Committee II — Expansion of Trade

THE MEASUREMENT OF AGRICULTURAL PROTECTION

Interim Report of Study Group

A. Introduction

1. The Group has met in Geneva in the week beginning 3 October 1960, being composed of the following five experts:

   Mr. J. Kirk (Chairman)
   Mr. L. Jeanrenaud
   Mr. C. Johansen
   Mr. D. McKay
   Mr. J. Richter

serving in their individual capacities and not as representatives of their countries. One member (Mr. Haefner) was unable to participate. The Group was assisted by the joint GATT/FAO secretariats.

2. In accordance with its terms of reference the Group of Experts has addressed itself to two questions: (a) whether or not it would seem technically possible, on professionally acceptable concepts and standards of workmanship, to calculate degrees of agricultural protection for individual countries and commodities; and (b) if so, what would be the most satisfactory method for such calculations. In principle, the Group considers that there should be a two-pronged approach, which would try to state degrees of protection with regard to individual commodities as well as degrees of protection for agriculture as a whole, country by country. Having regard to its terms of reference, the study has been confined to the measurement of agricultural protection, and has not been extended to the appraisal of policies of protection. But a country's estimate of its need for protection, insofar as it can be expressed quantitatively, is also relevant, and can fairly be stated along with the degree of protection actually given.

3. It is generally recognized that the measurement of protection is extremely complex. Were this not so, such measurement would have been made many years ago. Some of the difficulties that arise have been explored in papers already submitted in Committee II by Switzerland, the United States, Canada, and the Federal Republic of Germany, as well as in a paper by the GATT/FAO secretariats. These papers are annexed. The chief practical difficulties arise from the large variety of agricultural products to which protection is given, the many differences of type, grade and quality of those products, and the variety of forms which protection may take. There are also practical limitations in regard to the availability and the reliability of the needed statistics.
4. Some of the difficulties are those of detailed statistical investigation, but others are difficulties of concept and principle. For instance, the only theoretically correct procedure is to compare a given situation with that which would exist in the absence of the protection that is to be measured. This comparison cannot in fact be made because of the obvious impossibility of experimentation and the lack of comparable historical circumstances that could take the place of experimentation. The assumption of absence of protection would imply many consequential changes inside and outside the country concerned, which are not susceptible of evaluation.

5. Again, comparisons of domestic prices in importing countries with landed prices are open to serious criticism for a number of commodities. As noted in the Haberler Report and by the International Wheat Council, international prices, in particular for wheat, are largely determined administratively rather than by market forces. International prices in general are greatly influenced, and to an extent which cannot be determined, by support measures in certain exporting and importing countries, by export subsidies, and by various special arrangements between exporting and importing countries. Although the support measures and subsidies will be reflected in the calculations, their existence nevertheless distorts the basis of the comparison. In the case of sugar, the greater part of world trade falls under various bilateral or multilateral arrangements, and only the remnant enters the free market. For milk, the maintenance of more than one price level within countries and the possibilities of switching from one milk product to another preclude any simple forms of comparison. In a number of cases, therefore, somewhat arbitrary methods of estimating the degree of protection have had to be recommended. Yet another problem arises from the over- or under-valuation of some national currencies. These can be minimized by suitable procedures but cannot be entirely eliminated.

6. It could not in these circumstances be expected that the Group would be able to recommend any method or combination of methods for which successful application could be confidently predicted. The Group has, however, outlined procedures which, in present circumstances, it believes give the best promise of success. It recommends that they should be tested out in pilot studies, the results of which should be confidential until after final expert review. The theoretical and statistical difficulties that may arise cannot all be foreseen, and many may not emerge until after the pilot studies are completed. As in all economic research, a certain flexibility of approach must be permitted. Therefore, the Group could not lay down a complete set of rules. The results of the pilot studies would need to be assessed before the work can be carried further.

7. The Group suggests that pilot studies be undertaken for two countries. Subject to their agreement, the two countries might be the United States and one or two Western European countries. These studies should be carried out by the secretariats of GATT and FAO, with the collaboration of experts from these two countries, to be completed by February/March 1961. If the pilot studies confirm the feasibility of such calculations, countries might be asked to undertake the required study for their own agriculture and to entrust a professional expert inside or outside of government with this task.
8. What is here called the standard method is in principle applicable to most agricultural commodities. Studies that have been carried out in the past by GATT and FAO, however, have shown that the maximum coverage likely to be achieved in any country cannot be expected to be greater than 80 per cent of its agricultural output. Some commodities, for example fresh fruit and vegetables, are too variable in quality to lend themselves to anything more than a statement of tariff protection. The complexities of the milk and dairy products industries are such that special methods will be necessary. In any event, the estimates will require a well-developed system of agricultural statistics.

9. The significance of measurements of agricultural protection will depend a good deal on the coverage which can be achieved. At the one extreme, an acceptable, although limited, result would be to establish the degrees of protection being applied to a number of the more important individual commodities entering into international trade, such as grain, sugar, cotton, wool, etc. Even a small number of such measurements for individual commodities may have some value.

10. To express virtually the whole of each country's agricultural protection in one single figure would be a more difficult task, not only because this requires the greatest possible coverage of commodities, but also because there are substantial statistical difficulties in combining commodities into a single measure, and in relating that combined result to the size of the country's agricultural industry.

11. The commodity coverage found possible, the extent of agreement on the assumptions made (many are bound to be arbitrary) and the general acceptance of the reasonableness of the results will be an indication of the suitability of the standard method here recommended. At the same time these criteria should also make it possible to draw conclusions about the likely margins of error and the degree of comparability between countries. The method will thus be tested in the pilot studies. It is understood, of course, that the degree of success (of the method) may vary as between countries.

12. The standard method should, in principle, be applicable to all countries and most commodities. There are, however, obvious limitations to the usefulness of comparisons between countries in the tropical and temperate zones. The standard method has been so devised as to suit exporting as well as importing situations.

B. The standard method

13. The Group suggests that the contribution to farm income arising from governmental action or authority be assessed on the basis of the sum total of the difference between farm prices and import prices or export prices (for import and export commodities, respectively) plus all direct and indirect subsidies for agriculture (where not already included in the price differences).
14. The difference between the domestic price and the import or export price should be measured on the basis of the grower's price adjusted to a point of marketing comparable with the import or export prices, as the case might be. In this way differences in the degree of natural protection due to varying freight costs will be excluded, though differentials due to tariff differences, market management, or to membership in various commodity arrangement will still remain. If necessary, the export price should be adjusted for any subsequent payment of export subsidy. This procedure is to be distinguished from an alternative method, which the Group does not favour, by which domestic prices would be compared with a uniform world price. The standard method should also lessen the problem of over- or under-valuation of currencies. In order to avoid the effect of short-term fluctuations in international prices, the comparisons should be based on, say, the three preceding years individually and as an average.

15. The comparisons of domestic prices and import or export prices would relate to those grades and descriptions which were common to home production and the import (or export) trade. If the country concerned did not import the particular commodity and grade, the ruling import price in the nearest comparable market could be substituted.

16. The price differential, as estimated above, does not cover the total support given to agriculture, as many countries provide also subsidies on inputs or services which are not directly reflected in the price, and which are not always specifically related to any particular commodity. So far as the calculations for individual commodities are concerned, the estimated value of such supplementary aid would therefore have to be apportioned among end-products and added to the protection as indicated by the price differentials. Only that part of the non-price protection attributable to those commodities for which price comparisons are made should be brought into the calculation.

17. So far as the calculations of total protection for the agriculture of a country is concerned, the protection resulting from price support would be calculated by applying the indicated price differences to the quantities marketed. The total amount of non-price aids to agriculture as a whole would then be added to the total of price aids as calculated above, and the sum total of these price and non-price aids would then be expressed as a proportion (a) of the total value of output and (b) of the net national income from agriculture. This formula is predicated on the assumption that the price-aids for those products that could not be individually included in the calculations (see paragraph 8) are taken into account by an informed global estimate. (For example: price-aid for 80 per cent of total output is calculated commodity by commodity; the price-aid for the remaining 20 per cent is globally estimated.) This procedure could lead to appreciable errors in countries in which the commodities for which direct price comparison is feasible were found to fall substantially below 100 per cent of the total. On the other hand, however, the calculation of the contribution to net national income of the commodities not covered, as would be necessary for excluding their share, would be equally open to error; and if calculated as a simple proportionate share of gross output, could also introduce an error of principle. For instance, this latter procedure would fail to express any judgment on the degree of protection in the farm sectors not examined - which might be much lower or much higher than protection in the sectors included.
18. It is recommended that, in estimating non-price aids to agriculture, expenditure on extension and research should be excluded and the capital costs of projects of a general nature, e.g. irrigation or land reclamation, should also be excluded. Any financial and physical services provided to farmers at less than cost (e.g. fertilizer subsidies, reduction or remission of charges for irrigation water, electricity, credit, transport, taxation on fuel oil etc.) should be included. All remission of taxation should in principle be included but in many cases its evaluation would be well-nigh impossible.

C. General

19. The quantitative measures of a country's estimate of its need for protection, referred to in paragraph 2, might for example take the form of (a) the income ratio between the agricultural and non-agricultural population and/or (b) the country's degree of self-sufficiency in foodstuffs and agricultural materials of kinds which it can produce itself.

20. Appendix I to this report gives more detailed guidance on the calculations to be made, especially for the pilot studies. It points up special difficulties for certain commodity groups, that may result in additional limitations to the professional acceptability and practical usefulness of the calculations. More conclusive views will emerge from the practical exercise of the pilot studies. Appendix II deals more particularly with methods of estimating protection on milk and milk products.
APPENDIX I

Statistical Notes on the Treatment of Certain Commodities

A. Wheat and coarse grains

1. In line with the general principle, it was agreed that the price differentials should be estimated on the basis of the main type of wheat produced in importing countries or the main type exported in exporting countries. The differential obtained in this way should then be applied to all wheat entering into the calculation in arriving at estimates of overall protection.

2. If a country did not import reasonable quantities of the chief type of wheat produced in the country, it was agreed that the comparison should be made with the nearest importing market for that type of wheat.

3. It was considered that no practicable distinction can be made between hard and soft wheat, or between any other aspects of variety or condition. Although in some years in some countries the moisture content of wheat may be very high, it is not practicable to allow for this.

4. In exporting countries the domestic price should be taken as the wholesale price, or where this is not appropriate, as the grower's price plus the cost of movement to the wholesale market at the main consuming centres or point of shipment. In importing countries the same principle would apply, though in most importing countries the cost of internal movements from farms and from ports would be small and could be ignored.

5. The quantities to which the price differential should be applied in arriving at any estimate of the overall limit of protection should be the quantity marketed off farms.

6. It may be convenient in some cases to treat coarse grains as one commodity rather than several.

B. Beef

1. The main problem of estimating protection for beef is that support to producers is mainly on the basis of live cattle, whereas protective measures are often applied to beef or beef products of widely varying quality. This problem involves not only quality considerations, e.g. prime and manufacturing beef; it could also involve the evaluation of by-products, such as tallow, hides, and other parts.

After discussion, the Group concluded that it would probably be necessary to work out separate differentials for live animals and products moving in international trade, and to find some appropriate method of weighting.

Such differentials might, for instance, be calculated for live cattle (as traded between Denmark and the Federal Republic of Germany), sides of prime beef (Argentina into United Kingdom) or manufacturing meat (Australia into United States).
2. If producers are supported by direct deficiency or stabilization payments, any payments made should be treated as part of the price differential.

3. As an illustration of a general principle, it may be suggested that any fertilizer or similar subsidies applied to feed grains, or to pasture for beef production, should be included as part of the differential for cattle, rather than on the intermediate product, e.g., coarse grain.

C. Mutton and lamb

The same principles as laid down in respect of beef should be followed for mutton and lamb.

D. Pigs

Given the variety of grades, it was concluded that several price quotations should be considered in order to take into account the differences between:

- Small pork pigs
- Medium bacon pigs
- Large pigs
- Possibly live pigs.

Inclusion of two types may in general be sufficient in computing the price differential for any one country. As in the case of beef, an appropriate method of weighting should be selected.

E. Milk and dairy products

The estimation of protection for dairy products is particularly difficult because of the rather common practice of maintaining a higher price for liquid milk than for manufacturing milk, the possibility of switching between a number of processed products, and the value set on the skim milk and other by-products.

A simple comparison of domestic prices in importing countries with landed prices of comparable grades of e.g., butter and cheese, subsequently applying these differentials to the entire output of milk would not appear to be satisfactory. Moreover, this method would not separate the natural protection to liquid milk from any additional protection afforded by the existence of a guaranteed market for liquid milk.

In view of these circumstances, it is clearly important to make estimates of the degree of protection for the group of milk and milk products as a whole. While individual estimates for butter, hard cheese, dried and condensed milk, could be established by the standard method proposed in the Group's report, these estimates would not be sufficient in themselves, though they would provide useful supplementary information to estimates of protection for the whole commodity group.

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1 Bacon might be included instead; as the prices of the two commodities can easily be translated into each other.
The main problem in such an overall estimate is to separate the natural protection afforded to liquid milk by the expense and difficulty of shipping so bulky and perishable a commodity from the artificial protection which should be properly included. For this no modification of the standard method seems valid, since at the present time only negligible quantities of liquid milk move in international trade. An alternative approach therefore seems necessary and it is suggested that for this commodity group resort must be had to a comparison of average returns to farmers in different countries, after making certain adjustments to eliminate natural protection. More concretely, it appears that, for a fairly wide range of countries, including a number of the main exporting countries, average returns to milk producers are rather close together. It is proposed that the average of the actual prices for this group of countries should be taken as a base, and that the ratio of the "adjusted price" (Appendix II, paragraph (a)) of any individual country to this average should be taken as the degree of protection. Two ways in which this might be done are set out in Appendix II, paragraphs (a) and (b), respectively. The first applies the method to milk production as a whole, while the second applies it solely to liquid milk, which would then have to be added to estimates made by the standard method for the principal milk products. In both cases, due allowance is made for the wide variations between countries in the share of the total output used for liquid consumption.

It is recommended that both these methods should be tried in the pilot study, together with any alternative methods which may suggest themselves as the work proceeds. As a preliminary, it would be necessary to assemble information from as many countries as possible on price differentials between liquid and manufacturing milk, and on any other points likely to make the estimates more reliable.

It is recognized that it is unsatisfactory to apply what must inevitably be a rather arbitrary procedure to a commodity which bulks so large as milk in the total agricultural output of most Western countries. The larger this share, the more any inaccuracy in the milk estimates would distort overall estimates of the total agricultural protection of a country. In this case, however, we see as yet no alternative. Whether the procedures suggested can be recommended for general adoption clearly cannot be decided until the results of the pilot study are available.

F. Eggs

1. Price differentials for fresh eggs should be calculated against imported or exported eggs of comparable quality, e.g. excluding liquid eggs or eggs of dubious freshness. However, if part of the import is excluded, this should be indicated in the work sheets.

2. To avoid a seasonal bias of prices, price comparisons should be made month by month.

G. Sugar

A particular problem in estimating the protection of beet and cane sugar arises from the fact that the sugar world free market price applies only to a small quantity of sugar traded outside various bilateral or multilateral agreements.
It is therefore recommended that standard prices might be used instead of the average export or import prices proposed by the general method. The standard price proposed is the average of the world free market price and the United States average preferential import price at shipping point West Indies, together with, in the case of importing countries, freight rates from that point. In establishing this standard, assistance should be requested from the International Sugar Council. In all cases, the price quotations should be converted into the equivalent 96° raw sugar.

H. Cotton

Price ratios should be established for cotton of comparable quality and account should be taken of possible quality fluctuations in the crop from one year to the other. Generally the standard method appears to be applicable.

I. Wool

The estimation of protection for wool might be limited to importing countries (disregarding any exports or re-exports). Raw wool only should be taken into consideration in establishing price differentials. Careful attention should be paid to differences between merino and crossbred, and the grades compared should be as close as possible in quality. Should price data for comparable grades not be available for certain countries, the corresponding price in the nearest market should be taken.

J. Oilseeds

It was agreed that the oils obtained from the various seeds, nuts, and kernels are to a large extent interchangeable. However, it will be sufficient if each country compares differentials for identical products at import/export and production. In the absence of trade in some of these products, the nearest substitute or a nearby market might be taken.

K. Tobacco

In establishing price differentials for tobacco, the principal types of tobacco should be distinguished.
APPENDIX II

Methods Provisionally Suggested for Estimating the Protection on Milk and Milk Products in the Pilot Studies

Two alternative approaches are suggested for the purpose of estimating protection on milk and milk products, in spite of the fact that liquid milk does not enter into international trade. They are as follows:

(a) Estimate covering total milk output

In order to take account of the "natural" protection that liquid milk enjoys, a deduction would be made from the estimated total returns to farmers from milk sales. This deduction would rest on an assessment of the extent of "natural protection" per unit (say pound or kilogramme) of milk sold for liquid consumption, which would be derived from an assessment of natural protection initially estimated as a percentage of the return to farmers for milk used for liquid consumption. The adjustment would then take the following form:

Writing $T$ for total quantity of milk marketed

$A$ for average price returned to farmers

$L$ for quantity used for liquid milk consumption

and $P$ for estimated natural protection, expressed in national currency per unit sold for liquid consumption,

the adjusted price for all milk would be:

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\frac{TA - LP}{T}
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This adjusted price would be compared with the average of actual prices in the base countries, to give an index of price protection for milk and milk products as a whole.

(b) Estimate limited to milk for liquid consumption

In this case the estimated allowance for natural protection would be deducted from the average return to farmers for all milk sold for liquid consumption, to give an adjusted price for liquid milk. This would be compared with the average of actual prices in the base countries as a measure of the protection for liquid milk only.
By averaging these with estimates of protection for the main milk products obtained by the standard method (weighting the average according to the share each represented of total production) an average of price protection for the whole commodity group would be obtained.

(c) **Estimate of natural protection**

The validity of the above estimations clearly depends on making a reasonable assessment of natural protection. The members of the Group will make inquiries in their own countries with a view to advising the secretariats of GATT and the FAO as to a suitable range of percentages of natural protection for use in the pilot studies.

(d) **Non-price protection**

Both the above methods would measure only price protection, and as with other commodities an addition would have to be made for indirect subsidies not directly reflected in the price.
Observations and Suggestions Submitted by the Delegate of Switzerland to the Study Group of Committee II for the Members of the Group

It seems fairly natural and logical in the first instance to attempt to measure the degree of agricultural protection in terms of the level of prices paid in a given country for agricultural products in comparison with prices paid for the same products in other countries.

However, a closer examination of the matter brings into relief a number of difficulties which have been mentioned in notes submitted by several delegations or by the secretariat.

In addition, it seems that there is another difficulty arising out of the determination of what might be called a degree of protection equal to zero, i.e. a situation which would be characterized by the absence of any kind of intervention whatever. Furthermore, comparisons between prices, however accurately computed they may be, would, in our opinion, leave in the dark many important factors and would fail to bring out the variety or the complexity of the measures under consideration. It seems therefore that if one could arrive at a formula resulting from a comparison between prices considered from this angle, this formula would be too simple or too unilateral in order to appreciate such a complex question with the necessary degree of caution. Such a formula would also be dangerous, not to say harmful, because it might cast an unfavourable light on some national agricultural policies which are hardly, if at all, "blackest" than others, and a favourable light on other agricultural policies which are hardly, if at all, "whitest" than others. This is significant if one is intending to find an equitable criterion which could be used for other work and for ultimate comprehension.

Lastly, one can even wonder whether it is correct to examine existing price differences from this angle. Indeed, in most industrial countries today, agriculture is an ancient industry. It has a historical and cultural causality which could not be upset without jeopardizing the national equilibrium. Its maintenance is sought also for social, political and even strategic reasons, which vary from country to country. The extreme difficulty of taking any measures which might affect it unfavourably, or which might disrupt the national balance, is reflected, inter alia, in the fact that although the balance-of-payments positions of many countries have become favourable, measures in support of agriculture have been maintained to a large extent.

Support for agriculture implies support for agricultural producers and this, in turn, results in the need to seek parity between agricultural incomes and incomes in other branches of production. The special conditions existing in the field of agriculture are such that, regardless of any outside competition, the maintenance of such parity already calls for stabilization measures.
The need to maintain parity is responsible for the fact that the level of agricultural prices is largely influenced by the income level of the non-farm population. This influence cannot always be offset by increases in productivity. The number of people sharing the aggregate agricultural income is another factor. The considerable disparity between agricultural prices in various countries is largely attributable to this and when these various factors are examined more closely this disparity can be understood.

During the process of general economic development, measures of protection and of support in favour of agricultural prices have been taken as the disparity emerged and became more pronounced as a result of increases in standards of living, and of the differences in the levels of productivity, and also as protection (due to physical remoteness) disappeared as a result of development of the means of transportation.

The level of agricultural prices in a given country is therefore not arbitrary. Generally, countries endeavour to maintain it so as to ensure such parity to the greatest extent permitted by other economic and political factors which legislation has to take into account.

Viewed from this angle, and due regard being had for the propensity to import which appears automatically, the moment price differences emerge, the disparity between prices in individual countries reflects to a much greater extent the need for protection which the various measures undertaken are intended to meet. It should be noted here that the theoretical, absolute need for protection would be expressed through the difference which would exist if prices in individual countries were fixed at a level which ensured theoretical absolute parity as between the agricultural and the non-agricultural sectors.

Our proposal is therefore that we should consider, on the one hand, the relative level of prices as an expression of the need for protection existing in a given country - or of the import propensity existing in that country - and to list on the other side of the ledger the measures undertaken in order to protect agriculture or to maintain agricultural income at the closest possible level to parity.

If the various price levels are considered from this angle, a number of difficulties which arise when one is attempting to evolve an absolute criterion disappear, and the danger of arbitrariness is reduced, because when the problem is viewed from this angle it is not so essential to arrive at precise figures, and a certain order of magnitude is sufficient.

It should also be mentioned that it should be possible to express in a concise form, which would almost be in the nature of a formula, the measures taken in support of agriculture in a given country. The listing of such measures should bring into relief production subsidies in particular, and should make it possible to distinguish between, on the one hand, measures taken and, on the other, the more or less liberal nature of their implementation.
One could gain an idea of the usefulness of these measures, for instance, by comparing the aggregate needs of the country with that part of the domestic needs which is met with imports. Furthermore, one should include import subsidies in the form of that percentage of exports which such subsidies encourage. It would also be desirable, although we are dealing with non-tariff measures, to include in the criterion the incidence of import duties without which the picture of measures in support of agriculture would not be complete. Lastly, these factors might be supplemented by a figure giving an order of magnitude of the protection accorded, as this would be useful if one had to appreciate the scope and repercussions of a given measure.

Thus, one would arrive not at an index but at a fairly concise formula which would facilitate objective comparisons and would make it possible to confront, to say the least, the need for protection, on the one hand, and the scope of the measures taken, on the other. Such a formula would facilitate an assessment of changes in the level of protection by making it possible to compare the situations obtaining in a given country, from time to time.

The conclusions to be drawn from this exercise would make it possible to determine how progress could be made towards greater harmonization and trade expansion at international level. It goes without saying that imports in a given country cannot be increased indefinitely for the simple reason that the land must be kept under cultivation, and that structural improvements and rationalization cannot be pursued indefinitely, and because such measures do not necessarily make for a reduction of agricultural production. Furthermore, in view of the relative inelasticity of the demand for agricultural (food) products in relation to the development of industrial production, the question will subsequently arise as to whether an expansion of trade should not be sought through an expansion of the markets of the under-nourished peoples - which, in turn, would imply an increase in the purchasing power of such peoples and therefore their industrial development - and, on the other hand, through an improvement in the terms of trade.
ANNEX B

Note by the Delegation of the United States

The United States delegation indicated to the secretariat its intention to make a few remarks, in this session of Committee II, regarding the problem of measuring degrees of agricultural protection. It also indicated its willingness to expound the essence of those remarks in a paper that could be circulated to the Committee well in advance of the meeting that is to take up questions of this kind. The secretariat expressed the wish that such a paper be in fact distributed. It is in compliance with this wish that the United States delegation made this note available.

The terms of reference under which GATT Committee II operates do not in fact call for a measurement of agricultural protection in individual countries. Rather they require the Committee to assemble and consider the facts relevant to its main mandate: to examine the effects of protection on trade and the adequacy of the rules of GATT and of their application to promote the expansion of trade on a reciprocal and mutually advantageous basis.

However, the expert report on Trends in International Trade (GATT, October 1958) suggested that FAO and GATT make a study, for various countries, to measure degrees of farm protection. The experts who authored the report thought that the best way of measuring "would be to measure the percentage by which the price (including subsidy) received by the domestic producer exceeded the price at which the product was available from foreign suppliers or could be sold to foreign consumers."

It may be well to note, in this connexion, that attempts in this direction have been made in the past by a number of economists. Thus, in Sweden, Eric Swedborg and Karl Säck measured the degrees to which farm prices in various countries exceed the import prices — excluding duties — for comparable products. H. Bachmann and W. Gasser in Switzerland were not satisfied with a simple calculation of the costs of farm support for their country — the sum total of all direct and indirect subsidies plus the difference between domestic farm prices and import prices excluding duty; they also calculated the cost of existing protection in the other segments of the economy. A comparison of real incomes as they existed with those that would have obtained if there had been no protection for either industry or agriculture yielded the startling result that, under such circumstances, the farmers' real income would, from 1949-50 onwards, have been higher than it actually was under all-round protection. (In 1935-38 it would have been the same.)

1 Prissättningen Pa Jordbruksprodukter (Appendix 6) Stockholm 1954
Similarly, Professor Austin Robinson, long a student of "the cost of agricultural import-saving", was not just interested in measuring the degree of agricultural protection in the United Kingdom. He set his sights upon a far more pertinent approach, still more inclusive than that of Bachmann and Gasser, though he did not attempt a detailed quantitative answer, as Gasser and Bachmann did. He directed his efforts towards answering the question whether a reduction in agricultural protection could appreciably add to the real income of the United Kingdom population at large.

There is no indication in the experts' report that their suggestion for measuring protectionism contemplated such more comprehensive inquiries. Yet it would seem that studies of the problem must be of a broader scope if valid conclusions are to be drawn. This approach must supplement any computations of the differences between farm prices and import prices, plus subsidies paid. For the real question is: How economic a use are countries making of their total resources of land, labour and capital?

In view of the problem at hand, the first step towards an answer to this question might be taken through an inquiry to determine whether an elimination or moderation of agricultural protection could, ceteris paribus, improve total resource allocation and thus raise the real income of a country's population. An affirmative answer to this question would establish a tentative presumption that the extent of the existing agricultural support is damaging to the country concerned; and that it is also damaging internationally, for the reason that uneconomical resource allocation in one open economy must of necessity be paralleled by uneconomic resource allocation in others. And "paralleled" may mean "caused by" or "the cause of" or a condition of functional interdependence in which the situations in all countries feed upon each other. Conversely, a negative answer to that question would establish a tentative presumption that the extent of existing agricultural support is not damaging.

Conclusions thus arrived at would be only tentative because of the ceteris paribus assumption: if nothing were to change, or could be changed in other segments of the economy concerned, or, for that matter, in other economies. Further steps in such an analysis, therefore, would have to contemplate a similar inquiry, first, with respect to other segments of the country concerned. For it is obvious that an elimination or moderation of protection in other industries might increase the comparative profitability of agricultural production as against industrial production in the country concerned - with the reverse result in other countries, and, additional inquiries would have to ferret out information on other countries also. It may be argued that the extent of import-saving induced by agricultural protection in Country A is justified by other countries' industrial protection that would preclude Country A's exporting more industrial goods to pay for larger agricultural imports. There are still other ramifications and inter-relationships that would have to be examined; the crucial point is not so much what other segments and other countries do now as what they might do in the future that plays a rôle in this context.

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It is also obvious that the complexity of studies of this kind would defy all attempts at quantitative approaches. Therefore, more modest and thus more realistic goals for partial and tentative and thus more feasible examination of the impact of protectionism would have to be sought if it were decided that measurement there must be. But it is well to be forewarned that no policy-maker could be induced to trust an unfinished job. Even in a partial and tentative examination of agricultural protectionism—taking industrial protection and what other countries do for granted and inevitable—the student of this problem would be confronted with formidable difficulties. He cannot hope to find a quantitative measurement; at best he will be able to make a qualitative statement of the kind to which Professor Robinson and Professor Nash (who has also done highly significant work on this subject) wisely confined themselves; the one finding that real income would not have been higher if, through less agricultural support, fewer resources had been devoted to agricultural import-saving; the other, that in present circumstances, farm output is above the optimum and there would be some economic advantage to the country in releasing from agricultural use some of the resources absorbed by farming in recent years. Incidentally the lesson of these findings should not be lost on us in another respect as well: two careful researchers examining the same problem have come to opposite conclusions.

Finally, it should be remembered that, if society elects to maintain agriculture at uneconomic levels for reasons of national defence or social policy, agriculture cannot in fairness be charged with all of the cost of farm support. In these cases, would all this cost be an element in the "degree of agricultural protectionism?" That this question will arise on top of all other methodological problems is an indication of how difficult it would be to arrive at meaningful appraisals of the degree of agricultural protection. Moreover, most students of the problem would in any case agree that a moderation of all the protectionism we find today is desirable. The benefits of such moderation are clear on theoretical grounds and, in a sense, need not be "measured" to be understood.

1Cf. Austin Robinson, l.c.

2Cf. E.F. Nash, "The Sources of our Food Supplies", in Agriculture in the British Economy, Oxford 1957.
Note by the Delegation of Canada

After reviewing the use and effect on trade of restrictive measures, the degree of agricultural protection can be appraised on a judgment basis and more specifically by price comparisons. In the view of the Canadian delegation, the Committee should use both methods.

The Canadian delegation submits the attached tables for consideration by the Committee. Using butter, wheat, oats and barley as examples, the tabulations present one way of measuring the degree of agricultural protection by price comparisons.

In cases where the guaranteed return to producers is protected at the market level, it is suggested that market prices be used as a measuring rod. Wholesale prices can be related directly to international prices for a comparable quality of product and they are usually more accurate and up to date than producer prices.

The Committee is concerned with restrictions on trade, therefore it would seem desirable that the measurement of the degree of protection should be at the trading level.

The GATT recognizes the customs tariff as a legitimate form of protection and in market price comparisons, allowance can be made for this charge on imports in order to obtain a measurement of non-tariff protection.

If the Committee decides that there is merit in this type of study, more accurate information should be readily obtained in co-operation with the Food and Agriculture Organization. However, preciseness should not be an overriding requirement in the study.

In the case of butter, it is assumed that New Zealand butter could be delivered to any other market at approximately the same price at which it is landed in the United Kingdom.

In the case of wheat and coarse grains, wholesale or resale prices were not readily available except in limited instances. For that reason producer prices were used in the example. However, if required, wholesale or resale prices could be obtained.
### Measurement of the Degree of Agricultural Protection

#### I. Non-tariff protection related to producer prices

<table>
<thead>
<tr>
<th></th>
<th>Landed cost</th>
<th>Customs duty</th>
<th>Landed cost duty paid</th>
<th>Producer price 1959/60</th>
<th>Margin over landed cost duty paid</th>
<th>Producer price as percentage of landed cost duty paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>$1.99 (^a)</td>
<td>Free</td>
<td>1.99</td>
<td>2.47</td>
<td>0.48</td>
<td>124</td>
</tr>
<tr>
<td>W. Germany</td>
<td>1.99 (^a)</td>
<td>Free</td>
<td>1.99</td>
<td>2.53</td>
<td>0.54</td>
<td>127</td>
</tr>
<tr>
<td>Italy</td>
<td>2.36 (^b)</td>
<td>27%</td>
<td>2.80</td>
<td>3.64</td>
<td>0.84</td>
<td>130</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.99 (^a)</td>
<td>Free</td>
<td>1.99</td>
<td>2.13</td>
<td>0.14</td>
<td>107</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.94 (^c)</td>
<td>Free</td>
<td>1.94</td>
<td>2.11</td>
<td>0.17</td>
<td>109</td>
</tr>
</tbody>
</table>

\(^a\) Canada, Manitoba II. January 1960  
\(^b\) Average c.i.f. price for 1958-59  
\(^c\) c.i.f. price for Canada No. 2 Northern Liverpool. March 1960

#### II. Non-tariff protection related to wholesale prices

<table>
<thead>
<tr>
<th></th>
<th>Landed cost</th>
<th>Customs duty</th>
<th>Landed cost duty paid</th>
<th>Wholesale price</th>
<th>Margin over landed cost duty paid</th>
<th>Wholesale price as percentage of landed cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. Germany</td>
<td>1.99 (^a)</td>
<td>-</td>
<td>1.99</td>
<td>2.92 (^c)</td>
<td>0.93</td>
<td>147</td>
</tr>
<tr>
<td>Japan</td>
<td>1.91 (^b)</td>
<td>20%</td>
<td>2.29</td>
<td>2.66 (^d)</td>
<td>0.37</td>
<td>116</td>
</tr>
</tbody>
</table>

\(^a\) c.i.f. price for Canadian wheat (Manitoba II)  
\(^b\) Government purchase price in 1958  
\(^c\) Imports and Storage Agency's selling price for Canadian wheat January 1960  
\(^d\) Government selling price in 1958

#### III. Tariff and non-tariff protection combined related to wholesale prices

<table>
<thead>
<tr>
<th></th>
<th>Landed cost</th>
<th>Wholesale price</th>
<th>Margin over landed cost</th>
<th>Wholesale price as percentage of landed cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. Germany</td>
<td>1.99</td>
<td>2.92</td>
<td>0.93</td>
<td>147</td>
</tr>
<tr>
<td>Japan</td>
<td>1.91</td>
<td>2.66</td>
<td>0.75</td>
<td>139</td>
</tr>
</tbody>
</table>
## OATS

### Measurement of the Degree of Agricultural Protection

#### Non-tariff protection

<table>
<thead>
<tr>
<th></th>
<th>Landed cost</th>
<th>Customs duty</th>
<th>Landed cost duty paid</th>
<th>Producer price 1959/60</th>
<th>Margin over landed cost duty paid</th>
<th>Producer price as percentage of landed cost duty paid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>0.97</td>
<td>Free</td>
<td>0.97</td>
<td>1.03 (^b)</td>
<td>0.06</td>
<td>106</td>
</tr>
<tr>
<td>W. Germany</td>
<td>0.97</td>
<td>Free</td>
<td>0.97</td>
<td>1.17</td>
<td>0.20</td>
<td>121</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.97</td>
<td>Free</td>
<td>0.97</td>
<td>1.09</td>
<td>0.12</td>
<td>112</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.97</td>
<td>Free</td>
<td>0.97</td>
<td>1.12</td>
<td>0.15</td>
<td>115</td>
</tr>
</tbody>
</table>

\(^a\) Price for Canadian feed oats No.1 Liverpool.

\(^b\) 1958-59 price

\(^c\) Imports and Storage Agency's selling price for imported oats is DM.400 per ton ($1.41 per bushel).

### BARLEY

#### Non-tariff protection

<table>
<thead>
<tr>
<th></th>
<th>Landed cost</th>
<th>Customs duty</th>
<th>Landed cost duty paid</th>
<th>Producer price 1959/60</th>
<th>Margin over landed cost duty paid</th>
<th>Producer price as percentage of landed cost duty paid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>$/bu.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>1.28(^a)</td>
<td>Free</td>
<td>1.28</td>
<td>1.65(^f)</td>
<td>0.37</td>
<td>129</td>
</tr>
<tr>
<td>W. Germany</td>
<td>1.20(^b)</td>
<td>Free</td>
<td>1.20</td>
<td>1.82</td>
<td>0.62</td>
<td>152</td>
</tr>
<tr>
<td>Italy</td>
<td>1.13(^c)</td>
<td>10(^e)</td>
<td>1.25</td>
<td>1.46(^f)</td>
<td>0.21</td>
<td>117</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.20</td>
<td>Free</td>
<td>1.20</td>
<td>1.46</td>
<td>0.26</td>
<td>122</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.29(^d)</td>
<td>Free</td>
<td>1.29</td>
<td>1.65</td>
<td>0.36</td>
<td>128</td>
</tr>
</tbody>
</table>

\(^a\) Average c.i.f. price for 1958-59.

\(^b\) C.i.f. price for Canadian No.2 feed barley, March 1960.

\(^c\) Average c.i.f. price for 1958-59.

\(^d\) C.i.f. price for Canadian No.2 feed barley, March 1960.

\(^e\) Imports and Storage Agency's selling price for Canadian barley is DM.405 per ton ($2.02 per bushel).

\(^f\) 1958-59
# BUTTER

## Measurement of the Degree of Agricultural Protection

### I. Non-tariff protection

<table>
<thead>
<tr>
<th>Country</th>
<th>Landed cost N.Z. butter in U.K. January 1960</th>
<th>Customs duty</th>
<th>Domestic wholesale price January 1960</th>
<th>Margin over landed cost duty paid</th>
<th>Wholesale price as percentage of landed cost duty paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>51</td>
<td>15%</td>
<td>59</td>
<td>21</td>
<td>136</td>
</tr>
<tr>
<td>Canada</td>
<td>51</td>
<td>5%</td>
<td>56</td>
<td>11</td>
<td>120</td>
</tr>
<tr>
<td>France</td>
<td>51</td>
<td>25%</td>
<td>64</td>
<td>20</td>
<td>131</td>
</tr>
<tr>
<td>Germany</td>
<td>51</td>
<td>24%</td>
<td>63</td>
<td>2</td>
<td>101</td>
</tr>
<tr>
<td>United States</td>
<td>51</td>
<td>7%</td>
<td>58</td>
<td>1</td>
<td>101</td>
</tr>
</tbody>
</table>

### II. Tariff and non-tariff protection combined

<table>
<thead>
<tr>
<th>Country</th>
<th>Landed cost N.Z. butter in U.K. January 1960</th>
<th>Domestic wholesale price January 1960</th>
<th>Margin over landed cost duty paid</th>
<th>Wholesale price as percentage of landed cost duty paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>51</td>
<td>80</td>
<td>29</td>
<td>157</td>
</tr>
<tr>
<td>Canada</td>
<td>51</td>
<td>67</td>
<td>16</td>
<td>131</td>
</tr>
<tr>
<td>France</td>
<td>51</td>
<td>84</td>
<td>33</td>
<td>165</td>
</tr>
<tr>
<td>Germany</td>
<td>51</td>
<td>65</td>
<td>14</td>
<td>127</td>
</tr>
<tr>
<td>United States</td>
<td>51</td>
<td>59</td>
<td>8</td>
<td>116</td>
</tr>
</tbody>
</table>

ANNEX D

Note by the Delegation of the Federal Republic of Germany

Attempts to determine the degree of agricultural protection meet right from the beginning with the difficulty of marking precisely the point at which economic measures begin to have a protectionist effect. From the economist's angle it appears impossible to determine that point. But leaving aside this reflection, it is doubtful whether the degree of agricultural protection can be ascertained by comparing producer prices of individual products. In fact, part of the protectionist measures do not result in increased incomes but in reduced costs. In addition, measures aimed at improving the farm structure or the quality of farm land (melioration) etc. cannot be associated with the prices of the individual products.

International price comparisons of any kind suffer from the discrepancy between exchange rate parities on the one hand and purchasing power parities on the other. Even if this fact is disregarded, differentials in producer prices can by no means be regarded as indicators of the degree of protection. In importing countries domestic producer prices benefit by the natural protection flowing from lower transport costs as compared with those of exporting countries, and in the case of perishable products producers profit by a further price advantage resulting from the difference in quality (e.g. for butter, meat, eggs, fruit, vegetables, etc. in the case of long-distance transportation). The magnitude of these differentials is brought out, for instance, by the computation of the price equivalents for wheat of equal quality on the basis of different parity points (f.o.b. and ex store export country on the one hand and c.i.f. importing country on the other) as provided in Article VI of the International Wheat Agreement for the computation of maximum and minimum prices.

Differences in quality and the effect on prices of consumer preferences for similar commodities and/or groups of commodities are more important than is generally assumed. These phenomena have nothing in common with protection. National price relations between the different farm products vary from one country to another and are due to various factors of a non-protectionist nature. They partly depend on the possible utilization of the products, inter alia on the extent to which the domestic products can be used at home or exported (e.g. differences in quality in the case of wheat and meat; utilization of rye as bread and fodder grain; utilization of milk as drinking milk - as predominately in Great Britain - or as butter in exporting countries with a small domestic consumption in relation to production). Therefore, the last column of Table I (document COM.II/W.6) does not only show the relative national level of agricultural products but includes also the influence of all other factors mentioned above.

The attempt to ascertain the degree of protection as a residual item - after eliminating all other factors determining the level and interrelation of farm prices - necessitates detailed inquiries. Document COM.II/W.6 gives rise to some doubts as regards its theoretical basis and is insufficient in its
statistical analysis. This computation raises more questions than it is able to answer. The restrictive references in the footnotes of COM. II/W.6 are sufficient to show that the question cannot be answered in this way. There exists rather the danger that the questionable result will be used without any qualifications, making an objective judgment more difficult.

Economists have tried again and again to measure, on a quantitative basis, the degree of protectionism, in particular of agricultural protectionism, but have not so far achieved satisfactory results. If there exists any quantitative solution at all to this problem the best that could be obtained by applying corresponding statistical methods would be partial results from very detailed studies for individual products. However, whether such partial results will justify the necessary input of time and work appears doubtful, particularly in view of similar efforts made by other international organizations.
NOTES BY THE FAO AND GATT SECRETARIAT

N.B. The present paper is intended to serve as a basis for discussion. It will be understood that it offers in no way an exhaustive treatment of the problem at hand. The text has been prepared jointly by the FAO and the GATT secretariat.

1. The concept of the degree of agricultural protectionism is highly complex. Ideally, it ought to rest, for each given country, on a comparison between the situation, as regards supply (domestic output plus net imports or minus net exports), demand and price, actually existing under its given agricultural policies and that which would eventually result from the complete abolition of all protectionist devices - or possibly that which would exist if no such devices had ever been applied.

2. While it would be relatively easy to describe the actual situation in a given country, the hypothetical situations just referred to are clearly beyond the reach of exact measurement. Even if such measurement were possible, the result would be different according as only one, or several, countries were examined at a time. Moreover, if more than one country were to be analysed, the result would depend on which particular other countries would be included in the calculation.

3. The concept of the degree of agricultural protectionism therefore is not one which lends itself directly or easily to measurement and international comparison. In practice, the concept itself will have to be left for definition by the methods employed for its measurement. Such methods would therefore have to be agreed upon. To reach such agreement on one or several such methods is the purpose of the present working group.

4. Three methods have been suggested or applied to the problem at hand:

   A. Comparisons between the price received by farmers and some external price (import price or export price for the given country, world average import or export price, or some "representative" international price). This approach, based on national import or export prices, seems to have been envisaged by the Panel of Experts commissioned by the CONTRACTING PARTIES to study trends in international trade (see their Report, para. 240).

   B. Comparisons between the national net income of agriculture with total cost of support. This approach has actually been applied to the United Kingdom by E. F. Nash in a celebrated paper on "The Competitive Position of British Agriculture".
C. Comparison of wholesale prices for individual commodities with landed import unit costs plus duty, the difference being taken as a measure of non-tariff protection, while the difference between domestic wholesale price and import unit cost would include both tariff and non-tariff protection. This approach has been proposed and applied to selected commodities in a paper submitted by the Canadian delegation.

5. Each of these methods has its special features:

**Method A** is essentially designed to measure the degree of protection commodity by commodity, though it can be by some sort of weighting be made to yield a single measure. It cannot, however, take into account non-price support (e.g., fertiliser subsidies). Its main problem arises in relation to the external prices which are to be used as a standard of comparison. World average import or export unit values, or "representative" international prices will necessarily differ more or less from actual import or export unit values of the country under study; actual import or export unit values, on the other hand, are apt to relate to widely different qualities as between countries, and to contain a variable proportion of transport costs. If "world" or "international" prices are taken, exchange rates have to be used - and these may, for reasons wholly unrelated to agriculture, reflect overvaluation or undervaluation of the national currency.

**Method B** can readily be applied only to countries, such as the United Kingdom, which pay direct subsidies to farmers. In such cases, the amount of deficiency payments can serve as a measure of direct price support. Where no such subsidy system exists, Method A has to be applied first, cost of support being then calculated product for product by taking into account the quantities involved, a procedure that raises problems in respect of quantities that go into government stockpiles. On the other hand, Nash has shown for the United Kingdom that account can be taken of non-price support. If the problems involved in this approach can be solved as regards total cost of support, there still remains the question of standardised definitions of agricultural net income. In the form in which it was applied by Nash, this method does not yield degrees of protectionism commoditywise.

**Method C** has only been applied to selected commodities of given provenance supplied to certain markets: butter from New Zealand in Belgium, Canada, France, the Federal Republic of Germany, the United States; wheat from Canada in Belgium, the Federal Republic of Germany, The Netherlands, the United Kingdom, etc. Since these calculations are largely hypothetical, they rely on the use of official exchange rates. Nevertheless, this method may, upon closer examination, well turn out to be more generally applicable. It is, however, necessary to
use domestic producer prices (adjusted to include trading margins up to the wholesale level) instead of actual wholesale prices, whenever subsidies are paid directly to producers. Non-price support would be difficult to include, but this might be attempted along the lines described under Method B, provided a sufficiently large number of commodities can be covered in the calculations.

6. Certain problems arise with all these methods:

(i) The problem of quality (as between imported and domestic products in importing countries, as between exported and domestically consumed products in exporting countries, and also within each country, region, or even farm).

(ii) As a significant extension of this quality problem, there is the fact that many agricultural products are traded in manufactured form.

(iii) The problem of averaging, i.e. using average prices received by farmers, in the face of wide dispersion as between farms and regions. This becomes particularly obvious where support applies to only a limited quantity for each farm (wheat in France), where it is at a different level in different uses of the same commodity (milk for manufacture and for liquid consumption, e.g. in the United Kingdom, or dairy products may be supported if home consumed but not if exported, e.g. Australia), or where seasonal import restrictions are applied (e.g. seasonal fruit import quotas formerly in use in the United Kingdom, or seasonally varying import duties on fruit and vegetables in the Federal Republic of Germany).

(iv) The problem of time-coverage. As regards prices, and the size, quality, and composition of output, an average for several years would be more appropriate than data for a single year. It may be questioned whether an average degree of protectionism taken over such a period would have much significance.

7. Some special problems arise in connexion with the evaluation of non-price support measures, especially under Method B.

(i) What non-price measures are to be considered as protective? Such measures as tax remissions or exemptions, extension service, educational facilities, etc., may have to be examined from this angle.
(ii) What part of total outlay on production grants and subsidies is either of a capital nature or directed to landowners rather than to farmers?

(iii) The share of agriculture in subsidies benefiting other sectors as well (subsidies to railroads).

8. Method C raises the question of how to treat preferential import duties.

9. Although the foregoing list is intended to illustrate, rather than give an exhaustive list of questions, it suffices to indicate that any actual measurements will inevitably contain a substantial arbitrary element. In order to arrive nevertheless at some acceptable results, it will be necessary to formulate agreed assumptions or compromises on the points raised above, as well as any others that may emerge in the course of discussion, by which to settle in advance all those questions to which more than one answer is possible.

10. If agreement can be reached on the various assumptions which are necessary to arrive at a single result, this would not only make international comparison possible, if on a compromise basis, but would also lay the ground for measurements for each country over time. It may even be contemplated that such measurements should not only be made for various years or averages of years in the past, but also that these measurements be continued on a current basis, so as to follow fluctuations in "the degree of protectionism".