but the reasons for the attitude of the different interests in the industry varied considerably, and merit attention. The purely Cuban mills were almost all in favour because the weakest of them knew that they could not possibly weather 2 cent sugar, and the better of them were unwilling to see the Cuban share of the industry still further reduced in proportion to the American, while none of them were anxious for competition to work its will unchecked. The American interests were far less unanimous. The enormously powerful Rionda interests came out strongly pro-restriction; rumour's busy tongue said that the explanation was that Rionda and his associates had a large bull account, but it is perfectly reasonable to assume that they deliberately came to the conclusion that restriction was the right policy. On the other hand, the banks were violently opposed: they had sunk large sums of money in endeavours to obtain the benefits of large-scale production, and their mills were now amongst the lowest cost producers. If production were restricted, this money would have been largely thrown away, and the eventual re-establishment of equilibrium through the elimination of the weakest producers would be indefinitely postponed. The other American interests were spread between these two extremes, but there was in general a rather strong bias against restriction for two reasons. Nearly all the mills were heavily mortgaged, and it had become customary to compare the degree of mortgage in terms of the previous season's crop, *i.e.* so much per bag; hence if production was restricted, the degree of mortgage would be increased. Though pure window-dressing, this aspect of the matter is said to have received much attention in financial circles. Secondly, it was clear that if production was restricted, less money could be borrowed from the banks against sugar produced. But against these concrete considerations and the uncomfortable feeling that restriction was "contrary to economic laws," there had to be set the consideration that, should the Cuban interests and those in favour of restriction appeal to the Cuban Government, it might fare ill with any declared opponents of restriction in the matter of quotas and so on, while at any cost the issue must be preserved from taking on a nationalistic Cuba versus the foreign capitalist complexion. Moreover, it must be realised that the prospect of 2 cent sugar seemed nearly as terrifying to many of the American interests as to the Cubans. Hence there were few voices raised against restriction, while those in favour were many and loud—a situation very commonly characteristic of the birth of restriction schemes, as our other studies will show.

Faced with this recommendation from the Planters Association, the Cuban President and his ministers would almost certainly have preferred to send it back with their blessing and nothing more. There is no evidence that at this time the Cuban Government had any desire to take a hand in the game. But the uncompromising opposition of the two American bank groups, and the wavering attitude of other interests, made it clear that restriction could never be instituted on a voluntary basis: unless the Government made it compulsory, there would be no restriction. Without restriction it was practically certain that a number of mills would close down, while for a time at any rate the industry as a whole would make insignificant profits. During this time, the Government would be deprived of by far the most important source of its revenues. Again, in many country towns and villages two-thirds of the total income of the population is derived directly and indirectly from the local mill or mills; the situation is much the same, though often on a larger scale, as that in many colliery villages in South Wales. The closing of any appreciable number of mills was to be avoided at almost any cost from the Government's point of view. Doubtless others, besides the extreme nationalists, took the view that if the foreign capitalists suffered some loss by restriction, they were after all much more able to bear losses than the Cuban peasants: they should pay to avoid what would be disastrous to the Cuban nation. It could be only a short time before consumption would catch up production, and therefore restriction was the right policy. Finally, some definite Government action would at least put a stop to the ugly reports of revolutionary talk which were brought back from the country districts to the capital. Hence the Cuban Government felt themselves forced to take the plunge.

The law of May 3, 1926, commonly known as the Verdeja Act, provided for a 10 per cent. reduction of the crop then being harvested. Article II of this Act created a temporary production tax of $5 for each bag of sugar in excess of 90 per cent. of the estimated crop for each mill during the present year. The tax was, of course, prohibitive, but if incurred, it was to be collected in the same way as the ordinary revenue tax of 10 cents per bag produced: no new administrative machinery was required. The proceeds of the tax were to go to the Special Fund for Public Works, thus safeguarding the Government from any suspicion that they were merely increasing taxation, and emphasising its extraordinary character. Provision was also made to ensure that administration cane should be treated on exactly the same footing as colono cane: otherwise the mills would, of course, have cut the whole of their administration cane, and thrown the burden of the restriction on to their colonos. This comprised the very simple and straightforward restriction of the 1925–26 season. The crop was estimated by the Secretary of Agriculture at 5,200,000 tons: a 10 per cent. restriction should therefore have resulted in a crop of 4,680,000 tons. But the actual total assessment of the mills for the purpose of the Act eventually exceeded this estimate, while a few mills had already ground more than 90 per cent. of their cane before the Act,* so that the actual production in the 1925–26 season was 4,885,000 tons.

The Verdeja Act was not, however, confined to the current crop. Article I forbade the commencement of grinding in the next two seasons before the date fixed by the President for each locality, under penalty of $5 per bag, while another section of Article II gave the President authority to restrict the next two crops in a similar manner "if in his judgment he shall consider it necessary or advisable for the basic interests of the industry, making report to the Legislative Branch." The President was thus vested with almost dictatorial powers, and Cuba was declaring herself prepared to restrict supplies until consumption had caught up again with production, so that the world was forced to pay a reasonable price, for no one supposed that it would take more than three years to re-establish equilibrium between supply and demand. The prohibition of grinding before a definite date embodied a reform long desired by many, and especially by the larger American mills. Normally the mill has to make advances every fifteen days during the growing season to its colonos to enable them to pay the wage-bills and other expenses of the growing crop: when the harvest begins, and the colonos send in their cane for sale, the mills first write off the accumulated debt of each colono,* and the colono actually receives in cash only the balance, if any. In turn the mills in most cases have to borrow from the banks and merchant houses the wherewithal to make these advances required by the colonos during the growing season. Now the custom had developed for the banks to refuse to make any advances to the mills after January 1st except on actual new crop sugar produced. Thus unless a mill had cash in hand, it was bound to grind a quantity of cane before January 15 sufficient to provide a basis for borrowing to supply the advances required by its colonos on that date, and the advances required would be much more than the ordinary growing season advances because the commencement of grinding would mean a big increase in the colonos' wage-bills. Thus some mills would find it necessary to begin grinding as early as mid-December, and if one mill in a district starts grinding its neighbours must do the same in order to retain their fair share of the local labour force. This early grinding is in a normal season very wasteful, for the cane is not really ready until mid-January at the earliest: the sugar content, which averages 10 per cent. in the first half of January, will rise to 12 per cent. in the first half of February. Thus the mills which had no need to start grinding early, but were forced to do so by a needy neighbour, had a grievance, and this was especially true of the larger American mills with their plentiful financial resources. The prohibition of grinding before a fixed date, as provided for in the Verdeja Act, should be looked upon, not so much as a measure of restriction (for if the date fixed were to involve, say, a month's

* Such mills were not required to pay the tax provided they stopped grinding within three days.

* Including such advances as the colono requires for harvesting.

postponement, the output would be actually increased through the greater sugar yield of the cane, provided the weather allowed grinding to continue to completion), but rather as a salutary reform introduced at this time because the Cuban Government saw therein a means to placate American opposition to their policy of restriction. The fact, however, remains that the introduction of a later date for grinding does, of course, relieve the pressure of excessive supplies on the market at the time of its introduction.

VII.—THE RESTRICTION OF THE 1926–27 CROP.

The price of sugar was not immediately raised by the imposition of restriction, though it is at least probable that without it 2 cents would have been reached again by midsummer 1926. On September 1, 1926, world stocks, including the Cuba interior carry-over, amounted to the enormous figure of 2,657,000 tons as compared with 1,612,000 on September 1, 1925, exclusive of the Cuba interior stocks. Whether there were appreciable interior stocks in September 1925 * is unknown, but there could hardly have been more than 200,000 tons. On this basis, consumption may be put at $23\frac{3}{4}$ million tons in 1925–26, an increase of a million tons on the previous season, production having reached $24\frac{1}{2}$ million tons. But prices now began to show a sharp recovery. On September 21 the Cuban Presidential decree No. 1505 prohibited the commencement of grinding before January 1, 1927. The preamble to this decree states that this decision "has been expressly approved by the majority of the millowners and the representatives of all the planters, which approval was given in the name of the above by a Special Committee of the National Association of Planters." It is argued that this postponement of grinding "defends not only the legitimate interest of the colono to obtain the greatest yield from his work, and prevents the destruction of the wealth such as would be the case if canes, still in the period of ripening, are begun to be ground, but also that all the producers are placed on a plane of absolute equality, and in the end, without materially harming private interests, an effective reduction of the total crop of Cuba is obtained, maintaining it near the limits which may be in proportion with the world's demand for the consumption of sugar." No definite limitation of the crop is yet fixed, on the grounds that a judgment cannot yet be formed, and that it would not be expedient in view of the international character of sugar production. It may be remarked that the "effective reduction of the crop" by this postponement of grinding would really be only a temporary holding up of new supplies, unless the onset of the rainy season compelled the stoppage of grinding before all the cane was finished. However, this was a bullish factor in the sugar market, and it was powerfully reinforced by the weather in Europe, which was most discouraging to the beet crop. As the autumn developed, it became clear that the European beet crop would show a considerable decline: the area planted had been very little larger than in 1925, and the weather had been infinitely worse. There was little probability that the U.S. beet crop would show any increase, while the Java crop of 1926 had been 300,000 tons smaller. The prospects in other cane-producing countries were for at least no material increase. Consumption in the U.S.A. and in Great Britain was not showing signs of further expansion, but the Far East was buying heavily. Hence by December 1926 the c. and f. price New York had reached 3 cents, and with the publication of the Cuban President's decree of December 10 restricting the Cuban crop to 4·5 million tons, the rise continued, and the average for December was 3·31 cents.

With the new crop supplies from Cuba, prices eased off, but a 3 cent level was maintained from March to May. Consumption in the U.S.A. was, however, lagging in a very disappointing fashion, while in Great Britain the effects of the industrial troubles of 1926 were reinforced, from the importing point of view, by the growing volume of domestic production. Stocks were piling up in Cuba to an alarming extent. By July 1 the price was down to $2\frac{3}{4}$ cents, and there was still 2·2 million tons of sugar in Cuba, counting interior stocks, just as there had been a year before, though then the price was nearly $\frac{1}{2}$ cent lower. By October these stocks had been reduced by half, as had also happened the year before, but this time it had not been accomplished to the tune of substantially rising prices. The trouble in 1927 was no longer excessive production. Production, thanks mainly to the weather in Europe and Java, and to restriction in Cuba, showed a decline of nearly 1 million tons to

* The probability of any appreciable carry-over in September 1924 is remote.

23·6 million tons. The trouble was that consumption had come to a complete halt. On the assumption made above, that there may very well have been 200,000 tons carried over in the interior of Cuba in addition to the visible carry-over of 1,612,000 tons on September 1, 1925, consumption in 1926–27 may be put at $23\frac{3}{4}$ million tons, the same figure as in the previous season; otherwise consumption in 1926–27 shows a definite decline, as in some well-known estimates. The point is not important, and cannot indeed be settled with the statistical data available: what is important is that consumption certainly did not increase. As it was, the world's stocks on September 1, 1927, were 200,000 tons lower than a year before, and if consumption had increased by even half a million tons, the situation would have been immensely relieved. It must be judged a stroke of very hard luck for Cuba that the opportunity of short crops elsewhere was snatched from her by the apparent unwillingness of the world, and especially of Europe and the U.S.A., to consume more sugar. Should this continue, the outlook was exceptionally black. Java had increased her crop by nearly $\frac{1}{2}$ million tons, and the new cane, with its reputed 30 per cent. higher yield, had done so well that practically the whole island had been planted with it, so that a further large increase was likely in 1928. The area under beet in Europe had been greatly extended, and the prospects were extremely favourable. The same was true of the U.S. beet crop, while from nearly all the other cane-producing countries had come reports of increased plantings, especially from the protected territories of Hawaii and Porto Rico. Cuba must clearly either intensify her restriction considerably, or she might just as well abandon it altogether. Cuba chose the former, for at least it was true that prices were higher than they had been before restriction.

It is extremely doubtful, however, whether this choice commended itself to a majority of the industry. The purely Cuban mills certainly approved, though they were beginning to lose heart and hope of any speedy return to prosperity by way of restriction or any other means. On the other hand, the American interests had become much more solidly opposed to restriction, with the exception of the important Rionda group. This was largely due to dissatisfaction over mill assessments. The simplest method of assessment would have been to take the output of each mill in 1924–25 and reduce them all by a uniform percentage. This method was strongly urged by the Rionda group, but it met with violent opposition by the two bank groups and other companies which had made extensive new plantings for the season 1925–26. It was another example of a difficulty common to all cartel organisations, namely, the objection of new producers to any scheme of restriction based on past performance. The Cuban Government decided, therefore, that each mill should send in estimates of its productive capacity for the coming season, which would then be approved or revised. This method of assessment provides unlimited scope for accusations of favouritism, and for general complaints and discontent. In ordinary Cuban business dealings, as well as in politics and in the operations of the Government Departments, there is what would be termed by Englishmen wholesale bribery and corruption, though it is so regulated by custom and unwritten but well-recognised standards, that its net effects may easily be over-estimated. The distinction sometimes made by the citizens of a neighbouring country to Cuba, between "legitimate" and "illegitimate" graft, applies very strongly in Cuba, though it receives less attention in ordinary conversation! Anyone with only a casual knowledge of Cuban life might have expected corruption to run riot over this matter of mill assessments. It is extremely difficult for a foreigner to investigate this matter, but my own impressions are that corruption played a very small part. Cuban standards of honesty are not the same as those of other countries, but they seem to have been better able to withstand this particular kind of temptation and trial! It is probably true that the purely Cuban mills as a group were assessed somewhat more liberally than the American and other foreign-owned mills, but this was due to the very natural inclination of the Cuban Government to be on the liberal side with their own nationals. That there was much differential treatment as between the Cuban mills or as between the American mills may be doubted. Most of the Americans with whom I have discussed this point complained that the Cuban mills had been more favourably treated than the American, but none of them that his mill was treated worse than other American mills. Many Cubans complained that the large American mills had either bought or terrorised the Cuban Government into giving them preferential terms, and if it were not for the opinion of several disinterested observers, I should have concluded that the assessments had been made with almost complete accuracy. Whether the Cuban mills received in general slightly better treatment or not, the fact remains that the assessment problem did not create serious administrative difficulties, such as were encountered, for example, in the British rubber restriction scheme, though, of course, sugar prices never became so tempting as rubber prices. But naturally some irritation and discontent were aroused, and duly exploited by those American interests which were from the start opposed to restriction.

To return from this digression, the American mills would probably have shown a large majority against any intensified restriction, and so the industry by itself would probably never have taken the step. It was really the Cuban Government which took the initiative at this stage. As has been said above, their point of view was dominated by the desire to prevent the closing down of any appreciable number of mills. Even if the increased costs of a restricted output meant small profits, and therefore only a small Government revenue, at a price of 2½–3 cents, yet without restriction prices would probably have continued at the 2 cent level, which would have meant a still smaller Government revenue, and, through the closing down of many mills, an army of hungry unemployed. Restriction was at any rate enabling Cuba to keep her head above water; it was the right policy, and for Cuba to return to unrestricted production, and to add another 1 million tons of sugar to an estimated surplus production of 1½ million tons in the season 1927–28, seemed madness.

VIII.—THE RESTRICTION OF THE 1927–28 CROP.

The essential features of the plan devised at a conference of the Cuban President and other Ministers were known to the world at the end of the first week in September, but the law embodying their proposals was not passed until October 4, 1927. This Sugar Defence Law may be summarised as follows:

1. Appointment of a National Commission for the Defence of Cuban Sugar, consisting of 5 members, to advise the President in the discharge of his duties under the law.
2. After the Defence Commission has prepared estimates of the quantity of Cuban sugar required (*a*) by Cuba itself; (*b*) by the U.S.A.; (*c*) by the rest of the world, the President is given power to fix the total amount of the Cuban crop, and its due proportional distribution under these three headings. The President is also empowered to fix the production quotas for each mill, and any sugar produced in excess of the quota shall be subject to a tax of $20 per bag: at the same time he would fix for each mill the percentage of its quota which might be exported to the U.S.A.
3. Appointment of a Cuban Sugar Export Corporation to market all sugar in excess of the amount allocated to the U.S. market, *i.e.* the sugar under headings (*a*) and (*c*) above. The Cuban Treasury were to advance $250,000 to provide the working capital for this Export Corporation, and were to be reimbursed by a special tax of 1 cent per bag produced by the mills, which would thus become the shareholders. Pending this evolution, the National Commission would direct the Corporation's activities. The mills were thus to be free to market only the percentage of their quota allocated for the U.S. market: the remainder was to be dealt with by the Export Corporation.
4. The President is empowered to transfer to the Export Corporation a percentage of the unsold stocks held at ports or mills on September 30, 1927, the total not to exceed 150,000 tons.
5. The law is to remain in force for the next six seasons.

Such were the outlines of the new scheme. The National Commission was quickly appointed, with Colonel Tarafa as the Chairman. Tarafa plays such an important part during the next two or three years that a word or two must be said as to his position and personality. He is said virtually to own Central Cuba Sugar Company, which owns four mills in Matanzas, though the actual production has now been concentrated into two of them. He is a director, and is said to have very extensive interests in the Cuba Company, which is a holding company controlling the Consolidated Railroads of Cuba and the Compania Cubana, which owns two large centrals. Tarafa acquired his reputation primarily as a railway man, and his advocacy of the legislation whereby the shipment of sugar was prohibited except from recognised ports, thus forcing the centrals to use the public railways when they might otherwise have built direct lines to the coast and put their sugar on shipboard at a much lower cost, did not endear him in certain quarters. Anyone studying the part he has played in the Cuban control of sugar might suppose that he was a sort of Cuban national hero and popular leader: the reverse is nearer the truth. The Cubans both distrust and fear him. They distrust him because they feel he has too much influence with the Cuban President for one who is so definitely interested in sugar and in railroads carrying sugar, and in particular because it is commonly believed that he uses his inside political knowledge to "play" the New York Terminal market. At the same time they also fear him because of his cleverness and ability. He is undoubtedly a man of big ideas and restless energy, who has the ambition of an American business leader, and as such he towers above the Cuban politicians. The President came to lean on him more and more, probably because he felt that Tarafa was the only man capable of pulling this very difficult and complex business of restriction through to a successful conclusion. No one can say whether his compatriots are right in thinking that he plays solely for his own hand, but it is significant that there are several Americans in the trade who feel that he is more disinterested than they give him credit for. Tarafa is a Cuban with an American brain for business, and foreigners perhaps understand him better than the Cubans.

Under such a chairman the National Commission set about studying the statistical position and prospects with a view to advising the President as to the limitation of the coming crop and its distribution. Its first definite action, however, was as its *alter ego* the Export Corporation. On October 1, 1927, stocks in Cuban ports totalled nearly 700,000 tons, while there was still half a million tons in the interior. The President, therefore, exercised his power, under heading 4 above, to transfer 150,000 tons to the Export Corporation. The Corporation sold the whole quantity on October 13 to a refiner in Great Britain at a price equivalent to about 2·33 cents f.o.b. Cuba. The price then ruling in the New York market was equal to 2·79 cents f.o.b. Cuba. Naturally this transaction attracted a good deal of attention and some dismay amongst the European beet exporters. Even allowing for some discount on such a huge purchase, the price was quite definitely a "dumping price," and it is perhaps not extravagant imagination to suggest that this sale was partly intended as a suitable prelude by Cuba to the conferences which were shortly to be arranged with the European beet producers: in other words that, Tarafa desired to give them a taste of what was to be expected from Cuba under his new regime. For within a few days Tarafa was on his way to Europe to try and ensure that restriction in Cuba should not be neutralised by increased beet crops.

During the second week in November, representatives of the sugar industries of Czecho-Slovakia, Germany and Poland conferred with Tarafa in Paris. The official communique stated that the sugar industries of these countries "will henceforward support the policy of Cuba to normalise and stabilise relations between production and consumption of sugar throughout the world. An International Sugar Committee will be formed, comprising two delegates of the sugar industry of each country represented on the conference, and of those countries which shall subsequently join the Committee, whose principal function will be the regulation of the production and consumption of sugar throughout the world. The ratification of the general agreements will take place during the present month." The draft scheme thus agreed upon provided that the three European countries should take all possible steps to increase consumption in 1927–28, and should regulate sowings for 1928–29 on condition that Cuba restricted its 1927–28 crop to 4 million tons. The Committee was to prepare the way for a full conference in October 1928, when Cuba was to table detailed proposals for the regulation of the production and distribution of each country's crop. Any surplus production was to be placed in the hands of an international company or deducted from the 1929–30 quotas, while a deficit in one country's export quota was to be added to the quotas of the others in proportionate shares. Cuba, however, admitted the principle that her contribution to the common sacrifice should be proportionately heavier than that of the other countries, since her export was so much larger and she was therefore most affected.

This seemed a very excellent start, and Tarafa proceeded from Paris to Amsterdam. There, however, he found himself running against a brick wall. The directorates of most of the Java sugar companies are in Holland, as also that of the central marketing organisation: the Java industry is, in fact, controlled from Holland. The Dutch made it quite clear that they did not feel the pressure of present prices to be so severe as to warrant any consideration of restriction measures: when the price fell below 2 cents they might begin to think about it, but at $2\frac{3}{4}$ cents and above they were satisfied that they could carry on, especially since the

30 per cent. higher yield of the new cane was so greatly reducing their costs. The Dutch, in fact, were putting their faith, first in their strong selling organisation, and secondly in the expansion of consumption in their chief markets of the Far East, which seemed to show no such slackening off as was being experienced in the U.S. and Europe.

Tarafa, however, was able to return to Cuba with apparently solid gains from Paris even if he had added nothing in Amsterdam. It will perhaps be convenient to recount briefly the subsequent history in Europe. The Paris Convention was duly ratified. But Czecho-Slovakia, Germany and Poland had apparently been fired by Tarafa's gospel of restriction and regulation, and representatives of these countries met again at Prague in December, and in January signed a pact at Berlin, which fixed the combined total for export during 1928–29 at 1,150,000 tons of which Czecho-Slovakia's quota was to be 66 per cent., Poland's $17\frac{1}{2}$ per cent., and Germany's $16\frac{1}{2}$ per cent. If this total export figure was raised as the result of the conference to be held with Cuba in October 1928, these ratios were to be preserved; but if the figure was reduced, new ratios were to be negotiated, while it was provided that such a reduction must be unanimously approved. It was also expressly laid down that these arrangements would not remain valid if no agreement was reached with Cuba in the autumn. It may be observed that this total for export of 1,150,000 tons was approximately the same as the quantity exported in 1926–27, when the total European crop was under 7 million tons, while the 1927–28 crop exceeded 8 million tons, which was the immediate pre-war level. The scheme undoubtedly did involve a substantial degree of restriction.

Thus though the agreement appears of a somewhat contingent character, it contained definite possibilities from Cuba's point of view, and it was clear that Europe kept moving even after Tarafa's return to Cuba. In order to clear out all stocks, the commencement of grinding was postponed until January 15, 1928. On the 21st, a presidential decree was passed to give effect to the National Commission's decisions in regard to the size and distribution of the crop. These may be summarised as follows:

1. Crop to be limited to 4 million tons.
2. The remainder of the unsold stocks of the 1926–27 crop, amounting to 250,000 tons, to be sold only in the U.S. (*i.e.* by the owners under ordinary marketing methods).
3. The requirements of the U.S. are estimated at 150,000 tons more than in 1927, viz. 3,300,000 tons. Of the new crop, 3,050,000 tons to be earmarked for the U.S., the balance being the 250,000 tons of old crop sugars.
4. To be earmarked for Cuban domestic consumption 150,000 tons.
5. To be earmarked for sale outside the U.S. and Cuba by the Export Corporation 600,000 tons.
6. The remaining 200,000 tons to be constituted a reserve, and held by the Export Corporation pending instructions to sell from the President, which instructions will only be given "in case of evident need," and if not sold, this reserve to be carried over for consumption in the year 1929.
7. The National Commission to make recommendations to the President as to the quotas for each of the mills, and the amounts which they shall be entitled to sell freely and which they shall deliver to the Export Corporation.

It will be convenient to examine first the theory of the scheme, then its mechanism, and then its actual operation and the results. At first sight it appears as though the scheme was exactly the opposite of what it should have been. A seller with a local monopoly usually endeavours to exploit his protected markets up to the hilt, and disposes of the remainder of his production wherever and at whatever prices he can: in other words, he devotes all his attention to a careful regulation of sales in his protected markets, and does not bother much about the surplus except to get rid of it quickly. Under the Cuban scheme, however, the U.S. market, protected from Cuba's point of view by the preferential tariff, was to be rationed but otherwise left to unregulated competitive marketing, whereas the dumping of the surplus was to be carefully regulated through the medium of a single selling agency established for the purpose. But the analogy is not sufficiently correct: a monopolist dumping his surplus production is still a single seller, whereas if the Export Corporation had marketed to the U.S., leaving individual producers to dump the surplus, there would have been many sellers scrambling together to get rid of their sugar, and buyers would have played them off against each other, with the result that the prices secured would have been much less than the buyers were really prepared to pay, and much less therefore than a single seller would have obtained. The theory behind the Cuban scheme was that the U.S. could be counted upon to take a certain amount of sugar at a price which would include a substantial proportion of the 44 cents tariff differential, and that therefore what was required was to make provision for disposing of the balance of the crop without unduly depressing world prices: in other words, to eliminate the disastrous effects of competitive dumping. The theory of the Cuban scheme was reasonably sound, but its inevitable rigidity was a fatal weakness. It is clear that for success the U.S. demand must be gauged to a nicety, and this had to be done for a year in advance. Such an estimate involves, of course, an estimate of the U.S. domestic and duty-free supplies, and while the beet crop can be gauged satisfactorily by December–January, the cane crops of Hawaii, Porto Rico and the Philippines cannot. Apart from the difficulties of making such an estimate, it is obvious that buyers might postpone their demands for a few months by living on invisible stocks, and this might lead to price concessions by competitive sellers eager for cash. Yet under the scheme the making of a definite estimate is inevitable. The weakness of rigidity comes out even more clearly, however, in the pre-determination of the total crop, and the allotment of a definite quantity for export other than to the U.S. On January 21 the rest of the world knew that Cuba was counting on selling them a definite quantity. A monopolist dumping his surplus production is usually able to conceal from his customers the exact size of that surplus, but under this scheme Cuba had definitely to publish such information in advance. She thus put herself in the same position as a street vendor with all his goods displayed upon his barrow, and if the citizens can control their hunger and thirst until the evening, they will be able to buy cheaper. The world's visible stocks of sugar on January 1, 1928, alone amounted to over 4 million tons, and in addition there were refiners' and middlemen's stocks, which in the aggregate must always make an appreciable total, and which could be allowed to decline far below the normal level when, as now, new supplies could be immediately obtained at steadily declining prices. There was, in fact, every incentive under the scheme for the rest of the world to sit tight until the Export Corporation was glad to make sales at any price. That this did not, in fact, happen to any great extent in the 1927–28 season was due to the luck that consumption in the rest of the world resumed its forward march with surprising vigour. The inevitable rigidity of the scheme, whether as regards the U.S. or the rest of the world, was a very serious weakness. From Cuba's point of view it would obviously have been far better if the whole crop had been handled by the Export Corporation, and the less information the world was given about the Corporation's plans as to the size of the crop or its distribution, the better. But such a course was impracticable, at any rate at that time. For if the Corporation had handled the whole crop, arrangements would have had to be made to finance the mills pending the sale of the sugar—a problem which will receive attention later, since it was to prove so difficult as to wreck the Single Selling Agency which was eventually established. As it was, the mills were free to market nearly three-quarters of their production, and were thus able to finance themselves in the ordinary way. Moreover, such a scheme would have increased the opposition of the American mills, especially those shipping direct to the refineries which owned them, at a time when Cuba desired to conciliate and convert them to its general policy of restriction. Finally the greater secrecy would probably have led to suspicions by the European beet producers, whereas under the actual scheme everything seemed so straightforward and above-board.

The mechanism of the scheme was as follows: Each mill received warehouse receipts for its authorised crop; so many blue slips for sugar which it was free to sell to the U.S., and so many pink slips for the sugar it was not free to sell, and which had to be held pending instructions from the Export Corporation. The pink slips, however, were negotiable receipts, and could be transferred to other ownership, the Corporation making payments direct to the person presenting the receipt. Since the value of the slips at the time the sugar would be sold was unknown, a buyer of them would be taking a big risk, and producers therefore financed themselves mainly by sales of blue slip sugar, which represented about 70 per cent. of the crop, and thus provided their immediate requirements. On the pink slips, payment was made by the Export Corporation as it collected the purchase price from its customers according to the ordinary trade customs. The Export Corporation was under no obligation to preserve an equality amongst the mills in respect of the amount of pink slips sold: this would, in fact, have been impossible, for some mills had quite inadequate storage capacity, while it was obviously more economical to satisfy an order from one or a few mills rather than to draw a few bags from all or even a large number. The Corporation therefore fulfilled its contracts from the most convenient and economical sources in each case, subject to the limitations of storage capacity at the different mills. Naturally attention was paid to the preservation of a roughly equal treatment so far as this was compatible with economy and the storage factor, and eventually an arrangement was made whereby those producers whose reserved sugar was sold by the Corporation before June 1 paid interest, which was passed on to those whose sugar was not sold till later. The whole mechanism so far as the producers were directly concerned appears to have worked both economically and smoothly.

For the purpose of making its sales, the Export Corporation maintained a sales office in Havana. The Corporation was perfectly willing to deal with buyers direct, but in general the latter continued to make use of brokers for the usual reasons of secrecy, the advantage of a third party in the event of arbitration, etc. The broker would hand in a bid at the Corporation's office, and the Corporation would then either accept or reject it. If accepted, the Corporation had the right to demand a deposit of $1 per bag as security that the sugar would not be diverted, while on the high seas, to U.S. ports, the amount being returnable on production of the landing certificate. But this requirement was never actually enforced, since the firms which bought sugar from the Corporation were all well-established responsible concerns whose word could be relied upon. In the main this mechanism worked satisfactorily, and the only issue of importance is whether it would have been advantageous for the Corporation to quote a price and offer to sell, instead of waiting for bids. It cannot be said that the actual course of events suggests that this would have been desirable, but it is clearly possible for a situation to develop in which the two sides of the market got out of touch; for example, the seller might have been refusing a succession of bids and the buyers might have come to the conclusion that, since they were prepared to offer no advance, it was useless to go on submitting bids: if then the seller changed his mind and became willing to make concessions, the buyers might not realise it for some little time. But it would be easy enough for the seller in such a case to give the required hint, even if he did not openly offer to sell. Clearly, however, there was nothing to be gained by this self-imposed limitation not to quote a price—unless offers to sell were held to be inconsistent with the dignity of such a state organisation—and therefore it might just as well not have been imposed.

The actual course of events may now be briefly surveyed. For the month of December 1927 the New York c. and f. price averaged 2·92 cents; for January 1928, 2·72 cents; for February, 2·48 cents, and for March, 2·74 cents. In January the New York price was roughly 11 points over the parity with London: by March the position had been almost exactly reversed. At the end of February the Export Corporation had disposed of the whole 600,000 tons allocated to it for sale to countries other than U.S., and on March 29 it sold 50,000 tons of the reserve of 200,000 tons. It was clear that considerable errors had been made in gauging consumption. The U.S., with greatly increased duty-free supplies, was proving most unwilling to take Cuban sugar, whereas Europe was, relatively speaking, tumbling over itself to secure supplies. European consumption was, in fact, expanding so vigorously that, instead of pursuing the waiting policy which might have been expected, Europe seemed determined to make Cuba realise that her allotment was insufficient. Consumption in the U.S. was outdoing expectations, though to a much more modest extent, but so was the production of the countries within the tariff wall. The U.S. beet crop was 100,000 tons greater than in the previous season, while the cane crops of Porto Rico and Hawaii each also roughly that much greater, and the Philippines were more than 50,000 tons greater. In all, the U.S. duty-free supplies were nearly 400,000 tons greater, and hence, though consumption in 1928 was to show an increase of 250,000 tons, the U.S. found it necessary to buy from Cuba not 150,000 tons more, but roughly that much less. During April and May the New York price was maintained at a little above 2·6 cents, but stocks were piling up in Cuba, and the U.S. still maintained its lack of interest. On May 3, and again on May 24, the export Corporation had sold 50,000 tons of the reserve of 200,000 tons placed at its disposal, and on June 7 the remainder was sold. Clearly Cuba's hopes of the U.S. market were not to be fulfilled: she was making more money on her surplus sales to Europe than on sales to the U.S., and even so the sales in that favoured market were quite unsatisfactory in volume. Things were becoming topsy-turvy.

It was not altogether a surprise, therefore, when, on June 12, a decree was signed by the President transferring 300,000 tons of the original U.S. allotment into the control of the Export Corporation. The decline in price was now resumed, and Europe, knowing that she could get this 300,000 tons, and realising that the U.S. demand was being satisfied without the expected call on Cuba, may be said perhaps to have sat back until Cuba was willing to let it go pretty cheap. When, on July 19, it was announced that the whole quantity had been sold to British refiners at a price equivalent to 2·34 cents f.o.b. Cuba, the world was not only staggered at the magnitude of the transaction, but also at the apparent desperation of the Export Corporation. It certainly seemed as if these refiners had made a good bargain, but, as events were soon to show, it was, in fact, a very good bargain from Cuba's point of view. At the time it seemed a terrible sacrifice by the Cuban industry, but prices, even for transactions of normal size, have yet to regain that level, and if that 300,000 tons had remained unsold, the situation would have been even more desperate than it actually became. It may be argued that this large scale was itself responsible for the subsequent decline in price, in that it filled the requirements of exporters for some time ahead: in other words, that Cuba might have been able to sell this amount during the next three months in small lots at a higher average price than that obtained in the single transaction. It is probably not desirable in the ordinary way for any seller to make single transactions of these proportions, because buyers are thus made independent of the market for periods too long to be healthy from any point of view. But in the particular case now under consideration buyers were already holding back, knowing that this sugar must shortly be sold, and it was in the best interests of Cuba to end such a condition of affairs as quickly as possible. The Export Corporation in this matter executed a bold and clever stroke, and thereby rounded off a career of which the best salesmen in the sugar industry might have been proud. Both Cuban and American producers, as well as the big New York brokers, are agreed that, given the whole scheme of control, upon the merits of which there is, of course, sharp disagreement, the Export Corporation performed its functions with very great marketing skill, though the results could not under the circumstances be of the nature of positive gains.

The assertion that the British refiners who purchased so much sugar at this price made a bad bargain must be understood as meaning only that if they had waited a little longer they could have got it much cheaper. Whether they could have waited is a question which they alone can answer, and especially in view of the current relatively small visible stocks of raw sugar in Great Britain, it may be that they could not, and that from their point of view the transaction was eminently justifiable. Nevertheless, it does seem as if they were insufficiently well-informed as to the change of public opinion in Cuba regarding the regulation of the sugar industry. During the spring of 1928 Cuban opinion began to swing rapidly and heavily against the whole policy of restriction. Local factors carry much weight in an island like Cuba, whose inhabitants think of the rest of the world only in terms of sugar, and there were two such local factors in particular which turned them against restriction. The first of these was the realisation that the cane left uncut in the previous seasons was getting dried up and useless, and this seemed such a terrible waste after all the money which had been spent in cultivating it. The second was that the working people who should have been employed in harvesting were unemployed, and therefore suffering want. Moreover, a $2\frac{1}{2}$ cent price level meant profits only to a very few of the largest and most modern American mills, for the drastic restriction of more than 20 per cent. meant a considerable increase in costs of production, and therefore it was easy to forget that without restriction prices as well as costs would have been lower, and to argue that losses might even be smaller, and things in general no worse, if restriction was abandoned. It was indeed a most debatable point. Restriction had not only failed to raise prices or even stop their fall, but it seemed as if the other sugar-producing countries of the world had taken advantage of restriction by Cuba to effect a large increase in their production. Tarafa might boast of his doings in Europe, but the fact remained that while he was there, Europe was busily harvesting 1 million tons more beet sugar than the year before, and there were no reports of smaller sowings for 1928–29, but rather the reverse. Similarly, though Cuba was producing 1 million tons less, the total cane production of the world was $\frac{1}{2}$ million tons more than in 1924–25. The opinion gained ground that Cuba was cutting her own throat, and that soon the world would want no sugar from her at all. However one-sided and lacking in truth these views may actually have been, they were undoubtedly gaining credence amongst the Cubans, while the American opponents of restriction were able to point to the course of prices in justification of their attitude. The creation of the Export Corporation had brought the refiners owning sugar mills into open opposition as well as the groups controlled by the two banks, for the refineries naturally objected to the compulsory diversion to

Europe of 30 per cent. of the restricted production of their mills. But it was the allotment of quotas for 1928–29 which most displeased the American interests. This was perhaps only natural in view of their all-round reduction, though there is still no evidence of serious discrimination. But in March a decree was issued providing that every planter and mill with administration cane should leave 10 per cent. of good cane uncut, unless they got a dispensation from the Sugar Commission. The Sugar Commission had apparently come to the conclusion that many mills had exaggerated their estimates of cane available in order to get higher quotas. By putting on this further restriction, the Commission obtained direct supervision. No hardship was inflicted, for any mill could claim that it had insufficient cane to meet its quota and yet leave 10 per cent. uncut, and after investigation the case could be dealt with on its merits. But it naturally infuriated any mills which thought they had been clever in submitting excessive estimates, while all felt that, having tied their hands, it was indecent to tie up their arms as well. There seemed, in fact, to be no limit to what the President would allow Tarafa to do, and no knowing what the latter would next propose.

By midsummer 1928, therefore, the position was that the American interests were more or less solidly against the continuation of the restriction policy, while the Cubans had completely lost faith and heart in it. Eventually, in August the American interests wrote to the President asking that there should be no restrictions whatever in the coming season. Faced with what amounted to an ultimatum, the President gave way, replying that he personally was against any restriction except that on new planting, though it might be deemed advisable to prohibit grinding until January 1, 1929. This was followed on August 30 by a Presidential Decree removing all restrictions as to the markets in which the balance of the 1927–28 crop might be sold: stocks in Cuba at that date totalled 1,400,000 tons, though some of this was probably already sold and merely awaiting shipment. The President had, in fact, been won over by the American interests, and the Cuban sugar interests, and indeed Cuban public opinion, quietly acquiesced, not because they hoped that without restriction things would be better, but because they felt restriction or no restriction were equally hopeless. Tarafa in utter disgust resigned not only the chairmanship of the National Sugar Commission, but all his public appointments, and retired to the country, leaving the Americans, so to speak, in possession of the Presidential Palace.

The handling of this reversal of policy could hardly have been worse. Even if he had in his own mind decided to end restriction, the President should have refrained from publishing the fact to the world at an unnecessarily early stage, and the American business men who provoked his action, acted very foolishly, unless they thereby made on the speculative market more than they undoubtedly lost, and lost quite needlessly, on the subsequent sale of their sugar! The removal of restriction in Cuba meant roughly another 1 million tons increased supplies, and therefore the greater the prospect of removal, the lower the marking down of the price of sugar. The publication of the President's personal views made removal a virtual certainty, and the decline in price was at once accentuated. The average monthly New York c. and f. prices were as follows: May 2·68, June 2·52, July 2·41, August 2·38, September 2·22, October 2·14, November 2·09, December 2·16. It seems only common sense to suppose that if the Cuban Government, whatever their private conclusions, had bluffed vigorously to the outside world and kept up every appearance of faith in restriction until the last possible moment, buyers would have remained in doubt, and would therefore have paid better prices than they did in fact do, and bought the same quantity, for world consumption in 1927–28 increased by nearly 1½ million tons, and was so nearly equal to world production that the carry-over on September 1, 1928, was less than 100,000 tons greater than in 1927. As it was, Cuba gave away more than 1 million tons of the restricted 1927–28 crop at, so to speak, non-restriction prices. There was no possible advantage in announcing the end of restriction until January 1929 at the very earliest, and the losses on the 1927–28 crop might have been very sensibly diminished if the President had not apparently lost his head when faced with the American ultimatum, for an explanation along the lines that the Americans would be bigger losers in the aggregate than the Cubans, and that the President acted in a spirit of petty revenge, is a little too ingenuous.

IX.—THE UNCONTROLLED CROP OF 1928–29.

The only restriction on the 1928–29 crop was the prohibition of grinding before January 1, and though some of the American mills desired to begin earlier because they feared a shortage of labour for dealing with an unrestricted crop, owing to the Cuban Government's restriction of immigration from Haiti, the more sensible majority prevailed. But any feelings of relief which producers may have entertained in the summer of 1928 at the prospect of no restriction, soon gave place to utter dismay. By the end of January 1929 the New York c. and f. price was below 2 cents, and there seemed no reason why the fall should be arrested, for the Cuban mills were underbidding each other in a thoroughly disorganised and reckless manner. The fall in prices was frightening the Americans, but it was really terrifying the Cuban mills. As early as mid-January, proposals had been put before the Planters Association by some of the members to establish a Single Selling Agency, and so remedy the " weak selling," but this was heavily defeated. By March, however, many of the big American interests had come to the conclusion that the Cuban Government, either on its own initiative or at the instigation of the Cuban mills, would shortly take a hand again in the game. How far the Americans felt that something must be done to relieve the situation, cannot be definitely stated, but on one thing they were certainly agreed, namely, that if anything was to be done, it was not to be done by the Cuban Government. Hence the formation in March of a Joint Foreign Sales Agency by most of the important American concerns, should probably be regarded not so much as a genuine attempt to remedy matters, but far more as an attempt to forestall any action on the part of the Cuban Government. The prime mover in this scheme was Manuel Rionda. He had all along been a supporter of restriction, and with a lifelong experience of both the commodity and the speculative sugar markets, he probably realised as well as anybody the unnecessary loss which was being caused by the disorganised weak selling of the mills in their urgent need of cash. But it must also be said that as a speculator he had probably been none too well pleased with the apparent ascendancy of Tarafa over the President, fearing that Tarafa was not above using this power for his own ends in the New York terminal market. Hence he was both genuinely disposed towards some measure of control, and also most desirous to keep Tarafa in exile. Rionda therefore became the manager of this Joint Foreign Sales Syndicate. Besides his group of concerns, the membership of the Syndicate included the General Sugar Estates Corporation, the Punta Allegre Sugar Co., the Cuban Trading Co., the Royal Bank of Canada, the Cuban Dominican Sugar Co., the Espana and Trinidad Co., the Atlantic Fruit Co., Cuban Canadian Sugar Co., the Guantanamo Sugar Co., the New Niquero Sugar Co., the Revere Sugar Co., and the Cuban American Sugar Co. Thus with the exception of the mills owned by the American Sugar Refining Co. and the United Fruit Company, neither of which were concerned in the sale of raw sugar at any rate outside the U.S., and the Cuba Company, which was presumably too much under the influence of Tarafa, practically all the big American producers were represented. The total output of these firms in 1928–29 was approximately 2 million tons, but the scheme only concerned sales outside the U.S. The members were to pool not less than 1 million tons, which was to be sold by the Syndicate through brokers in the ordinary way. An advance of 95 per cent. of the sale price would be made, and the remainder was to be paid when the returns from the total sales had been received. An invitation was to be extended to all producers of sugar to turn over to the Syndicate such amounts as they desired above a minimum of 2000 tons. The Syndicate apparently got to work at once, for early in April, sales to Great Britain aggregating 30,000 tons at prices 7 or 8 points above the New York parity were reported. The response to the general invitation was, as might have been expected, extremely limited, for the Cuban mills were hardly likely to be willing to place themselves in the hands of the Americans, least of all if Rionda was at the bottom of the scheme. Of the subsequent history of the Syndicate, little information is available : it succeeded in selling its sugar before midsummer, but it certainly does not appear to have been able to check the fall in price, and whether its members were satisfied or not, they alone know.

The promoters of the Syndicate, however, certainly failed in their major objective, which was not so much to improve the price of sugar as to forestall any intervention by the Cuban Government. It had, in fact, the very opposite effect to that desired, for the Cuban Government was piqued by what they conceived, and more or less rightly, to be an attempt by a group of foreign capitalists to restrain them from the exercise of their sovereign powers. Moreover, public opinion was once more beginning to demand that the Government should make some attempt to save Cuba from the impending disaster which a continuance of the decline in prices would inevitably precipitate. Whether the Cuban President re-established friendly relations with Tarafa and blessed his mission to New York, or whether Tarafa took the initiative, and having gained a measure of support, re-established his supremacy, is difficult to say. But the point is not of importance compared to the fact that Tarafa once more appears upon the scene and quickly walks to the centre of the stage. It is probable that, but for American opposition and the difficulties of finance, Tarafa would have tried to establish a Single Selling Agency for the whole crop in 1927–28, and that the Export Corporation was in his eyes always a poor second best to complete unified control of marketing. The idea was by no means novel even then: it had been talked about for years. Now, in 1929, Tarafa had a trump card in his hand, and he played it for all it was worth in an attempt to rally the American and the Cuban interests under his flag. It has been said that the one common bond between the Cuban and the American mills, and also between the various divergent American interests, is their common desire to lower the American tariff on sugar. The tariff is the one, and almost the only, rallying-point for the industry as a whole, and the tariff was due for revision during the summer of 1929. Tarafa's trump card was his argument that if a Single Selling Agency was established, Cuba should be able to raise the New York price above world parity by the 44 cents of her tariff preference, and that this should go far to placate the U.S. domestic producers' campaign for a higher tariff, which, with the New York price at 10–20 points below the 2 cent level, was obviously likely to be extremely vigorous: at the same time, if it did not placate them, it would obviously weaken their case. Tarafa presented this argument both in New York and in Cuba, and preached it with great effect, particularly to the Cuban-owned mills and the Cuban Government, since in their eyes the prospect of a substantial increase in the U.S. tariff, with its consequent stimulation of duty-free production, seemed to set the seal on the doom of Cuba's sugar industry, and therefore on Cuba's whole economic welfare. Tarafa conducted his campaign with the greatest energy and skill, and gradually worked up the industry to a state of general agitation and excitement. Eventually, at the end of June, a meeting was held at which no less than 98 per cent. of the industry was present, and no less than 95 per cent. voted in favour of the Single Selling Agency scheme. Nothing but the tariff issue could have produced such unanimous support, though the nature of that support left much to be desired. The American interests had done their best to obviate any revival of Government control, and the proposed scheme involved far more direct intervention by the Government than ever before. But they were frightened by the new tariff proposals, and they probably realised that they had lost the ear of the President, and that if they did not follow Tarafa's lead, he would drive them with the Presidential whip. It was better to show a bright face, and participate in the proposed scheme rather than have no say at all in the matter. The Cuban interests disliked Tarafa and distrusted him, while they entertained no great hopes of the success of the scheme. Nothing, however, could be worse than the existing situation, and so there was no great harm in allowing Tarafa to experiment, while if he really did succeed in preventing an increase in the U.S. tariff, that would certainly be a great score. Though, therefore, Tarafa gained so much support, it was of a rather grudging and indifferent character: there was not that whole-hearted belief and enthusiasm which commands the self-sacrifice needed to surmount great difficulties and to withstand great strains.

Tarafa carried the resolutions of the meeting to the President, who under the circumstances naturally promised to give effect to the united desires of the industry. Had there not been the direct issue of the tariff to arouse such universal support for the scheme, it is probable that Tarafa would have persuaded the President to take the initiative, but actually the President had only to give effect to the virtually unanimous and definitely declared wishes of the industry, and he must have been truly thankful to be able to avoid any further responsibility. On July 20 Tarafa issued a public statement to the effect that a presidential decree was being prepared establishing a Co-operative Export Agency, which would take over all unsold stocks in Cuba on July 31, and which would market all future crops. On July 26 such a decree was signed and published by the President, but the date of commencement was fixed not for July 31 but for August 31. This was a somewhat extraordinary change of plan. It may have been that Tarafa found the necessary machinery could not be set in motion so quickly as he had imagined and that postponement was inevitable. Such an explanation is simple and sufficient, but it is not the explanation which has gained popular credence. The popular explanation is that Rionda and several of his American friends had very heavy bear accounts on the New York terminal market, and that if the Single Seller had been established as from July 31, they would have been badly caught by the resulting rise in price before they could liquidate: accordingly, they took the President on a fishing party and there persuaded him to give them a month's grace! Tarafa is said to have been furious when he was informed of the change, though it may be observed that rumour has not credited him with a heavy bull account on this occasion. This very delightful little story may or may not be true either in whole or part, but it well illustrates the preoccupation of the Cuban, and even of the American mind, with the doings on the New York terminal market, and their instinctive feeling that the explanation of any unusual development is to be found there.

Tarafa, however, had not by any means confined his activities to Cuba and the U.S. The fall in prices had frightened not only the Cuban sugar industry, but almost every producer in the world. Producers within the U.S. tariff wall were pinning all their faith and devoting all their activities to the raising of that wall still higher, but the European beet producers, since they already enjoyed almost unprecedented protection or equivalent bounties, could hardly hope to solve their troubles in the same way. Led by Czecho-Slovakia, which is by far the biggest exporter of beet sugar, the European producers were rapidly becoming convinced that some international control of exports was absolutely necessary. The Czech industry sent representatives to Cuba, and Tarafa was, of course, only too pleased to respond, and to facilitate the resumption of the negotiations which had so sadly come to nought the year before. Eventually a long series of conversations and conferences was begun at Brussels in June, and continued at intervals. Tarafa was too busy to go personally, and Cuba's representative was Louis N. Perez, an extremely able man of sound judgment but without Tarafa's enthusiasm for controlled production and marketing, and without his driving-power. Tarafa had, however, learnt his lesson in 1928, and he was not going to set too much store by agreements with Europe. Though it had been expressly stipulated that the Berlin scheme of export quotas would be invalid if no agreement was reached with Cuba for the 1928–29 season, yet Cuba felt that Europe had not played the game properly: Cuba had shouldered the whole burden in 1927–28, and Europe ought somehow to have eased that burden so that it did not break Cuba's back. In 1929 Tarafa felt that Cuba's position was much stronger. With the crop under centralised control, Cuba would be able to get the full 44 cents differential in New York, and even if the world price remained very low, she would not lose more than other producers. Europe had not been at all pleased with an unrestricted Cuban crop of 5·2 million tons in 1929, and if Europe was not careful the next Cuban crop would be bigger still. Hence Cuba was not supplicating Europe in 1929 as she had been in 1927–28, for, apart from the new weapon of the Single Seller, Cuba felt that the European beet producers had now shot their bolt so far as increased production was concerned: the highest pre-war crop had been equalled in 1928–29, restoration was complete, and further expansion seemed most improbable. What worried Cuba far more, was the possibility of further expansion behind the U.S. tariff wall, especially if it were raised higher. Any considerable increase in the U.S. beet crop seemed unlikely, and opinions differed as to the potentialities in Hawaii and Porto Rico, but there was unanimous agreement as to the possibility of an enormous expansion in the Philippines. The crop had been doubled since the 1922 tariff, and planting had been very heavy in anticipation of a higher tariff in 1929. But the leading politicians in the islands have long realised that when the Philippines gain their independence, the U.S. will impose a tariff on Philippine sugar, and that if a big industry is built up on the existing duty-free basis, serious trouble is likely to ensue if that basis is changed. Hence the Philippines were ready to discuss with Cuba a reasonable restriction of new planting. These discussions had the tacit approval of the U.S. Government, receiving the powerful support of Secretary Stimson, who used to be Governor of the Philippines. Negotiations were thus proceeding during the latter part of 1929, not only with Europe but also with the Philippines, and in Cuba the latter negotiations were considered by far the more important, and, moreover, the more hopeful.

Returning to Cuban home affairs, it may be observed that the campaign for the establishment of a Single Selling Agency and its successful issue in the decree of July 26, had been sufficient to raise the New York average monthly c. and f. price from 1·75 cents in June to 2·10 cents in July. The postponement of the date of commencement resulted in an average for August of 2·05, but for September it rose to 2·22 cents. On July 1, stocks in Cuba amounted to 2,292,000 tons: by October 1, there had been a reduction to 1 million tons. It is estimated that the Single Selling Agency took over about 1,300,000 tons of unsold sugar on September 1. During the 1928–29 season, world production had increased by about 1·3 million tons, considerably less than had seemed likely at the beginning of the season. The increase of ½ million tons in Java had been offset by a reduced crop in India, and small increases in some other cane-producing countries had been offset by small decreases in others, as, for example, in Porto Rico owing to hurricane damage, leaving only the net addition of 1 million tons from unrestricted production in Cuba, together with an increase of 300,000 tons in the European beet crop. Consumption at the very low level of prices had succeeded in swallowing over $1\frac{1}{2}$ million tons more, thus leaving a carry-over of 2·8 million tons, an unheard-of amount, but less than at one time might have been expected: roughly one-half of these stocks were in Cuba. That the mere announcement of the establishment of the Single Seller Agency should have had such an effect in raising prices, when these enormous stocks were available, seems somewhat surprising, but the outlook was for no considerable further increase in production, while there was no certainty whatever that consumption would not shoot ahead and remove all the surplus stocks during the coming season. A price level of $1\frac{1}{2}$–$1\frac{3}{4}$ cents f.o.b. Cuba, when world production and consumption were nearly in equilibrium, seemed low enough even if there were $1\frac{1}{2}$ million tons surplus stocks,* and the announcement of the Single Seller just gave the impetus which the market required to raise prices to a level which would not, at any rate for a time, result in any drastic curtailment of supplies through the inability of producers to carry on.

* *I.e.* allowing 1 million tons as the normal level of convenience.

X.—THE CO-OPERATIVE EXPORT AGENCY, 1929–30.

The launching of the Single Seller scheme was therefore most successful, and Cuban opinion was strengthened by the apparently concrete evidence of its power to terrorise buyers. By the decree of July 26 the President had appointed the Sugar Export Corporation, which had only been suspended and not actually dissolved the year before, to act as the Single Selling Agency, pending the organisation of the agency on the proposed co-operative basis. It was also provided that the President of the National Commission for the Defence of Sugar should be *ex officio* president of the new Co-operative Export Agency. Further, the President of the Republic reserved the right to veto or suspend the Agency's resolutions "at any time that the resolutions of the board of directors might affect the stability and proper functioning of the Co-operative Export Agency or the international pledges and agreements which, for the benefit of the sugar industry, may be entered into by the Executive with other bodies or representatives of industries." This, however, should not be regarded as constituting the Export Agency a State institution, such as the Export Corporation had been. The whole business of selling the sugar was entirely in the hands of the Agency, and for practical purposes the Presidential veto could only concern the quantity to be sold, either in the aggregate or in particular markets. The American interests had fought hard to restrict the Cuban Government's powers of intervention to a minimum, and on the whole they had succeeded, for though Tarafa may have desired more power for the State, the President and his Ministers were probably only too thankful to be excused. In the ensuing elections to the board of directors, good care was taken to placate the American interests by giving them ample representation, and some of those who had at one time been the sharpest critics of the scheme, found themselves effectively muzzled by their election to office. The Cubans succeeded in keeping Tarafa off the board, and also Rionda, on the ground that they were interested parties. Indeed, it seems that mutual jealousies and fears resulted in the non-election of nearly all those men who by their experience were most fitted to perform the work which the Agency had to do. With one notable exception, the American representatives were the managers of American-owned mills in Cuba, and as managers they had had little to do with the marketing of sugar: that was not their primary job. The Cuban representatives were also quite inexperienced in marketing, compared with the Riondas or even Tarafa, and several others. It is indeed a great difficulty for nearly all raw material producing countries to find within their borders men who have first-class experience of the world's chief markets for their products, or even adequate knowledge of the many factors in such marketing operations, for the world's markets are usually far away at the chief centres of consumption, and a man must make their study his life's work. A knowledge of the primary sugar market in Havana in so far as it can be said to exist, or even of the world's markets as seen from Havana, is a quite inadequate equipment with which to tackle the distribution of 5 million tons of sugar throughout the world at prices which must largely depend upon the seller's own actions. This generalisation applies less to Cuba, with its close relations with the New York market, than to most countries, but the Cubans appear to have so distrusted their most experienced men that they preferred to dispense with their services.

The actual sales mechanism of the Export Agency was essentially the same as that of the Export Corporation for European shipments in 1927–28. Buyers had no option as to the mills from which their sugar would come, but the refineries which were accustomed to importing direct from their own centrals, were allowed to express the wish that the order might be filled from their centrals, and naturally such wishes were in the main met. So far as possible the Agency was to try and maintain uniformity in the proportion of each mill's output sold to date, but as under the Export Corporation, this could not be done strictly without additional expense, and so those producers whose sugar was sold first, were to pay interest to the others: no scheme of equalisation was, however, applied in the case of the unsold stocks of 1928–29 sugar which had been taken over on September 1, as it was obviously unnecessary, and could not have resulted in fair treatment all round.

The whole scheme clearly depended on the solution of the problems of financing the mills. This included not only the financing of stocks if such had to be held, but also the ordinary normal financing required to harvest the crop. For the mills were accustomed to finance themselves by loans from the banks and the merchant houses at all stages, against growing cane, against sugar in process, and against actual sugar in warehouse. Under conditions of individual selling the lender could liquidate any sugar left on his hands by the failure of his creditor, and what is more important, he could bring pressure to bear upon his creditor to sell if he suspected the soundness of his creditor's position. With all rights of sale vested in the Co-operative Export Agency, the banks and merchant houses could hardly be expected to lend with the same freedom as before, and for what they did lend, they would probably want much wider margins. The large American concerns and the few large Cuban mills could presumably be left to surmount this difficulty, since they had close connections with the American banks. The real difficulty was with the Cuban-owned mills. Since the 1921 financial crisis, when all the Cuban banks went into liquidation, the ordinary Cuban mills had been financed mainly by the merchants, the mills undertaking to repay the advances required during the growing season by marketing their sugar through the merchant. The basis of this credit system was really the personal character of the planter. But the establishment of the Export Agency meant that these Cuban mills would no longer be able to undertake to market through the merchant, and therefore they would have to have recourse to the American banks, with which they had no personal relations, and which would obviously charge highly in view of the uncertainty of the time when the mill would receive payments for its sugar, if indeed they were prepared to lend at all for the long periods which these planters would very likely require. Thus the normal financing methods were greatly disarranged by the establishment of the Export Agency. Moreover the Agency would almost certainly require to postpone its sales at times when demand flagged, and if it could carry increased stocks for a period, so as to allow consumption a little more time for expansion, it would obviously be most advantageous. If the world knew that owing to financial difficulties the Agency had to sell at a certain minimum rate, its position as a seller would be greatly prejudiced. Thus there was a double financial problem.* The obvious solution would seem to have been the establishment of a State banking department, financed by the Cuban Treasury, and working hand in hand with the Co-operative Export Agency. But the Cuban Treasury was already strained to the limit of its resources, and since Cuba's foreign borrowing is under the control of Washington, any such help from abroad was out of the question, for Washington would never sanction a foreign loan for the purpose of "gambling in sugar." The only hope lay in the co-operation of the American banks, and all through the autumn the most strenuous efforts were being made to enlist their co-operation.

Mention should also be made of the purely physical problem of holding large stocks. The centrals of the pre-war period were mostly built with sufficient storage space to meet all but the most abnormal requirements. But those built hurriedly during the war had very little, because in those years the sugar could not be shipped out fast enough. During the expansion of 1922–24, shortage of capital in most cases forbade the provision of facilities which with good luck might never be used. Similarly, the ports in the western provinces have always had ample warehouse capacity, but not so the new

* It may also be observed that the Export Agency greatly restricted speculation on the New York terminal market. Normally the speculative public carries 300–400,000 tons of sugar, and additional financing of, say, half this amount now had to come from somewhere. This was, however, a minor difficulty, and one which would, so to speak, have largely solved itself.

ones in Camaguey and Oriente. Considerable additions had perforce been made during 1927–28, when the mills had to hold their sugar under the control of the Export Corporation. In 1929 there were storage facilities in Cuba for about 3 million tons. But it was still very unevenly distributed. While not a difficulty comparable with that of finance, this physical problem of storage might have greatly complicated matters for the Export Agency, and would certainly make the adjustment of returns as between sugar sold at different times, much more difficult than it would have been, if storage facilities had been ample and evenly distributed.

Though, as has already been observed, the mere announcement of the scheme had been sufficient to raise prices very substantially, the Export Agency was unable to make any large sales for two or three months owing to the considerable supplies already in second hands: these holders of actual sugar made very substantial profits at Cuba's expense, though this was, of course, unavoidable. The Export Agency did not, however, try and force further supplies on to the New York market, and until the end of October the price was well maintained. By that time, however, opinion was hardening against the probable success of the scheme, since little progress appeared to have been made in the provision of the necessary financing arrangements. The Wall Street crash and the general fall in the prices of other raw materials also exercised a depressing influence. In November the Export Agency was refusing bids for substantial amounts by European importers, which should certainly have been accepted in the light of subsequent events. But the Agency appears, right from the start, to have made the maintenance of a 2 cent c. and f. New York price-level a cardinal principle, and to have obstinately refused bids only a point or two lower. Doubtless the maintenance of this price had a certain psychological importance, but this should not have been allowed to outweigh the practical importance of avoiding any carry-over of old crop sugar. Cuba was not in a position to dictate prices by any rigid principle, and the Agency's slowness to avail itself of every reasonable opportunity to pass on supplies, must be put down either to the failure of the members of the Sales Committee to realise the limitations of the scheme, or simply to their inexperience in the art of marketing. In order to try and dispose of the surplus stocks, grinding was postponed by Presidential Decree until January 15, an action which was all the more necessary that season since bad weather had delayed the ripening of the cane. With the New Year, prices continued to decline even when the Agency kept out of the market altogether, and as the new crop sugars became available, the Agency took the bold step of offering sugar to American refiners at 2 cents c. and f. with a guarantee that during the period of shipment these terms of sale would remain unaltered. This failed, however, to stimulate any large volume of buying, and at the end of February the Agency repeated its offer with a guarantee against any reduction before March 28. The New York market treated this as a sure sign of defeat, and business came to a complete standstill so far as the Agency was concerned. Relatively small sales were also made to Europe, but at the beginning of March there were 815,000 tons of sugar in Cuban ports and 850,000 tons at the mills, practically all of which was unsold, while every day the mills were adding their peak production of the season. The position of the Cuban-owned mills was becoming desperate. The American mills had not only a stronger financial position in general, but they could borrow from the American banks. The smaller Cuban mills had the greatest difficulty in doing so, and it is significant that the revolt against the scheme was headed by the producers in Santa Clara province, where the Cuban-owned mills are mostly located. By the end of February, the termination of the Agency was being loudly demanded by several leading Cuban newspapers. Eventually internal dissension boiled over, and a general meeting of the mills was called for April 3. Statistics, published by the Agency, showed that up to March 22, 1930, the Agency had sold a total of 913,810 tons, of which 395,405 tons were old-crop sugar, at an average price equivalent to about 1·9 cents c. and f. New York, and 518,405 tons were new-crop sugar at an average equivalent to about 1·75 cents. The actual shipments of new-crop sugar were only about 10 per cent. of the total estimated output to that date. Contrary to expectations, however, the voting went in favour of the retention of the Agency: 12,918 votes in favour and 11,139 against. The Cuban-owned mills voted solidly against the Agency, but a large majority of the American mills voted in favour, even though at the start they had viewed the scheme with very little favour. This complete change of attitude on the part of the two parties is, however, readily understandable. To the Cuban-owned mills the retention of the scheme meant death from cash-starvation, and that right soon: the American mills were able to carry on, and they saw that if they did carry on, the majority of the Cuban mills would be bankrupt within a few weeks, with the result that grinding might summarily cease, and thereby reduce the current crop, while at any rate the excess supplies would be relieved in the following season. In other words, the American mills saw that the retention of the Agency for a few weeks would remedy the whole situation in the only way in which it could be permanently remedied, namely, by the destruction of the high-cost marginal producers. But the results of this meeting obviously created an impasse: the majority was too small. If the Americans insisted upon the retention of the Agency, the inevitable result would be that the Cuban Government would dissolve it, or, worse still, allow any member to withdraw who wished to do so. An open conflict between American capital and the Cuban Government was the last thing to be desired. Consequently, a further meeting was held on April 14, at which the dissolution of the Agency was duly carried.

Thus ended a scheme which on paper was wholely admirable and full of promise. It failed, and must have failed, in its major object of raising, or at least maintaining, world prices through inability to secure the requisite finance for holding stocks on a large scale. Whether it need have failed quite so dismally to achieve the more limited objectives of preventing weak selling, and of obtaining for Cuba at least some part of the U.S. tariff preference, may be doubted. If the Agency had not held out so rigidly for a certain definite price, in futile effort to achieve what could not be achieved without substantial financial resources, but had sold off the balance of the old crop at the prices which were, in fact, bid, and had offered attractive prices for future delivery of a certain tonnage of the new crop, the mills might have received sufficient cash to enable them to carry on the harvest. The argument that it was essential to hold up prices in the New York market in order to prevent the threatened increase in the American tariff cannot be allowed much weight. In the first place, during the autumn of 1929 the general opinion, both in the United States and in Cuba, was that that danger was steadily becoming more remote, and that while no reduction could be expected, at least there would be no increase. Secondly, the Agency should have realised that it was jeopardising its very existence, and that if it was dissolved, prices would fall much lower than those which it refused to accept. The great fall in price which accompanied the dissolution of the Agency, was, in fact, the main reason for the ultimate decision to raise the tariff, a matter which will be referred to in the next section. Little excuse can therefore be made on this account, and the only conclusion is that the Agency did not succeed in accomplishing even what it might have done, simply on account of the folly or stupidity of those in charge. Put in more general terms, the failure of the scheme was due to weakness of personnel, on which subject comment has already been made.

XI.—THE PRESENT POSITION AND PROSPECTS.

The termination of the Export Agency was the signal for a fresh decline in prices: the average New York c. and f. price for February and March had been a little over 1·8 cents, and now dropped for April to a little under 1·7 cents. The uncertainty produced by the long-drawn-out battle over the U.S. tariff was blamed for further declines in May, which averaged only 1·44 cents. These prices broke all previous records: even in 1902, just before the Brussels Convention, the minimum quotation was 1·56 cents. In the light of subsequent events, however, little blame can be thrown on the U.S. tariff negotiations. As has been said above, during the winter and early spring the general opinion had been that there would be no change in the sugar tariff. But the collapse of the Cuban Export Agency and the apparently endless decline of prices, strengthened the hands of the U.S. domestic producers, and eventually, on June 18, the full duty was raised from 2·206 cents to 2·50 cents, on the basis of 96 degrees polarisation. Cuban sugar was, of course, still to receive a preference of 20 per cent., and therefore the actual differential was increased from 0·44 cents to 0·50 cents. The benefit of this increased differential, however, is purely potential, for it is impossible for Cuba to obtain it, whatever marketing organisation she might adopt, so long as the present conditions of excess supply continue; on the other hand, Cuba will undoubtedly lose by the stimulus of the higher protection to producers within the tariff wall, while when prices return to a higher level, if not under present conditions, consumption must be affected adversely to some extent, despite the general inelasticity of the American demand.

Neither the large sale of 135,000 tons of Cubas to Russia during the last week of the tariff discussions, nor even the tariff itself, had any effect, however, in arresting the decline in price. Such large stocks had been accumulated at the U.S. ports in anticipation of the tariff increase that sugar was offered freely without regard to the new higher duty: merchants and speculators made no attempt to derive a positive advantage from the tariff change. Equally American refiners are said to have accumulated considerable stocks in anticipation of an increase in the tariff, and they now began to work off these stocks, reducing their demands for fresh supplies even below their current rate of melting. Hence though the New York price averaged 1·4 cents during June, there was no appreciable business with Cuba. In fact, Cuba was selling very little anywhere. The last mills ceased grinding at the end of June, and the season's production was 4·7 million tons. Stocks at the ports and in the interior then amounted to 3·3 million tons, practically all of which was unsold, while it is quite possible that the interior stocks are somewhat under-recorded. At the beginning of July, some Cuban sellers were evidently forced into the market by a shortage of cash, and some business passed at a little over 1·25 cents, thus registering a further break in the price, which had really taken place, so far as Cuba was concerned, a month previously. Up to the middle of August this general price-level was maintained, though with difficulty.

It is clear that the price-level at the moment bears little or no relation to cost of production, nor indeed to consumption. The decline during this summer represents in the main the unwillingness or inability, or both, of merchants and speculators to carry stocks on the scale which is really required. At the end of each month it has seemed impossible for prices to decline further, but each month the impossible has happened, and the holders of stocks have lost heavily, while the margin between the spot price and prices for future delivery has become abnormally large. Merchants and speculators have virtually declined to hold stocks, and this function has been thrown back upon the shoulders of producers. Thus the stocks in the U.S. ports are only some two or three hundred thousand tons above what may be termed a normal level, and invisible stocks are almost certainly negligible. On the other hand, Cuba holds nearly three-quarters of her crop unsold. It is, in fact, most surprising that the mills, especially the Cuban mills, are managing to carry so much of the crop in view of their weak financial position. Presumably they have managed to pledge sugar with the banks for just sufficient to provide their current cash requirements during the grinding season, while all expenditure on cultivation is being reduced to an even lower minimum than in recent years. How long Cuba can refrain from flooding the market depends on the extent of the carry-over which the banks will allow. Clearly Cuba has got to sell at least 2 million tons before next year begins, and the question is whether refiners will become interested to that extent, or whether pressure to sell on the part of Cuba will cause a further drastic break in prices.

Since refiners are living from hand to mouth, much depends on the rate of consumption. In the U.S., consumption during the first six months of this year is estimated as showing a decline of nearly 150,000 tons as compared with the first half of 1929. The statistical consumption of Europe up to the end of May also shows an appreciable decline, for which Germany and Great Britain are mainly responsible. The effects of world depression on purchasing power have certainly not yet been fully developed, and it will be surprising if world consumption reaches within 1 million tons of the 1929 figure. But it must be remembered that the producer receives demands not directly but through the medium of the refiner. It seems certain that invisible supplies are now very small, and if any development could occur to reassure the market that no further fall in price was likely, refiners and middlemen generally would probably hasten to buy in order to rebuild their stocks with the cheapest sugar ever known. For production and consumption are not so far out of equilibrium. If world consumption in 1929–30 had been equal to the previous season, there would have been no maladjustment at all, and the only trouble would have been the 1·8 million tons of stocks over and above the 1 million tons which may be considered the level of convenience. It is the decline in consumption, and the consequent prospect of a further addition to the already huge carry-over, which has made matters so infinitely worse. It is, of course, too early to speak of the 1930–31 crop, but it is to be feared that any effect of low prices in further reducing crops in Cuba, and other countries producing for the world market, will be at least offset by the effect of higher tariffs in stimulating further production elsewhere. Even with a stationary production, however, any resumption of the normal trend of consumption, together with the rebuilding of invisible stocks, would quickly dispose of 2 million tons surplus stocks. The present crisis is fundamentally a crisis of stock-holding, and not a crisis due to seriously excessive productive capacity, for any further reduction in capacity which is required in

Cuba to meet the increased duty-free capacity likely to result from the U.S. tariff, may safely be left to the care of a price-level of $1\frac{1}{4}$ cents. The time seems, in fact, to be approaching when some further experiment in artificial control might produce most beneficial results. Rumours have already begun to spread concerning the formation of stock-holding pools by financial interests. If a pool could be formed to buy up, say, 1 million tons, and thus satisfy the most urgent cash needs of the Cuban mills, the market might feel it had got sufficient assurance against a further price fall, and refiners and middlemen would then take care of the remaining supplies. The danger to-day is that without some such assurance and encouragement, the demand will continue sluggish, and Cuban sellers, forced to press their supplies on the market, will send the price in a further headlong fall. It may seem incredible that the price can go any lower, but since it now really depends simply on ability to hold stocks, and has little relation to conditions of current production and consumption, there is almost no limit to the potential fall. Doubtless the turn will come before long, but it may be just too long, and if so, the whole national economic life of Cuba will probably be shaken into ruin.

Cuba's position is indeed most critical. Economically Cuba ought to have been brought within the tariff wall of the U.S., which would then have obtained virtually its whole supply of sugar from the island, as well as much other agricultural produce of a semi-tropical character, at much cheaper cost to the American consumer. As things have been, the U.S. has built up during the last twenty years not only a large beet sugar industry, but a still larger cane sugar industry in Hawaii, Porto Rico, and Louisiana. If Cuban sugar entered the U.S. without duty, these industries would rapidly cease to exist, but the more efficient the Cuban sugar industry becomes, the higher will the U.S. tariff be raised. Even if public opinion in the U.S. becomes more hostile to tariff protection in general, the sugar tariff must be maintained at least at a level which will preserve these protected industries on something approaching their present scale, even though further expansion may be stopped. In Cuba, a large body of opinion inclines to the belief that the U.S. tariff is being employed as an economic weapon to force Cuba to acquiesce in annexation by the United States. The truth is that the United States would be vastly embarrassed by any such development, at least until its sugar requirements have grown sufficiently to take all that Cuba can produce as well as the present, duty-free supplies; and since Cuba can certainly produce enormously more sugar than at present, that time is far distant. But whatever the attitude of the U.S., Cuban nationalism is probably strong enough to defeat any proposal for annexation, however desperate the economic position. As regards the U.S. market, Cuba will continue to supply the balance of its requirements, and since in all probability American opinion is turning against extreme protectionism, there will be little further expansion in duty-free supplies, and accordingly that balance will steadily grow.

As regards the rest of the world, it seems doubtful whether Europe can materially increase her beet production. In the Far East, Japan, including Formosa, will probably maintain its newly-won independence of Java supplies, and for a time it is clear that Java will have difficulties in disposing of her recently increased production. But a further increase in the Java crop can only come from more intensive cultivation, since there is little more land available so long as the Dutch Government pursues its present policy. If the Philippines gain their independence and their sugar is subject to the U.S. tariff, additional supplies for the Far East will become available from that source, but there will probably be no great expansion for a long time. Other appreciable sources of supply mostly depend for expansion on the maintenance or increase of protection, and there must surely be a limit. Thus the day when Cuba triumphs over the wave of economic nationalism, which has so nearly engulfed her, may not be far distant, for the world's consumption is far from saturation point, quite apart from the results of population growth. Cuba's trouble in the long run is not that the world is ceasing to require her sugar; her real trouble is whether the business of producing this sugar is to pass entirely into the hands of the American capitalist, leaving to the Cuban people merely the rôle of the dogs under the rich man's table. The Cuban sugar industry repays study not only in respect of its recent experiments in economics, but in respect of many other broader and most interesting problems which are embraced by that now somewhat old-fashioned title, political economy.

XII.—THE EFFECTS OF DEPRESSION ON THE AGRICULTURAL SIDE OF THE INDUSTRY AND THE AGRICULTURAL POLICY OF THE CUBAN GOVERNMENT.

Such a title really merits an exhaustive treatment by some person properly equipped for the purpose with a technical knowledge of cane farming, and an intimate acquaintance with even the more remote country districts of Cuba. The present writer has no such qualifications, and offers here only a brief sketch of those features of the situation which have a more direct bearing on the economic and commercial problems with which the above study has been concerned.

In the first place, the reader may well ask himself how it is that there has not already been a wholesale abandonment of mills and plantations if the average cost of production, including a return of 5–7 per cent., as has been said in Section V above, cannot be covered under a New York c. and f. price of much less than 3 cents. For the five years 1925–29 the average price has been roughly 2½ cents, and in three of those years there was a substantial restriction of output, involving greatly increased costs per unit of product. In 1929 the average price just reached 2 cents, while for the first six months of 1930 it has been approximately 1·7 cents.* Granted that all profits were sacrificed, it still appears somewhat mysterious that the industry should have been able to carry on without a substantial reduction of capacity. In all, there has probably been a quite appreciable acreage abandoned, but it has mostly been in the form of odd fields here and there: fields which were left uncut during restriction and where the cane had become too dried up: fields which had become so choked with weeds that the undergrowth had to be burnt before the cane could be cut, with the result that weed growth was so stimulated in the following season that the new cane shoots became choked, the cost of such weeding being prohibitive: and new fields which were planted in 1922 and 1923 and have failed to fulfil expectations owing to the unsuitability of the soil. But there have not been cases where mills were unable to grind through lack of sufficient cane supplies, and the decline in the 1930 crop has been due far more to unfavourable weather conditions than reduction of acreage. In the main the growers of cane have so far been able to carry on, as have also the mills themselves.

Briefly the explanation is as follows. Since the mills pay † for most of their cane in proportion to the average price which they obtain for the sugar, the cane farmers (colonos) have received less than an "economic" price for their cane. In addition, since the centrals, particularly the Cuban-owned centrals, have not been able to borrow to the usual extent, they have cut down the scale of their customary advances to their colonos during the growing season. The colono has been hit in both these ways, and the need to reduce his wage bill, owing to shortage of cash, has prevented any recourse to more intensive methods of cultivation as a means of salvation. He has therefore had to take the other alternative, and cultivate more extensively by reducing his expenditure on weeding, etc., and more cheaply by reducing rates of wages for such labour as he does employ. Everywhere weeding has been cut down to a minimum, and except in a few districts where the resident labour has some alternative employment, wage rates have been cut by half or even more. This cutting of wage rates is sedulously denied, for any admission would be used by the U.S. domestic producers as a weapon in their campaign for a high tariff protection, but there is no doubt whatever that the customary wage rates now exist only on paper. In 1929 field-workers were lucky if they got 40 cents a day instead of one dollar, and many mills were not paying more than 20 cents. Moreover, the result of reduced weeding is that the work of cutting the cane is far more arduous, and any given piece-work rate yields much less than it would under proper conditions of cultivation. Thus the colono has in these two ways reduced his costs of production enormously, but even so, few of them have been able to make more than a bare living. The chief victim of cheap sugar has been the Cuban labourer, for even at starvation wages many have not been able to obtain reasonably continuous employment. Conditions in the country districts were terrible towards the end of the growing season of the present crop (*i.e.* in the autumn of 1929): what they will be like this autumn beggars imagination.

The consequences in the immediate future are, of course, the main interest from the commercial point of view. Is the present reduction of costs entirely at the expense of efficient production, including in that term the customary standard of living of the Cuban agricultural worker, and therefore only temporary, or is it that the present distress is likely to stimulate greater efficiency in the long run? The answer is still extremely problematical, but there can be

* The corresponding f.o.b. Cuba prices would be at least 0·15 cent less.

† Administration cane (*i.e.* cane grown by the mills themselves) does not amount to more than about 15 per cent. of the Cuban crop.

no doubt that radical changes in the organisation of the industry have already become noticeable: the doubtful issue is whether these developments will lead to any considerably greater efficiency. These changes centre round the colono himself. As has been explained in Section IV, the American mills favoured the large-scale colono, and especially in the days before the war his was both a pleasant and a profitable existence. Some few of them were extremely skilful specialists in cane farming, and were most usefully employed on the older lands of the western half of the island, where the fertility of the soil and the prevalence of disease gave real scope to specialist knowledge. But many of them were incapable as farmers, and particularly on the new fertile lands of the east, the large colono was a mere parasite on the industry. These large colonos have been rapidly disappearing in recent years: the Americans now know enough about the agricultural side of the industry to recognise inefficient supervision when they meet it, and if the incapable colono has not decamped with as much as he can borrow (which occurrence has been so frequent that the bad debts on this account in the books of some mills are conspicuous), the central has refused to renew his tenure of their land, or in some way outed him. But the American mills have always desired to control the production of their cane supplies, and though bitter experience has convinced them that administration cane can rarely be produced as cheaply as it can be bought, that has not reconciled them entirely to the colono system with its tiresome accompaniments of perpetual loans which may not be recoverable for years, and only then if still more money is loaned to the debtor. The result of six years of depression has been that even the capable colonos are almost hopelessly indebted to the mills, and therefore it is becoming more and more common to reduce these colonos to the position of sub-managers, paid a small salary but dependent beyond that on the results they produce. The central thus obtains a greater measure of control, and knows how its money is spent, even if it is adding to its risks. Such manager-colonos must account for every penny, and the central's agricultural specialists must approve of all capital improvement or development schemes. The central finds all the machinery and transport, and arranges its colonias so as to take advantage of every development of technical progress. Ten years ago the line of development might have been a slow extension of ordinary administration cane. But the great importance of small overhead costs on the agricultural side and the lowest possible prime costs have been vividly demonstrated during the last few years. The system of administration cane as ordinarily understood, involves a heavy fixed charge for supervision by salaried American employees, and lacks the elasticity which is obtained when all but a small part of this charge depends upon results. This is one great advantage of the new system of colono managers, and it seems probable both that it will now extend widely, and that it would not have done so but for these years of depression. Whether in the long run it will be as cheap as the old large colono system remains to be seen, but at least it seems highly probable. Now that mill efficiency has been so highly developed, the American managers are free to give more attention to the agricultural side of the industry, and under the new system of sub-manager colonos experiments can be freely made, and improvements and discoveries can be instantly applied throughout the central's cane area, without encountering resistance from conservative individuals, as would have happened with the old system. The new system appears to possess all, or nearly all, the advantages of the old, but without its main drawbacks.

The old large colono system has therefore been shaken to its foundations. But at the same time these years of depression have seen a remarkable growth in the number of small-holders who grow a few acres of cane as an adjunct to a simple kind of subsistence farming. These men cannot truly be termed peasant proprietors, for they rarely own their land, which in most cases is leased from the centrals or some large landowner, but they have considerable security of tenure in practice. The small-holdings are entirely family affairs: each has a little thatched cottage, a relatively large garden, cows, pigs, chickens, perhaps some orange trees, and always a grove of banana trees to provide their staff of life. In addition they grow 60–120 acres of cane, on which they rely to produce cash for clothing and to cover the expense of sending the children to school. The larger holdings will require some assistance at harvest-time, but otherwise the labour of the family suffices, this labour, of course, being expended without reserve from daylight to dusk. These small-holders are reasonably content with 2 cent sugar, and prepared to go on producing cane at that price-level until it rises, when they expect to make their fortunes. For practical purposes their costs of production may be said to be nothing, for they could probably eke out an existence of a sort without their cane, while they cannot lose on it whatever the price, since almost the whole cost of production is their own labour. Their standard of cultivation is high, and though they cannot obtain all the advantages of large-scale methods, the economy of mechanical ploughing is being secured in some cases by four or five such small-holdings dispensing with hedges so that tractor-drawn ploughs, supplied by the centrals, can proceed right across the combined area. Alternatively the same end may in the future be secured by co-operative organisation. Mechanical ploughing is by far the biggest economy of large-scale cane farming, and the remaining economies may well prove to be balanced by the many advantages of a peasant proprietor system.

Probably there would have been some extension of this system under normal conditions, but these years of depression have resulted in such difficulties to the wage-earning field-worker that the more enterprising have been stimulated to take the plunge and start on their own, while difficulties with their colonos have made many centrals sympathetic towards an extension of this movement. Moreover, the Cuban Government has had to face a growing volume of unemployment in the towns, and the problem of intermittent employment in the country, since the large colonos have restricted their expenditure on cultivation; in addition there is a serious amount of unemployment due to the introduction of mechanical power, and this will certainly increase, for there will probably be little expansion of cane area for some time, and there are few other industries which are likely to require additional labour. Accordingly, the Cuban Government welcomes the growth of these small-holdings in the belief that they can compete with the large-scale methods of the Americans. These small-holdings will absorb the surplus of country-bred workers, and the way will then be open for the unemployed in the towns to obtain employment as drivers of tractors, mechanics and so on, at which jobs they may well be found efficient, and even more efficient than the slower-witted, less educated agricultural labourers. The agricultural policy of the Cuban Government is based on the desire to extend this small-holdings movement until the agricultural side of the sugar industry, if not the manufacturing side, has been restored into Cuban hands. Unfortunately the Cuban Government is powerless to help where help is most needed, namely, in the provision of long-term credit. But the movement is at least not being hindered by the Government. Whether these small-holders can compete with the new large-scale production of the American type, depends very largely on the progress of invention. So far, mechanical ploughing is the great advantage of large-scale production, and, as has been said, it is not impossible for the small-holder to avail himself of it, at any rate up to a point. Mechanical transport from the field to the railway siding still wages a fierce competition with the ox-cart, for the oxen feed on the cane tops during the harvest, and since that coincides with the dry season, there is plenty of rough grazing for the rest of the year. The great field for invention is in the actual cutting of the cane, but while experiments are continuous, the varying length of the canes * and the tangled mass of a cane-field, even when no unusual wind has been experienced, present most difficult problems to the inventor. No one can be sure that the requisite invention will not be made to-morrow, and it might be of such a kind as to place the small-holder at a great disadvantage. But for the present the small-holding system of cane-growing seems likely to spread, and it may be that the issue will remain undecided—large-scale methods in the wide lands of Eastern Cuba, and small-holdings in the west, each existing side by side and equally efficient in their different physical surroundings.

* The cane has not only to be cut at the bottom, but also the top joints have to be cut off at exactly the right spot: if too low, some cane with a satisfactory sugar content is lost, while if too high, valueless cane has to be transported and milled.

APPENDIX.—STATISTICAL TABLES.

Note.—The following tables present only such statistics as are specially relevant to the present study. The figures are mostly taken from Czarnikow's weekly reports and Farr's *Manual of Sugar Companies*, and the original source is usually Willett and Gray, or F. O. Licht.

TABLE I.
WORLD'S SUGAR PRODUCTION.

Crop Year.	Total World. (Million tons.)	Cuban Crop.	European Beet Crop. (Million tons.)
1914–15	18·5	2·6	7·6 *
1915–16	16·9	3·0	5·5
1916–17	17·1	3·0	5·0
1917–18	17·4	3·4	4·3
1918–19	15·8	4·0	3·2
1919–20	15·5	3·7	2·6
1920–21	16·6	3·9	3·7
1921–22	17·6	4·0	4·0
1922–23	18·4	3·6	4·6
1923–24	20·1	4·1	5·1
1924–25	23·7	5·1	7·1
1925–26	24·6	4·9	7·4
1926–27	23·7	4·5	6·9
1927–28	25·3	4·0	8·0
1928–29	27·1	5·2	8·5
1929–30	26·8	4·7	8·4

* In 1913–14 the European beet crop amounted to nearly 8 million tons, and had been 8·3 million tons in 1912–13, the record year.

TABLE II.
SUGAR PRODUCTION UNDER THE PROTECTION OF THE U.S. TARIFF.
(Thousand tons.)

	Beet Sugar.	Louisiana Cane Sugar.	Hawaii.	Philippines.	Porto Rico.	Total.
1919–20	653	108	508	209	434	1,912
1920–21	969	151	504	255	438	2,317
1921–22	911	290	502	338	362	2,403
1922–23	616	263	479	263	338	1,959
1923–24	787	145	626	372	400	2,330
1924–25	974	79	692	581	590	2,916
1925–26	804	124	705	437	541	2,611
1926–27	801	42	724	584	563	2,714
1927–28	965	63	807	622	671	3,128
1928–29	939	118	830	700	531	3,118
1929–30	909	178	815	750	747	3,399

TABLE III.
SUGAR PRODUCTION OF THE REST OF THE WORLD AFTER DEDUCTING THE CROPS OF CUBA, JAVA, EUROPE AND THE U.S. DUTY-FREE CROPS.

	(Million tons.)
1919–20	6·0
1920–21	5·2
1921–22	5·6
1922–23	6·5
1923–24	6·8
1924–25	6·6
1925–26	7·4
1926–27	7·5
1927–28	7·9
1928–29	7·6
1929–30	7·4

TABLE IV.
WORLD PRODUCTION, CONSUMPTION AND CARRY-OVER.
(Million tons.)

	1920–21.	1921–22.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.
Stock carried over on Sept. 1	1·6	2·4	1·2	1·3	1·0	1·6	2·6	2·4	2·5	2·8
Production	16·6	17·6	18·4	20·1	23·7	24·6	23·7	25·3	27·1	26·8
Total Supplies	18·2	20·0	19·6	21·4	24·7	26·2	26·3	27·7	29·6	29·6
Deduct Stock carried over at end of season	2·4	1·2	1·3	1·0	1·6	2·6	2·4	2·5	2·8	4·2*
Consumption	15·8	18·8	18·3	20·4	23·1	23·6	23·9	25·2	26·8	25·4

* Provisional.