



STUDIES

The effect on farm incomes in Federal Germany of lower prices within the framework of the EEC's common agricultural policy

Joint report by members of the Advisory Council attached to the Federal Ministry of Agriculture and economic advisers working for the **EEC** Commission

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ECONOMIC COMMUNITY

**Agricultural
series**

11

1962

BRUSSELS

Introduction

In the common agricultural market, whose gradual inception began on 30 July 1962 with the implementation of the directives of the Council of Ministers on the common market organization, prices of agricultural products are to stand - regional differences apart - at a common level.

What this common level will be is of great moment for the development of the Community and of the common agricultural policy.

The EEC Commission's first proposals of 30 June 1960 concerning the gradual approximation of prices for the basic agricultural commodities, grain and sugar, have sparked off heated argument, particularly in the Federal Republic of Germany, since they would have the effect of lowering the current producer prices in that country. There is wide divergence of opinion as to the effects which a reduction of farm prices under a common agricultural policy is likely to have on the trend of agricultural incomes in Western Germany.

It was therefore deemed necessary to have an independent committee of experts study this important question and give an opinion on it. This Committee, set up in the spring of 1961 by joint agreement of the EEC Commission and the Federal Ministry of Food, Agriculture and Forestry, has set out its findings in a "joint report". The report is the fruit of extensive investigations and careful evaluations, and I would like to take this opportunity of thanking all those who contributed their scientific experience and knowledge to drawing it up.

The statistical and conceptual data incorporated in the report, particularly the conclusions, represent the considered scientific opinion of the eight professors who made up the Committee, and are without prejudice to whatever proposals on the common agricultural price policy may be made by the EEC Commission or decisions reached in the Council of Ministers.

The experts' opinion nevertheless makes a valuable and objective contribution to the question of the European Economic Community's agricultural price policy that will serve as a firm factual basis for future discussions.

Brussels, November 1962

Dr. S.L. MANSHOLT
Vice-President of the
European Economic Community

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I. The future level of farm prices is of great, not to say decisive, importance for the establishment of the common agricultural market and the implementation of the European Economic Community's common agricultural policy. It therefore looms large in the discussions of agricultural policy, particularly since the submission by the EEC Commission of proposals for approximating the widely differing grain prices in Community countries. In a joint effort to establish these discussions on a sound factual basis, M.W. Schwarz, Federal Minister for Food, Agriculture and Forestry, and Dr. S.L. Mansholt, Vice-President of the EEC Commission, agreed in the spring of 1961 to instruct a committee of experts to draw up a report.

II. The experts' opinion was to include a critical review of previous inquiries into the matter ; in particular the reliability of their findings was to be assessed in the light of the questions put, the methods applied and the figures used.

A further purpose was to give the Committee's analysis and appreciation of the effects which the progressive establishment of the European Economic Community and of the common agricultural policy, particularly a cut in German farm prices as part of the alignment of farm prices in the member countries, could have on the trend of incomes in West German agriculture as a whole and in specific sectors of it.

III. The Expert Committee consisted of the following members of the Scientific Council of the Federal Ministry of Agriculture, nominated by Federal Minister Schwarz :

| | |
|-----------------------|---|
| Prof. Dr. A. Hanau | University of Göttingen |
| Prof. Dr. H. Niehaus | University of Bonn |
| Prof. Dr. R. Flate | Forschungsanstalt für Landwirtschaft, Brunswick-Völkenrode |
| Prof. Dr. E. Woermann | University of Göttingen |

and the following Economic Advisers to the EEC Commission nominated by Vice-President Mansholt :

| | |
|-------------------------|------------------------------|
| Prof. Dr. M. Bandini | University of Perugia |
| Prof. Dr. H. Moeller | University of Munich |
| Prof. Dr. H. Priebe | University of Frankfurt a.M. |
| Prof. Dr. D.B. Schouten | University of Tilburg |

The secretarial work for the Committee was done by officials of the Federal Ministry of Agriculture and of the EEC Commission.

IV. At the constituent meeting in Bonn on 6 March 1961, the Committee's terms of reference were defined by Federal Minister Schwarz and Vice-President Mansholt.

The Committee held the following working meetings :

| | |
|-------------------------------|--|
| On 6 and 7 March 1961 | in connection with the constituent meeting in Bonn |
| On 25 and 26 May 1961 | in Brussels |
| On 14 and 15 July 1961 | in Bad Soden |
| On 20 and 21 September 1961 | in Margarethenhöhe (Sieben- gebirge) |
| On 16,17 and 18 November 1961 | in Frankfurt/Main |
| On 16 and 17 February 1962 | in Margarethenhöhe (Sieben- gebirge) |
| On 7 and 8 June 1962 | in Brussels |

At the Brussels meeting on 7 and 8 June 1962 the experts' report was finalized in the form here presented and approved by all members of the Committee.

I. TERMS OF REFERENCE

Alignment of farm prices in EEC ("Lowering of grain prices")

1. During the last hundred years agriculture in the six countries of the European Economic Community has been subject to widely varying economic conditions and has therefore developed along different lines. Since the individual policies on external trade in farm products pursued by the various States kept their agricultural markets more or less fenced off from each other, considerable differences arose between the countries now making up the Community in the level of farm prices (see Table 1) and consequently in the utilization of their agricultural potential.
2. When, pursuant to the aims of the Rome Treaty, the economic frontiers between the six countries are gradually removed and common protection introduced in respect of external trade, the marketing and price conditions for agricultural enterprises in this area will largely be aligned, for a common market is synonymous with a common price level for agricultural produce. At the end of the transition period differences in producer prices will by and large only subsist where marketing costs render them necessary.
3. No decision has yet been made on the level to be aimed at in approximating farm prices in the Common Market. The EEC Commission had simply proposed that the procedure adopted for the initial approximation of State-controlled prices for the basic products (wheat, feed barley, sugar beet), should be for the high-price countries gradually to lower them, and low-price countries similarly to raise them. This proposal is apparently based on the following premises:

T A B L E 1 : Off-farm prices (1) for farm products in the EEC countries 1956/59 (DM per 100 kg)

| | Store cattle | Pigs | M i l k | | Eggs | Barley (feed) | Wheat (soft) |
|-------------|--------------|---------|---------|-------------|------|------------------|-----------------|
| | | | as such | 3.7% Fat | | | |
| BELGIUM | 170 | 186 | 25,0 | (4) 30,4 | 301 | 31,8 | 39,1 |
| GERMANY | 193 | 241 | 33,3 | 32,3 | 322 | 37,4 | 42,1 |
| FRANCE | 167 | 205 (2) | 26,0 | 28,5 | 264 | 23,3 (3) | 28,8 |
| ITALY | 216 | 231 | 31,5 | 32,8 | 333 | 30,9 (3) | 42,5 |
| LUXEMBOURG | 201 | 252 | 37,9 | 37,9 | - | - | 47,5 |
| NETHERLANDS | 193 | 198 | 31,0 | 31,0 | 215 | 27,4 | 31,9 |

(1) Selling prices = average value for all qualities of the product

(2) Only first quality, Paris (La Villette)

(3) Total barley ; for comparison, prices of maize (the principal feed crop in Italy) were DM 29.15 in 1958/59 and DM 28.18 in 1959/60

(4) In the case of Germany, France and Italy the price of milk (as such) with any particular fat content is converted to that of milk with a 3.7% content from the butter price, and in the case of the other countries directly from the milk price.

Source : EEC Directorate General of Agriculture, section balance sheets and studies, Series B No. 2, June 1961

- Relations between farm and other prices on world markets do not materially alter over an observable period.
- Given the Community's high degree of self-sufficiency in the essential farm products and the possibilities thus afforded for market management, a balance between production and consumption can be obtained only at a level of farm prices possibly higher than the present French one but necessarily lower than the German.
- The approximation of prices must begin with the stockable basic commodities, because the prices of these, which so far have been managed by the Governments of the member countries, and will continue to be managed in EEC, largely determine the level of farm prices.

4. This calls for the following remarks :

- The present world market situation for farm products is marked by a glut in supplies, and depressed prices. It is, of course, always possible, in view of the sharp increase of population in countries outside Western Europe, and for other reasons which need not be gone into here, that this situation will alter in the long run. However, assuming peaceful development, no fundamental change of the world market situation is in prospect for the foreseeable future.
- If it were desired to approximate farm prices in the Common Market to the current German prices, it would not suffice to raise the prices of stockable basis commodities such as grains and sugar to the German level with the help of external trade protection, supplemented, if necessary, by support buying and export subsidies. The prices of all other important farm products, in particular livestock products, would have to be brought up to a corresponding level, equally effectively supported and sheltered from foreign competition.

This results from the interdependence of farm prices and the need to prevent in EEC any irrational agricultural price structure, i.e. ratio of grain prices to livestock products that would inflate grain output and impair the profitability of livestock production. This would trigger off a development which would make of thickly populated and highly-industrialized Western Europe a surplus area for grain and a deficit area for livestock products.

Any extension of German grain prices to the Common Market countries would inevitably mean upgrading all farm prices to the German level, with a consequent drastic increase in the low-price countries. Although it is not possible to predict with certainty how vigorously production in the latter countries, particularly France, would react in such an event, it is more than likely that there would be a sharp rise in output and that the self-sufficiency threshold, already fully or practically attained in EEC for the majority of important farm products, would be crossed. Quite apart from possible repercussions on agricultural output, a rise in farm prices in the low-price countries to the present German level would be fraught with weighty consequences for their general economies.

Even with an average price level, all available possibilities of price management will have to be exploited if production and consumption (including external trade) are to be brought into balance and farm prices held at that level. Price alignment at an average level would probably be sufficient in itself to boost the Community's agricultural output, since with improved price conditions the low-price countries would not hesitate to make fuller use of capacity than heretofore.

A particular case in point is France. This country alone accounts for 46% of the Community's farm land and natural conditions there are by no means unfavourable to agricultural production. On the other hand, it is hardly to be expected that countries and areas whose market and price situation worsens will limit their agricultural output. Rather will they first exhaust all available means of rationalization not yet exploited.

5. It follows that the problem of grain prices cannot be considered in isolation. On the contrary, the Expert Committee will review farm prices in general and examine the effects of changed external and internal price relations on adaptation and income formation in agriculture. External price relations mean those between prices of agricultural products on the one hand, and the means of production, services and non-agricultural consumer goods on the other. Internal price relations mean the price relations of agricultural products with one another.

Since the prices of most farm products are directly or indirectly governed by State-controlled grain prices, the establishment of a common farm prices level in EEC must in any case start from the alignment of grain prices. In the Federal Republic, the EEC country with relatively high farm prices, alignment of the prices for basic agricultural products at an average level - as proposed by the EEC Commission - would mean lower farm prices.

6. The postulated reductions in farm prices are in the first instance a matter of nominal cuts. Their economic significance, nevertheless, depends primarily on the trend of other prices in the national economy. If these go down like the farm prices, there will be no real overall change for German agriculture : what matters here is the relation between farm prices and those of all other goods and services

(external farm price relations) which determine the real value of its nominal income at any time. By "lower farm prices" the Expert Committee means a change in the existing terms of trade between farm products and non-agricultural goods and services, i.e. a reduction in real terms, which can be secured either through a nominal cutback, with the general price level remaining stable, or by holding nominal farm prices down in any rise in the general price level. Whether such a real reduction in farm prices is actually achieved therefore does not depend merely on changes, instigated by the State, in nominal farm prices, but also on possible changes to the other prices charged in the national economy.

The Expert Committee did not examine in detail the conditions in agriculture and in the economy at large under which a real reduction in farm prices would not occur, even if they were nominally lowered, or would give way to a real increase as the economy developed. Holding that the alignment of farm prices in the Common Market would probably be followed by a real reduction, the Committee interpreted its terms of reference as calling for an investigation of the effects this would have on German farm incomes. Where the Committee based its thinking on a computable model (see Section IV) it is assumed that German farm prices will fall, to an extent to be discussed in more detail later (see paragraphs 33 to 39) while prices for all other goods remain unaltered. This hypothesis of constant prices facilitates presentation by enabling evaluations to be related to a constant yardstick.

Lower farm prices in relation to farm incomes

7. Since, among the measures to establish a common level of farm prices, the EEC Commission proposed that prices for wheat, barley and sugar beet in Federal Germany be reduced step by step, the immediate inference has been drawn, in public discussions about "lower farm prices", that agricultural incomes will deteriorate. This is, however, a gross over-simplification.

The Committee would therefore like to introduce and support its opinion by discussing the conceptual framework of the terms "lower farm prices" and "farm incomes", and examine the methodological possibilities for quantifying their mutual relationship.

8. As a branch of production, agriculture can be regarded first as a single large farming enterprise ("Bundeshof" - or federal farm) which markets its products surplus to own consumption and with the proceeds purchases means of production and/or consumer goods on other markets. The income of this "federal farm" is determined by the volume and price of its output and input. It is arrived at by subtracting the input, including depreciation and such taxes as are counted as items of expenditure, from the proceeds, both in cash and in kind, of the farm's transactions. The difference is known as the "farm income" and corresponds more or less to the concept of added value in national accounting. In other words, the farm income represents the amount of money accruing as income to those who contribute their land, work, capital and entrepreneurial services to the production of goods on the farm.

This definition of "income" does not allow the question of the possible effects of a reduction of producer prices to be answered simply by calculating the loss of revenue.

9. The agricultural policy outlined in paragraph 1 of the Federal Republic's Agricultural Law and in Article 39 of the EEC Treaty is, however, not aimed at expanding the total added value (farm incomes) in agriculture as a branch of the economy, but at improving the productivity, and thus the per capita income, of those engaged in farming.

10. At a given overall "federal farm" income (added value), the per capita income is determined by the number of persons occupied. In recent times this has declined considerably, so that per capita income has risen much more sharply than total added value.

Since the added value increased only slightly, the improvement of "federal farm" income per unit of labour in Germany between 1951/52 and 1958/59 was predominantly derived from higher labour productivity and the consequent decline in the number of persons occupied in agriculture. Farm prices in this period remained on the whole stable and where an improvement of price relationships occurred it was due in the main to strong external trade protection and subsidies. In assessing these processes attention must be paid to the relationship between : the number of full-time workers in agriculture ; the development of food requirements having due regard to external trade in agricultural products ; the technical productivity of labour in agriculture and in the rest of the economy ; and the real farm prices conditioned thereby. Total added value and per capita income in agriculture are therefore not independent of each other but are jointly determined by the above factors.

From these considerations it follows that the effects of the Common Market, particularly a lowering of farm prices, on incomes in West German agriculture must be viewed and analysed against the background of the growth of the national economy as a whole, i.e. in the setting of a "Zukunftsvergleich" (comparison of future conditions) (see paragraph 13).

11. However, investigations on the basis of the "federal farm" figures only give an idea of how average agricultural incomes in the Federal Republic will probably shape. When interpreting the results it

must be remembered that the incomes actually earned by those employed on individual farms are scattered widely about the mean. Deviations from the developing average income occur :

- For farmers and their families on the one hand, and hired farmhands on the other ;
- For various sizes and types of farms ;
- For various natural and economic locations.

In addition, differences in physical and mental capacities of the farmer and his workers result in deviations from the mean. This is also confirmed by the operational results given in the "Green Reports" (Grüne Berichte) which show considerable variations within categories of similar farms.

II. METHODS OF INVESTIGATION

12. The question as to the effects of a reduction of farm prices can be put in very different ways. For instance, it is possible to examine :

What present incomes in German agriculture would be like if the lower farm prices were introduced from today?

A comparison of the answer to this question with the actual situation today gives a first picture of the statistical effects of lower farm prices. To such comparison of conditions as at present we apply the term "Gegenwartsvergleich" (comparison of present conditions).

13. The result of such a comparison is, however, unsatisfactory in so far as it is not known how the lower prices will affect the future development of farm incomes (see paragraph 10). Their effects may be modified by developments in agriculture itself or in the economy as a whole, particularly if the reduction is not introduced at one stroke but over a longer period. In this connection decisive factors in the formation of agricultural incomes are the developing demand for foodstuffs, technical productivity on farms, and numbers engaged in agriculture. The development of food demand is in turn subject to the integration effect of establishing the Common Market.

The question put in paragraph 12 is therefore too narrow. A further two questions must be examined in a "Zukunftsvergleich" (comparison of future conditions).

What would incomes in German agriculture be in the future if the lower farm prices were to come into force from today or from another date to be specified?

What would incomes in German agriculture be in the future if the EEC had not been established and farm prices were not reduced?

Only by comparing the answers to the last two questions (the comparison of future conditions) is it possible to judge the lasting effects on agricultural incomes in the Federal Republic of a reduction in farm prices within the framework of a common agricultural market.

Since, however, farm incomes are characterized by the considerable disparities previously referred to, a complete answer to the question requires an examination of possible repercussions on income formation in various types and sizes of farms and in different localities, and of whether and in what areas the existing disparities would increase or diminish (see Section VI).

14. The various investigations that have been conducted into the question put to the Expert Committee may be classified as follows :

a) According to starting point

- Present-day comparisons showing what agricultural incomes would be today if the lower farm prices were already in force.
- Future comparisons to investigate the movement of agricultural incomes within the general development of the economy with and without reduction of farm prices, or with and without the Common Market.

b) According to degree of differentiation

- Overall investigations to show the effects of a reduction of agricultural prices on overall ("federal farm") income.

- Differentiated studies to ascertain the effects on different farms according to size, type and location.

15. Both present and future comparisons can only take the form of computable models. Nevertheless, even future comparisons must not be taken for prophecies; all they can do is describe possible situations and developments and state, with explanations, the working hypotheses under which they may be expected to occur.

All values used in the computing model must be expressed in figures, or quantified, even if they are only roughly and approximately known. Even important initial data used in the model with reference to past years are to be considered solely as orders of magnitude and therefore subject to reservations. Thus, the value of agricultural output covers all farm products, but no clear line can be drawn between, on the one hand, output by farmers in the narrower sense and, on the other, by nonagricultural producers or those for whom farming is a secondary source of income. There is even greater uncertainty in this respect when it comes to proper classification of operational resources and manpower.

16. It follows that the findings of the computable model, although expressed in figures, can convey no more than an idea of the direction and strength of the effects of lowering farm prices on German farm incomes. Direct application of the figures without any discussion of the premises and situations from which they were derived leads in most cases to erroneous conceptions. However, models compiled with proper critical judgement and expert knowledge can certainly give a deeper insight into the various situations concerned. They also give indications as to how farms can cope with the difficulties likely to arise, where agricultural policy should intervene and what measures hold out promise of success.

III. EARLIER STUDIES REVIEWED

17. Shortly after the signing of the EEC Treaty, German agronomists pointed out that the level of farm prices would probably be lower in a common market than on the German market at that time. They also endeavoured to estimate the probable effects of any price reductions on the economics of German farming in order to point out the agricultural policy measures which, in such an eventuality, could make it easier to fit German agriculture into the Common Market. Here agronomics found itself up against difficult and sometimes novel methodological problems. Only gradually were improved procedures developed.
18. The Expert Committee has carefully examined a number of these studies. Without making any claim to exhaustive treatment of the question the Committee singled out those which have attracted most attention in public discussion and were based on methods susceptible of scientific verification. These studies were appraised from the following angles :
- The aims proposed,
 - The methodological starting points taken,
 - The underlying assumptions,
 - The value of their quantitative results.

The Expert Committee analysed eleven studies, the titles of which follow, in order of writing or publication :

1. Weinschenck, G. : Über den Einfluss einer Futtergetreidepreissenkung auf Erlöse und Einkommen der westdeutschen Landwirtschaft. Vorlage für den Wissenschaftlichen Beirat beim Bundesministerium für Ernährung, Landwirtschaft und Forsten, Juli 1957. (The influence of a reduction in feed grain prices on West German farm incomes. Memorandum for the Scientific Council of the Federal Ministry of Food, Agriculture and Forestry, July 1957).

2. Plate, R.
D. Grupe : Auswirkungen einer Senkung der Futtergetreidepreise auf die wirtschaftliche Lage der westdeutschen Landwirtschaft. "Agrarwirtschaft", Jg. 7 (1958), S. 301 - 313
(Effects of a reduction of feed grain prices on the economic situation of West German agriculture "Agrarwirtschaft", 7th year (1958) pp. 301 - 313)
3. Rehwinkel, E. : Milliardenverluste auf dem Spiel. "Deutsche Bauernzeitung", - No. 32.v.7.8.1958. (Billions of Marks at stake) . "Deutsche Bauernzeitung", No. 32 of 7 August 1958.
4. Engel, E.
Dansmann, H. : Agrarpolitik und Agrarmärkte in der EWG, Hamburg und Berlin 1959. (Agricultural policy and agricultural markets in EEC Hamburg and Berlin 1959).
5. Padberg, K .
Richnow, H. : Annahmen für Preisveränderungen in der EWG und ihre Auswirkungen auf die Ertragslage der Landwirtschaft. Bundesministerium für Ernährung, Landwirtschaft und Forsten; Umdruck vom 16.2.1960.
(Hypotheses on price changes in EEC and their effects on agricultural earnings) Federal Ministry of Food, Agriculture and Forestry, Reprint of 16 February 1960.
6. Woermann, E. : Probleme der Betriebsorganisation im Hinblick auf den Gemeinsamen Markt. "Agrarwirtschaft", Jg. 9 (1960), S. 104 - 118. Besonders Abschnitt III, S.109-111. (Farm organization problems in the light of the Common Market) "Agrarwirtschaft", 9th year (1960), pages 104-118. Particularly Section III, pp. 109-111.
7. Wissenschaftl. : Auswirkungen der Vorschläge der Kommission der EWG für eine Gemeinsame Agrar-
Beirat beim Bun- politik auf die Ertragslage der Landwirtschaft in der Bundesrepublik. Juli 60.
desministerium für Hektographiert.
Ernährung, Land- (Effects of the EEC Commission's proposals for a common agricultural policy on
wirtschaft und farming income in the Federal Republic) July 1960, cyclostyled.
Forsten :
8. Priebe, H.
Koch, J. : Auswirkungen von Preisveränderungen auf die vorherrschenden Betriebsformen und Betriebsgrößen in der Agrarstruktur der Bundesrepublik Deutschland. July 1960. Hektographiert.
(Effects of price changes on the predominant types and sizes of farms in the agricultural structure of the Federal Republic) July 1960, cyclostyled.
9. Niehaus, H. : Die Landwirtschaft in der EWG. Vortrag Herbst 1960. Hektographiert.
(Agriculture in EEC. Lecture given in autumn 1960) Cyclostyled.
10. Plate, R. : Wirtschaftswachstum, Gemeinsamer Markt und die Strukturkrise der Landwirtschaft. Vortrag, gehalten anlässlich der Generalversammlung der Versuchs- und Beratungsringe im Gebiet der Landwirtschaftskammer Hannover am 12.12.1960. Hektographiert.
(Economic growth, the Common Market and the structural crisis in Agriculture. Lecture at the general meeting on 12 December 1960 of experimental and advisory groups in the area of the Hannover Chamber of Agriculture, cyclostyled.
11. Plate, R.
Woermann, E.
Grupe, D. : Landwirtschaft im Strukturwandel der Volkswirtschaft. Analyse der Nachkriegsentwicklung in der Bundesrepublik Deutschland und Versuch einer Prognose unter Berücksichtigung der Auswirkungen des Gemeinsamen Marktes, "Agrarwirtschaft", Sonderheft No. 14, Hannover 1962.
(Agriculture in the changing structure of the national economy. Analysis of post-war development in the Federal German Republic and tentative forecast with reference to the effects of the Common Market) "Agrarwirtschaft", Special issue No. 14, Hannover 1962.

References in the remainder of the Report to these studies will be followed by the above numbers in brackets.

19. The aims of the investigations mainly reflected the state of public discussion at the time. Strictly limited at first, they were steadily broadened as time went on.

Thus, the chief aim of the first studies, in particular (1) and (2), was to describe the interdependence of farm prices - generally allowed for by experts, but sometimes overlooked in public discussion - to give detailed reasons for it and to point out the effects of altering the prices of basic agricultural commodities. The fact that most public discussions made no mention of the alignment (in the case of Germany, the reduction) of farm prices, but simply of an alignment (reduction) of grain prices, had in fact often led to the erroneous notion that this change in grain prices was the only point at issue and that all other farm prices would remain more or less as before.

Study (2) concentrated on the further and likewise strictly limited aim of correcting the widely-held opinion that cheaper animal conversion products would lead to such a sharp increase in sales as to offset the unfavourable effects of reduced grain prices.

Finally, it was to be established that a reduction in grain prices did not always mean correspondingly lower processing costs, particularly where farm-grown fodder was used, as is generally the case in Federal Germany.

Studies (3) - (6) and (9) essayed an overall computation of the effects of lower farm prices on the proceeds of sales (i.e. initially on receipts and not on income) in West German agriculture as a whole.

In this connection study (9) is an attempt to go beyond a present-day comparison and take account of the significance of higher consumption and output of livestock products consequent upon economic growth. Studies (5) - (8) had, as their sole and secondary aim, to show how these effects were distributed throughout German agriculture.

Only the last two studies (10) and (11) included the subsequent aim of throwing light on the influence of farm prices on overall farm income.

20. According to the classification set out in paragraph 14, the studies listed can be grouped as follows :

Studies (1) - (7) are comparisons of present conditions. They calculate the decline which would occur in receipts from sales if the prices for a number of leading farm products were reduced at one stroke by a given amount and the subsidies for milk abolished. Since these studies are based on the supposition that, leaving aside imported feed grain, input of materials and equipment remains unaltered, the loss of earnings allowing for cheaper feed imports is taken as a loss of income. Studies (8) and (9) estimate how proceeds from sales would increase despite lower prices if the amounts marketed rose in step with the development of demand. However, growing expenditure is not taken into account in (9) either. Moreover, (1) - (6) and (9) are overall studies.

A differential approach to the effects of reduced farm prices on various types of farm is adopted in studies (5) - (8).

The first attempts at a future comparison are contained in studies (8) and (10), published in 1960. Study (10) deals

with the influence of lower "EEC prices" on the development of West German agriculture within the general economy over a longer period (1951/52 - 1958/59 - 1965 and 1975). This corrects the impression that the reduction in farm prices would result in a permanent absolute fall of incomes below their present level, an impression which originated in a mistaken interpretation of the comparison of present conditions. The same study (10) is also the first one to tackle the whole complex issue of "farm incomes".

This it does

- by setting expenditure against receipts and thus giving an idea of how the "federal farm" income would fare with changed farm prices;
- by including the development of per capita income of persons occupied in agriculture.

Study (11) is a continuation and completion of study (10). It introduces further refinements into the model for overall observation.

21. The figuring used in the global comparisons of present conditions (1) - (6) is shown in Table 2. In judging these results it must be remembered, as already mentioned, that we are dealing simply with reductions in cash receipts (proceeds of sales). For a comparative review of the results, studies (1) and (3) may be disregarded, the first because as a first tentative pilot study it is limited to a few products, and the second because the method used is only suitable for a rough estimate of orders of magnitude.

The results of studies (2), (4), (5) and (6) tally largely the main differences lying in :

- the choice of reference year;

TABLE 2 : Principal starting points and results of the overall comparisons of present day conditions

| Guide prices (1) | | | | | | | | | |
|--------------------|---|-----------|--------------------------|------------------------------------|------------------------------------|--|------------------------------|---------------------------------|--------------------------------|
| Author | Source | Base Year | Product | In the base year | Hypothesis | Limits | Decline in income (mill. DM) | Saving on feed costs (mill. DM) | Net reduction (mill. DM) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. WEINSCHENCK | Memorandum for Scientific Advisory Council Fed. Min. Agr. July 1957 | 1955/56 | Barley | 366 DM/t | 325 DM/t | Quantities sold (of potatoes, pigs and cattle only) | 950 | 110 | 400 (2) |
| 2. PLATE/GRUPE | "Agrarwirtschaft" 7 (1958) | 1957/58 | Feed barley | 362 DM/t | a) 310 DM/t b) 330 DM/t | Quantities sold (excl. milk and special crops) | a) 897 b) 946 | 154 94 | 730 - 780 (3) 470 - 500 (3) |
| 3. REHWINKEL | "Deutsche Bauernzeitung" No. 32 of 7.8.58 | 1957/58 | Wheat feed barley | 420 DM/t 362 DM/t 70 DM/t | 360 DM/t 300 DM/t 60 DM/t | Total production of grain, potatoes, sugar beet multiplied by price reductions | - | - | 1 200 |
| 4. ENGEL | Agricultural policy and agricultural markets in EEC 1959 | 1958/59 | Feed barley | | 310 DM/t | Quantities sold (excl. special crops). No price reduction expected for milk | 1 200 | 210 | rd. 1 000 |
| 5. PADBERG/RICHNOW | Fed. Min. Agr. reprint of 16 Feb. 1960 | 1958/59 | Wheat feed barley (milk) | 421 DM/t 374 DM/t 0.33 DM/kg | 370 DM/t 330 DM/t 0.30 DM/kg | Quantities sold (excl. special crops) | 1 286 | 220 | 1 062 |
| 6. WOERMANN | "Agrarwirtschaft" 9 (1960) | 1958/59 | Wheat (milk) | 421 DM/t 0.33 DM/kg | 360 - 380 DM/t 0.29 DM/kg | Quantities sold (excl. special crops) | 1 450 | 225 | 1 225 |

(1) Prices of the key products used in defining the level of farm prices and on the basis of whose supposed changes (column 6) the changes of most of other prices were estimated

(2) Less increased income from higher sales due to the lower prices (40 million DM)

(3) See footnote 2 (here 9 or 5 million DM)

- differing hypotheses concerning the reduction of farm prices, as reflected in the "target prices" for grain (columns 4 to 6 of Table 2);
- the varying importance attached to price trends for live-stock products (particularly milk prices) which are barely, if at all, directly affected by the alteration of the grain target prices.

The trend of milk prices was not dealt with in study (2) because the authors felt that it could not be predicted at this stage and because the restricted aim of the investigation (see paragraph 19) did not require it to be covered.

In study (4) it is assumed that the German milk price would be unchanged by the establishment of the Common Market. Meanwhile, research continued, so that in the later studies (5) to (7) a reduction of 3 to 4 Pfg. per kilogramme was assumed. The report of the Wissenschaftlicher Beirat (7), and also the later studies (10) and (11), note that even without the Common Market the price of milk in the Federal Republic would have come under increasing supply pressure.

The resultant fall in milk prices, or the abolition of milk subsidies in itself, would amount to a reduction of about 500 million DM in receipts on the basis of the volume marketed in 1958/59.

Since the investigations deal with the effects of changed farm prices on receipts from sales, no account was taken of the abolition of fertilizer subsidies, although various references were made to it.

Adopting in all four calculations the following hypotheses :

- Reference year 1958/59
- The price of wheat reduced to 370 DM/ton and that of feed barley to 330 DM/ton
- The price of milk reduced to 300 DM/ton,

comparisons of present conditions would uniformly show a decline in receipts (less the reduction in expenditure on feed grains) of around 1,000 million DM of which about half is accounted for by the lower prices for grain and products dependent on grain (with due allowance for the smaller expenditure on feed grains) and the other half by the postulated reduction in milk prices.

22. In evaluating what contribution these comparisons of present conditions made to points at issue, the following should be emphasized :

- They enlightened public opinion on the interdependence and importance of farm prices.
- They cleared away erroneous notions that the effects of a reduction of grain prices on the economic situation of West German agriculture could largely be offset by rising demand for conversion products as a result of the lower prices, and that reduced grain prices are tantamount to increased profitability in the economics of conversion.
- In so far as an attempt was made to go beyond a mere present-day comparison (9) the studies indicated that the probable increase in mass incomes might considerably push up the demand for conversion products.
- Their quantitative results gave a rough idea of the purely statistical effect of lower farm prices, and thus made it easier for the experts to judge what strain the reduction assumed would place on farming adaptability.
- However, they also gave rise to misunderstandings and wrong inferences in public discussions, in that the very restrictive premises, which the authors themselves constantly kept clearly in mind, were frequently overlooked.

In particular, since the calculations are related on the one hand to existing production conditions and on the other hand to the final stage of reduction in grain prices, they fostered the illusion that a severe absolute drop in present-day receipts or income would occur. Actually, agricultural output will most likely continue to rise during the transition period, so that if grain prices are reduced gradually any absolute fall in receipts and income would be at most temporary only and even then kept within narrow bounds. In practice a price reduction would have the effect of slowing down the growth in value of German agricultural production or, to a relative extent, that of farm incomes.

23. In assessing the results of the present-day comparisons we must remember that although the adaptation of other farm prices to the lower grain prices is allowed for, it has been assumed that there would be no change in the quantitative structure of output.

Furthermore, consideration of the effect of reduced farm prices on the distribution of income in West German agriculture has not yet got far beyond the initial stage. For this very reason there will have to be some classification of ideas when it comes to finding agricultural policy measures to facilitate adaptation and conversion on individual types of farms.

None of the existing studies puts the question of how agricultural incomes in the Federal Republic will shape if the projected farm prices for all EEC countries are actually applied, and production in these countries and the market situation in the EEC develop accordingly.

The reliability of comparisons of present conditions is mainly limited by the fact that the effects of the reduction of grain prices are not viewed in the context of overall economic development (see paragraphs 12 and 13). Thus, with the exception of (9) in the case of (i), they leave out of account those factors which have determined the development of incomes in West German agriculture in the past, i.e.

- (i) Higher consumption and output, particularly of livestock products, with the growth of population and rising standards, and
- (ii) The trend of labour productivity and the fall in the number of persons occupied in agriculture.

The subsequent methodically more advanced studies in particular (11), provide far better answers to the problems set than the comparisons of present conditions. The Expert Committee has in its own work mainly relied on the computable model used in (11), which outlines the future development of agriculture and was kindly made available to the Committee in its early draft form. As the Committee was not in a position to carry out comprehensive calculations itself, it merely considered in some detail the methodological bases of these preliminary estimates. The latest version of study (11), which has subsequently been published, was not actually seen by it.

IV. A COMPUTABLE MODEL FOR THE GLOBAL COMPARISON OF FUTURE CONDITIONS

Principles on which the model is based :

24. The basis taken for calculating an overall input/output model was an analysis of the development of West German agriculture in the fifties (1951/52 to 1958/59). This seven-year period was marked by exceptionally vigorous economic growth : the gross national product rose by about 60% at a real average annual growth rate of 7% to 8%, or 6% to 7% per head of population.

This vigorous growth influenced agriculture in two chief ways :

- by increasing demand for farm products;
- by increasing demand for labour in non-agricultural sectors, with a consequent rise in wages in these sectors and higher pay for non-family workers in agriculture, resulting in turn in greater income demands by family labour (including the farmer himself).

25. During these years 1951/52 to 1958/59, total consumption of foodstuffs reckoned in grain units went up about 30% (about 13 million tons GU). The increase was overwhelmingly in livestock products. With this development of consumption and with effective support from Government market and price policy (external trade protection and subsidies) German agriculture was able to increase output by approximately 25% (about 9.4 million tons GU) (1)

(1) Of this amount, however, 3 million tons GU were produced from imported feeds. In all, therefore, about 6.6 million tons GU of the extra consumption of 13 million tons GU was met by imports of food and feeding stuffs.

The wage rates of farm labourers rose in the same period (1951 - 1958) by more than 50% and the actual average gross expenditure per unit of full-time non-family labour by over 70%.

With demand for its products increasing reasonably and with corresponding rises in its volume of production, German farming was therefore faced with the task of earning a much more steeply rising per capita income (added value per head). However, it was assisted by the fact that price relations moved decidedly in its favour; subsidies for milk and fertilizers played an important part in this respect from the mid-fifties onwards (see paragraph 10).

26. Under such price conditions the following adaptations enabled per capita income in agriculture at least to keep fairly in step with the development of income in other sectors :

- The volume of output rose about 4,000 million DM, with a simultaneous increase of about 2,000 million DM in the input of commercial fertilizers, pesticides and herbicides and bought feedstuffs.
- The labour force was overhauled : the number of full-time workers was reduced by about one million, while the annual volume of current expenditure for equipment, energy and buildings rose by about 1,100 million DM (at 1951/52 prices). This shift, however, necessitated a considerable improvement in capital equipment, and a net investment of about 5,500 million DM, including 4,900 million for machinery and equipment alone.
- The basis of production was improved by way of a general reform of farm structures. Thus, between 1950 and 1959, about 1,500,000 hectares of arable land were consolidated, while many farms were put on a sounder economic basis by building rural roads, land improvement and water supply and drainage. There have also been changes in size of

holdings. The preliminary results of the agricultural census of 1960 show that the number of farms of between 0,5 and 10 hectares has fallen by 364,000 since 1949. In the main, the land thus freed was taken over by other farms, so that the number of holdings of over 10 hectares has risen.

27. Despite this process of adaptation, total "federal farm" income (added value) rose only moderately; in nominal terms it was 26%, and in real terms only 17%, higher than in 1951/52.

However, when income is related to the number of full-time workers quite a different picture emerges. Nominal farm income per fully-employed worker went up 74% and real income 61%, i.e. faster than in most other sectors of the economy.

If we try to ascertain the proportionate share of each of the factors which together determine the real increase in income per full-time worker - and in any case this does not imply a causal analysis of factor efficiency - it is seen that, on the average for the four years 1955/56 to 1958/59, a good half of the increase in income per full-time worker should be attributed to the decline in numbers employed. Higher production and the improved price relationship between farm products and means of production probably each accounted for just a quarter. The key factor in satisfying farm workers' rapidly rising claims for higher earnings in a booming economy was, therefore, managerial efficiency, especially the release to other jobs of a million full-time workers without any abatement of the rise in output : 25% more was in fact produced with almost 30% fewer full-time workers. In this connection it must be remembered that there was a glut of labour at the beginning of this period, at any rate on farms of under 5 - 10 hectares.

The model

28. It is clear from the analysis of events in the fifties that an input/output table projected into the future must be based on probable economic and demographic growth on the one hand, and on the development of prices and technological progress on the other. The computable model used and the assumptions and estimates included in it may be summarized as follows :

- The level of prices in non-agricultural sectors was assumed to remain constant (see paragraph 6);
- Independent growth rates were assumed of per capita gross national product under full employment; the demographic trend was estimated (see paragraph 31);
- The consumption of all important foodstuffs was estimated on the basis of these assumptions - generally by means of income elasticities (see paragraph 32);
- Two hypotheses were advanced concerning the future level and structure of farm prices (see paragraphs 33 to 39). It was assumed in either case that the price ratio of farm products to other goods on the world market will not materially alter (see paragraphs 3 and 4);
- It was assumed that the prices of industrial products used in agriculture remain on the whole unchanged (see paragraph 40);
- The production of German agriculture and food and feed imports were estimated on the basis of consumption trends. It was assumed that primary output (crops) will rise further, with the price relationships assumed, and that the consumption of plant foods will be met from own production where this is quantitatively and qualitatively adequate : for the rest, consumption should be covered by imports. In estimating production and imports of livestock products it was assumed

that, making full use of its technical resources, German agriculture is in the position on the whole to maintain its share of the markets even in full competition with the other EEC countries. Feedstuff requirements will be covered by imports where primary production and the by-products of processing domestic output (skim milk, bran and the like) prove inadequate (see paragraphs 41 to 47);

- The input of fertilizers, pesticides and herbicides and of bought feeds was deduced from the production figures. Expenditure on implements and buildings was estimated (see paragraph 48);
- The values of production and of materials input were calculated on the basis of the quantified estimates and the prices postulated. The difference between the two represents the overall farm income (added value in agriculture) (see paragraphs 50 to 52).

The computable model is based on conditions in the farming year 1958/59 and refers to the sample years 1965, 1970 and 1975.

The assumptions and calculations are discussed in greater detail in the following paragraphs. In this connection the price hypotheses and the effects of changed price relations are dealt with at length because of their importance to the questions put in the experts' report. As regards the remaining assumptions and deductions, the report confines itself to essentials, since any detailed treatment would go beyond the Committee's terms of reference.

29. The conclusions drawn from the model assume that income per person engaged in agriculture will grow relatively as much as the national average (expectations of income, see paragraph 49).

If the income expectations of persons employed in agriculture thus deduced from economic growth are compared with the probable development of farming income (added value), the result gives the number of fully-employed persons who can earn a corresponding figure on the basis of the hypotheses adopted. In other words, how much the productivity of labour in West German agriculture must grow, under either price hypothesis, if the income of persons in agriculture is to develop proportionately to that in other sectors of the economy (see paragraph 53).

30. The analytical model is especially intended to demonstrate the effects of a real reduction in farm prices. The Expert Committee is aware that this gives only a partial view of the matter. It presents one conceivable picture of development, but other alternatives may also exist. Any comprehensive analysis would have to make full allowance for economic interdependence. At the same time the model gives an adequate picture of the essential connection between national economic growth and the redistribution of manpower between agriculture and other sectors.

Hypotheses on economic and demographic growth

31. Owing to the uncertainty of future developments, the Committee proceeded on the basis of two hypotheses about the average yearly growth rate of per capita GNP in the Federal Republic, showing what effects a faster economic growth, due to whatever cause, would have on the situation of agriculture :

| | <u>1958/59 - 1965</u> | <u>1965 - 1975</u> |
|-------------------|-----------------------|--------------------|
| I. Weak growth | 3.4 % | 2.8 % |
| II. Strong growth | 4.2 % | 3.6 % |

The Expert Committee expressly points out that these are simply hypotheses, albeit not unlikely ones. The premise in both cases is that the growth rate will be lower than in the fifties but considerably higher than between the two world wars and before the first world war. The hypotheses concerning growth rates up to 1965 are the same as those in the study "Entwicklungstendenzen der Erzeugung und des Verbrauchs von Nahrungsmitteln in der EWG (1)" ("Trends in food production and consumption in EEC (1)").

The consensus of opinion is that the establishment of EEC will lead to a speed-up in economic growth. If this is accepted, the comparison between the results of stronger and weaker growth provides important clues for judging the general "EEC effect" on German farm incomes.

The figures used for the population of Federal Germany in 1965, 1970 and 1975 are based on official estimates of the natural growth of the population and on the assumption that the Federal Republic will continue to have a net migration surplus, although a much smaller one.

Estimate of food consumption

32. Federal Germany's probable per capita food consumption was estimated on the basis of developments in the fifties, using unadjusted real consumer prices. For those products whose consumption is obviously and measurably dependent on income, the estimates were as a rule based on elasticity ratios derived from time-series analyses for 1950/51 to 1959/60. The consumption estimates for foodstuffs with very low correlation to income were made on the basis of the existing trend and careful examination of all previous experience.

(1) EEC Commission, "Studien", Reihe Landwirtschaft, No. 2, Brussels 1960.

Hypotheses on the future level of farm prices and appreciation
of their structure

33. Price trends are studied by reference to two hypotheses.

The first (price hypothesis I) assumes that as the common agricultural market is built up, managed prices for basic commodities, in particular grain, will be aligned as a level roughly midway between the prices obtaining in the six countries hitherto, and that subsidies on agricultural products and means of production will disappear. This is simply a working hypothesis for use in calculating the model. It therefore represents neither a proposal by the EEC Commission or the Expert Committee, nor a basis of discussion accepted by the Federal German Government.

The second assumption (price hypothesis II) is that the EEC is not established, and that agricultural market and price policy goes on in a national framework.

All prices mentioned in this connection are to be understood as real prices in DM with 1958/59 purchasing power. Should the purchasing power of money depreciate and the general price level therefore rise - as has already to some extent happened since - this would have to be allowed for in the model by a corresponding nominal increase in the agricultural prices postulated (see paragraph 6).

Price hypothesis I

34. The basis is an average producer price for wheat in the Federal Republic of 370 DM/ton, as against 428 DM/ton in 1958/59 and 330 DM/ton for feed barley (374 DM/ton). An off-farm price structure is deduced from these hypothetical target prices, which are situated between those prevailing in the high- and low-price countries of EEC (Table 3).

The model assumes that the transition to the new prices will not occur all at once but gradually and will not be complete before 1970.

A hypothesis with higher prices seemed inappropriate for methodological reasons, since the reduction compared with the 1958/59 prices would have been so small that a quantitative assessment of its effects would have remained within the margin of error of the required estimates. The rehabilitation of the conclusions to be drawn from such a model would have been correspondingly small.

35. In detail the estimates of the prices deduced are based on the following considerations. The prices of the primary products listed below are effected by the hypothetical reduction in the target prices (wheat, feed barley) :

- Other types of grain (rye, feed oats, malting barley);
- Other crops such as sugar beet, oil-seeds, etc. which compete with grain for the use of land and cannot therefore be considered independently of the formation of grain prices.

Lower grain prices also impinge on the costs and prices of those livestock products which are mainly based on grain according to the reduction in grain expenditure required to

T A B L E 3 : Hypotheses on off-farm prices in the Federal Republic of Germany

| | 1958/59 prices (1) | | Price hypothesis I | | Price changes : | |
|--|---|-----------|--------------------|------|--------------------------------|---|
| | Price hypothesis II | | 1970 | | Difference between (1) and (2) | |
| | DM/t | | DM/t | | DM/t | % |
| | 1 | 2 | 3 | 4 | | |
| Wheat | 428 | 370 | - 58 | - 14 | | |
| Rye | 385 | 330 | - 55 | - 14 | | |
| Brewer's barley | 427 | 360 | - 67 | - 16 | | |
| Feed barley | 374 | 330 | - 44 | - 12 | | |
| Feed oats | 348 | 300 | - 48 | - 14 | | |
| Edible pulses | 591 | 510 | - 81 | - 14 | | |
| Food potatoes | 135 | 135 (2) | -- | -- | | |
| Industrial potatoes | 95 | 90 (2) | - 5 | - 5 | | |
| Sugar beet | 71 | 62 | - 9 | - 13 | | |
| Oil seeds | 660 | 575 | - 85 | - 13 | | |
| Fruit, vegetables, miscellaneous special crops | No change assumed from the 1958/59 prices | | | | | |
| Cattle (3) | 1 925 | -- | -- | -- | | |
| Cows | 1 650 | 1 485 | - 165 | - 10 | | |
| Bullocks, bulls, heifers | 2 175 | 2 175 | -- | -- | | |
| Calves | 2 933 | 2 933 | -- | -- | | |
| Sheep (3) | 1 576 | 1 576 | -- | -- | | |
| Pigs (3) | 2 310 | 2 310 | - 180 | - 8 | | |
| Poultry (3) | 2 490 | 2 490 (2) | -- | -- | | |
| Cow's milk | 333 | 300 | - 33 | - 10 | | |
| Eggs | 3 220 | 3 000 | - 220 | - 7 | | |

(1) Some 1958/59 prices were influenced by the extraordinary harvest results (e.g. above average moisture content in bread grains, unusually high yields of vegetables and wine). Pig prices were almost at the peak of a cycle. Such random variations from normal price levels were eliminated by estimation. In addition, the discontinuance of production bonuses for rye and the reduction of the fixed price for rape (both from 1959) had already been taken into account.

(2) This price hypothesis is based on the assumption that there will be a sizable rise in the average quality.

(3) Live weight.

produce them. The chief result will be lower prices for fat pigs. Being protected against any imports which might depress them, these prices have so far stood in a specific ratio to the prevailing feed grain prices.

Adaptation of pig prices to falling grain prices is summarily shown in the following table :

T A B L E 4 Relation of pig to grain prices

| Cases | Market prices for feed grain DM 100/kg | Cost of feed grain assuming a requirement of 350 kg/ 100 kg. live weight | Balanced price (market) for fat pigs with processing costs at 100 DM (1) per 100 kg live weight (Column 2 plus 100 DM) | Price ratio grain/ pigs (market) |
|-------|--|--|---|--|
| | 1 | 2 | 3 | 4 |
| I | 40 | 140 | 240 | 1 : 6.0 |
| II | 37 | 130 | 230 | 1 : 6.2 |
| III | 33 | 115 | 215 | 1 : 6.5 |
| IV | 30 | 105 | 205 | 1 : 6.8 |
| V | 27 | 95 | 195 | 1 : 7.2 |

1) includes marketing costs, piglets, supplementary rations, preparation of feeds, labour, building, miscellaneous items.

Cases I and II roughly reflect the German situation up to now, while Case V approximates to that of the Netherlands. Where home-grown and imported feed grain are available in practically unlimited quantities at a given price, the level of pigmeat prices adjusts itself fairly automatically to the fodder price in the way shown. This is because producers have no great difficulty in adjusting to any likely increase in demand and market prices for pigs cannot therefore remain for any prolonged period above the cost price (including profit margin) of efficiently managed farms.

Nor can they remain for long below the cost price as thus defined, since this would cramp supplies.

For eggs and table poultry the situation differs in that liberalized imports combined with moderate customs protection keep current German market prices below cost prices. Prices are therefore equalized by means of subsidies under the Law for the promotion of the German egg and poultry economy (Gesetz zur Förderung der deutschen Eier- und Geflügelwirtschaft BGBl. I 1956 page 239 and 1961, page 1081). In the Common Market, however, these subsidies will be abolished once the feed grain prices - the most important cost factor - are the same in all countries or, until then, whenever differences in grain prices are balanced out in calculating levies on imported poultry products.

36. The effects of lower grain prices discussed give only an imperfect picture of the new producer price level in the Six. If the establishment of the Common Market is to be correctly assessed from the economic angle, account must be taken of its effects on those farm prices which are indirectly, or only loosely linked with the economics of grain production. This means in the first place prices for cattle products. The model makes the following simplified assumptions concerning these :

Store cattle :

Only in the case of heifers and cows is a price reduction - 10 % - assumed, since prices are much lower in France and Holland than in Germany.

For other store cattle no price reduction is assumed, although German prices are again higher than in the partner countries, because of favourable demand and over-rigid supplies from EEC sources.

The common external trade policy precludes the hypothesis of higher prices for store cattle, which would in fact presuppose restrictive external trade measures. But the EEC external trade policy will have to leave marketing opportunities open to the exporting countries, at any rate for those products which do not seriously threaten output in the Community.

According to the estimates of future consumption and production used in the model [11] milk prices in the Federal Republic will be held down by supply pressure. In the EEC as a whole, signs of overproduction are also becoming apparent because of the coincidence of sizable dairy production reserves with only a moderate rise in consumption.

The development of milk prices in the Common Market will also be governed by the following circumstances :

- Self-sufficiency in milk and dairy produce is already attained, and
- Milk subsidies will probably come to an end in the Community countries.

The model therefore reckons on a decline in the off-farm price of cow's milk from 33 to 30 pfennigs. The loss of 3 pfennigs corresponds roughly to the amount which the German producer at present receives in subsidies by way of a quality bonus. Whether other price losses will occur depends on the development of milk production in the remaining EEC countries, particularly France ; this is difficult to predict at present.

Other products : For some less important products such as store calves, sheep, etc., no price reductions are estimated, either because they are not likely to occur or because they are very difficult to predict and in any case do not affect the issue.

No price reductions have been allowed for in the case of fruit and vegetables and food potatoes ; here special conditions prevail about which it is impossible to venture a long-term forecast.

37. A more thorough analysis of price hypothesis I shows that, compared with 1958/59 prices :

- The level of farm prices in the Federal Republic would be 6% to 7% lower if account is taken of all known price-determining influences resulting from developments in the Common Market and in German markets ;
- About one half of this reduction in farm prices results from lower prices for wheat, feed barley and the prices directly dependent on these, and the other half from the reduction of the price of milk ;
- Internal price relations (see para.43) undergo a change. The price ratio of livestock to plant products will shift in favour of the former.

Price hypothesis II

38. Hypothesis II for the computable model assumes that, under a national agricultural market and price policy, farm prices in the Federal Republic could have been maintained until 1975 at the 1958/59 level if the EEC had not been formed. This calls for the following observations :

"Technically" the farm price level might conceivably be kept substantially at the 1958/59 figure. However a necessary condition would be the adaptation of the farm price structure to the supply situation in the Federal Republic and to the probable development of demand, i.e. price relations between products would have to alter to some extent. In this way the price policy would have to favour the production of goods for which the degree of self-sufficiency is still low and a substantial expansion of demand is to be

expected, while products with a high degree of self-sufficiency and for which demand is declining, stagnating or capable of only slight expansion, would call for a cautious policy. This means that the absolute prices of the latter products would need to be reduced as in price hypothesis I - albeit less sharply - and those of the former correspondingly increased. These changes in internal price relations would thus point the same way as those which occur in the Common Market and would have similar effects to those under price hypothesis I on the pattern of production and, consequently, on the distribution of incomes in German agriculture.

We will not recapitulate here the individual prices under hypothesis II. If Paasche's price index is used and, consequently, the weighting is done with the production volumes accompanying the changed prices, the fact that the price level remains the same implies that the new production volume must yield exactly the same result multiplied by the former prices and the new ones. For this reason, calculation of the volume of food products at normal 1958/59 prices automatically gives the value of food production under price hypothesis II.

39. A price policy aimed at maintaining the present level of farm prices (hypothesis II) might possibly have been followed, as hitherto, using the tools of external trade policy and price subsidies at national level. Either way there would unquestionably have been adverse repercussions on the Federal Republic's political and economic relations with other countries, while the subsidies would also have been a growing burden on the central budget.

It is not for the Expert Committee to judge whether such a policy would have been defensible and prove successful. Nevertheless, price hypothesis II is used as a statistical basis of comparison for assessing the order of magnitude of the effects of all price reductions caused by market developments and by the existence of EEC.

It is impossible to say how far the price and income reductions thus "calculated" stem on the one hand from market developments and agricultural policy factors which would have operated without the EEC, and on the other from the influence of EEC.

Hypotheses concerning the development of prices of means of production

40. In the computable model it is in principle assumed that the alterations in the nominal prices for farm products discussed above are "real" price changes (see para.6). Thus it is assumed, but not in any way predicted, that the prices of non-agricultural goods on the whole remain unchanged. The non-agricultural goods include material equipment used in farming and consumer goods and services. Prices of individual production media, consumer goods and services could also develop on their own account, with the general price level (purchasing power of the currency) remaining constant. Thus, under a common agricultural policy, Government fertilizer subsidies will probably be done away with, so that fertilizer prices to the farmer will correspondingly rise as compared with 1958/59. In addition, because of sharply rising labour costs, a steady increase in maintenance costs for buildings is assumed.

Prices of means of production of agricultural origin (feed grain, bran, etc.) will largely follow the trend of the corresponding agricultural products. For other concentrated feeds (oil cakes, protein concentrates, etc.) no change in prices is assumed.

Basic remarks on the effects of changed price relations

41. It is known that the intensity and pattern of production and the composition of expenditure on individual farms are determined not

so much by the absolute level of prices as by their mutual relationship. This being so, price relations at any given moment are to be deduced from the individual prices assumed. Three sets of relations must be distinguished.

The first group includes prices of agricultural products on the one hand, and means of production and human labour on the other. The resulting price/cost ratios determine which products can be profitably produced, what level of activity to aim at in the various branches of production, and how overall output should be measured.

The second group comprises the prices of farm products and their interrelations (internal farm price relations). Here the price relation between plant and livestock products is of fundamental importance. It determines the direction, and thus the pattern, of production, in particular the share of crops used for raising fat stock. The orientation of production in the conversion sector depends in its turn on price relations between the main producers of the different sorts of fat stock, their yields and the relevant conversion costs. The organization of land use in plant production depends first on the price relation between the principal crops grown - grain, cash root and fodder crops (for the latter prices at the processing stage are mainly determined by the profitability of cattle-raising) and, secondly, within these groups, the price relation between cereals and feed grains and between potatoes and sugar beet - to mention only the most important crops. Besides price relations, the possible hectare yields of individual crops and the relevant special costs per unit of area play an important part. Together they determine the competitive strength of the types of crops and the area sown with them on the individual farm.

The third price group includes wages and the prices of all production media, both those which directly increase earnings and those of a more permanent nature. The costs of using these media and the cost relations involved determine the composition of input. The main consideration here is the optimum relation between manpower and technical resources.

42. The effects of the new price relations arising from the price hypothesis (see paras. 33 to 40) on the specific intensity of production may be summed up as follows :

- The price ratio of artificial fertilizers to plant products becomes less favourable in two ways : first because of lower prices for the major crops, and secondly through fertilizer prices going up when State subsidies are removed. Where fertilizer intensity of the individual farm has corresponded to marginal productivity conditions, it is bound to decline as a result of the altered price relations with a consequential loss of earnings. In fact, however, the majority of farms still have considerable reserve potential which could be successfully exploited, since despite less favourable price relations when fertilizer intensity is increased, the value of the higher earnings corresponding to the extra full fertilizer units employed is greater than their cost. Everything points to a continuing need for intensive fertilizing.

- The assumed 10% fall in the price of milk, with prices for feed concentrates (except grain and substitute products) remaining the same, reduces the exchange value of milk in relation to protein-rich feeds and would tend to reduce the input of concentrates and, therefore, milk output if - just as for hectare yields in plant production - there were not further substantial reserve capacities which could be used to good effect in this case too.

The working hypothesis assumes that the price relation between feed grains on the one hand and fat pigs, poultry and eggs on the other, does not materially alter, since it is taken for granted that for the reasons set out in paragraph 35 the prices of these conversion products, after deduction of the relevant costs, will adjust themselves immediately to the lower prices for feed grains. It is further assumed that prices for feed concentrates (other than grain and substitute products) on the one hand, and for store cattle (other than beef cows) and sheep on the other, remain the same and that the relevant price relations consequently do not alter. However, the ratio of store cattle prices to those for means of production of agricultural origin (grain, bran, etc.) improves.

- On the basis of the price structure chosen, it is the relation of farm products to wages or wage demands of family workers which changes most, and to the disadvantage of the former. It is labour-intensive production which is most seriously affected thereby. However, it is not to be simply inferred that the competitive power of the labour-intensive branches of production is now reduced to the advantage of more highly capitalized sectors.

With rising wages their competitiveness depends much more, on the one hand, on how far the labour-intensive branches can step up output or lend themselves to mechanisation and on whether the manpower saving resulting from cropping less land leads to a saving on wages also. In peasant holdings with a fixed family labour force which cannot be further reduced, this is often not the case. Therefore, if a given labour capacity is to be used it is economically advisable to stick to labour-intensive production, with high gross yields per unit of area, even when possibilities of mechanization are limited. In the long run however, the size of the labour-intensive branches of production could not remain unaffected by sharply increasing wages and wage demands, unless rising wages costs can be offset by labour-saving processes.

Summing up, it can be said of specific production intensity, and in particular the input of special yield-increasing production media, that both in plant and animal production the specific intensity will continue to rise concurrently with the reduction of manpower input.

43. The price relations bearing on the pattern of production between the two main groups of farm products - plant crops and livestock - and between individual products within these groups, undergo the following changes as a result of the price

structure predicated :

- The price ratio between primary products and conversion products shifts on the whole in favour of the latter. A distinction must, however, be drawn between the products of pig and poultry husbandry on the one hand and of ruminants, especially bovines, on the other (sheep-rearing is of quite minor importance). Whereas prices for the former weaken with lower grain prices, those for beef cattle (except heifers and cows) and veal are assumed to remain unchanged. It is true that the prices for beef cows and milk fall by about 10% when the milk subsidy is withdrawn, but on the whole cattle husbandry is the least sufferer from the price structure predicated. Furthermore, marketing prospects for beef and veal are relatively favourable. Not only does the price ratio of beef and veal to milk improve to the advantage of the former, but also the ratio to means of production of agricultural origin (grain, bran, etc.). On the whole therefore the production of beef and veal comes off better with the new price structure.
- Taking the Federal Republic's agriculture in general, the structure of land use does not alter materially. It is indeed possible that the area under grain (a crop specially suited to mechanization) will increase by a few per cent, and probable that the growing of feed grains in the narrower sense will expand at the expense of bread grains, but the limits to which grain farming as a whole can be extended are rapidly reached because of the exigencies of crop rotation. The area sown with potatoes will probably decline, in particular where heavy and stony soils handicap mechanization and offer smaller hectare yields compared with lighter soils. Sugar beet which like cereals has considerably

benefited from technical advances over the last decade will be hampered by rising wages on farms together accounting for a high proportion of total farm or arable land. This is particularly true of heavy soils which present a combination of two unfavourable factors, viz., comparatively small yields per acre and, as a rule, high labour costs. On the other hand even with lower prices and rising wages the growing of sugar beet should, initially at least, expand further in districts where new land has recently been brought under the plough following the erection of sugar mills. On the whole a moderate extension of the areas under cultivation is not unlikely.

44. By far the most important of the cost relations which influence both the composition of input and the direction of production is that between wages or wages claims (considered as expectation of income) of family workers and the running costs of machine and equipment. Along with technical progress it is also the driving force behind adaptation. It is assumed that wages keep step with the growth of the national product and, consequently, rise by about 60% under hypothesis I (weaker growth), and 85% under hypothesis II (stronger growth), by 1975. It is further assumed that equipment prices remain the same, while repair and maintenance costs increase as a result of rising wages, but that on the whole running costs rise much less than wages and wage claims.

It follows that there will be strong pressure to replace labour by capital. The possibilities and difficulties involved in so doing are discussed in Section V.

45. The trends towards specialization of production arising in particular from the development of fully mechanized farms are strengthened by drastic changes in the manner of marketing foodstuffs. Recourse to labour-saving trading techniques to offset rising wage-bills has recently led to a great increase in the number of self-service stores dealing mainly in standardized goods. The rationalization of sales and distribution has resulted in forms of collaboration between wholesalers and retailers which, in the form of voluntary trading chains, are attracting a growing share of the food trade. The significance of these trends for agriculture lies in the fact, that, with growing demand, it can obtain its proper share of the markets and stand up to foreign competition only if it turns out an uninterrupted and adequate supply of goods that are standardized as far as possible. This in its turn demands supply co-operatives with a definite production programme and contractual arrangements between producers and buyers covering types, qualities, delivery dates, etc. - in other words, specialized production.
46. The future processes of adaptation should fit into the above framework. This shows, first, what hypotheses concerning the volume and pattern of production, and the amount and composition of the input of production media, to take for the model. At the same time it marks the initial position from which to judge the behaviour of farms of various sizes differing as to types of soil and land use, and the function of the secondary sector in farming. Section V deals with these problems in detail.

Estimate of the volume and composition of German agricultural production

47. The computable model begins by assuming that Germany's farming production will rise further, with the total area of farmland and the ratio between crop farming and animal husbandry remaining roughly the same, and with only minor changes in the pattern of crops. The increase (not counting special crops) would be at an annual average of about 37 kg GU/hectare, i.e. the same as in the fifties. On the basis of what was said in paras. 41 and 42 it is assumed that this will apply under both price hypotheses I and II.

In estimating the development of livestock production the following assumptions are made :

- for drinking milk, cream and industrial dairy products, consumption continues to be almost entirely covered by home production, as hitherto;
- for cheese the total consumption increase is covered by home production (i.e. the volume of imports remains unaltered);
- for butter internal production covers requirements entirely (in 1958/59 96% of consumption was home-produced, and 93% on average for the five years 1954/55 to 1958/59);
- for beef the increase in consumption up to 1970 (under growth hypothesis I) or until 1965 (under hypothesis II) is met by home production. The further consumption increase is mainly covered by imports, because the output of calves suitable for store cattle will be exhausted;
- for pigmeat the total consumption increase is met from home production (the volume of imports therefore remains unchanged);

- for poultry 40% of the consumption increase is covered from internal production, and 60% from imports (in 1958/59, 55% of the poultry consumed was home-produced and on the five-year average 1954/55 to 1958/59 about 65%);
- for eggs the share of total consumption accounted for by internal production, which was 56% in 1958/59, rises to two-thirds by 1975. Imports will continue to increase until 1965, after which they will practically mark time.

In all, this means volume increase by 1975 in German imports of livestock products of 44% to 48% over 1958/59. All these assumptions are valid for both price hypotheses (see paras. 41 and 42). It is thus assumed that German agriculture will be able to maintain its markets in free competition with the other EEC countries - though at lower prices. On this assumption the total output of foodstuffs (plant and livestock) would rise by almost one-third, practically the whole increase being accounted for by animal products.

Evaluation of materials input in German agriculture

48. The input of artificial fertilizers, pesticides and herbicides and bought feeds is deduced from the projected development of output. Expenditure on implements, power and buildings could only be estimated very roughly in the light of the considerations in paras. 43 and 44. In detail the estimate is based on the following assumptions :

- The substitution of capital for labour will continue, the more so as the technical possibilities of doing so may be expected to improve steadily.

- The type and size of buildings required change considerably as herds increase, farms become bigger and farming more specialized (simplification) as well as for reasons of methods and organization. Broadly, this calls for large scale conversions and a certain amount of new building.

Current materials input under these hypotheses will grow considerably by 1975 - indeed by about 40% over 1958/59. Both price hypotheses assumed the same volume input, the more so as the volume output predicated was also the same (see para. 46).

New investment totalling 10 to 11,000 million DM will probably be required to increase herds, supply implements and, above all, adapt farm buildings to future requirements.

Hypotheses on the income expectations of persons employed in agriculture

49. In assessing the figuring derived from the model it is assumed that the claims of wage earners and the income expectations of self-employed and working members of their families will rise relatively at least as much as the national average of incomes (from work and property). They should roughly keep pace with per capita gross national product. This means that the gap between per capita incomes in agriculture and in other branches of the economy remains relatively the same but increases absolutely.

Chief results of the overall computable model

50. The most important quantitative results of the computable model are brought together in Table 5 and discussed below.

TABLE 5 - Main results of the overall comparison of future conditions *)
(To be read in conjunction with paras. 38 and 39)

| | UNIT | 1958/59 actual | Development with the growth of the gross national product: | | | | | | |
|--|---------------------|-------------------|---|-------|-------|---------------------|-------|-------|--|
| | | | under Hypothesis I | | | under Hypothesis II | | | |
| | | | 1965 | 1970 | 1975 | 1965 | 1970 | 1975 | |
| 1. Value of food production | | | | | | | | | |
| a) With 1958/59 prices | 000 mil- lion/DM | 22.0 | 25.0 | 27.3 | 28.8 | 25.5 | 27.7 | 29.2 | |
| Price hypothesis II (1) | " | - | 24.1 | 25.4 | 26.8 | 24.6 | 25.8 | 27.2 | |
| b) Assuming lower prices | " | - | -0.9 | -1.9 | -2.0 | -0.9 | -1.9 | -2.0 | |
| Price hypothesis I (3) | " | - | | | | | | | |
| Difference (1) | " | - | | | | | | | |
| 2. Materials input | | | | | | | | | |
| a) With 1958/59 prices | " | 9.7 | 12.2 | 13.1 | 13.5 | 12.4 | 13.3 | 13.8 | |
| Price hypothesis II (2)(4) | " | - | 12.3 | 13.2 | 13.6 | 12.5 | 13.4 | 13.9 | |
| b) Assuming lower prices | " | - | +0.04 | +0.1 | +0.1 | +0.04 | +0.1 | +0.1 | |
| Price hypothesis I (3) | " | - | | | | | | | |
| Difference (2) | " | - | | | | | | | |
| 3. Farm income (added value) | | | | | | | | | |
| a) With 1958/59 prices | " | 12.3 | 12.8 | 14.2 | 15.3 | 13.0 | 14.4 | 15.5 | |
| Price hypothesis II(1)(2) | " | - | 11.9 | 12.3 | 13.2 | 12.1 | 12.5 | 13.4 | |
| b) Assuming lower prices | " | - | -0.9 | -1.9 | -2.1 | -0.9 | -1.9 | -2.1 | |
| Price hypothesis I (1)(2) | " | - | | | | | | | |
| Difference | " | - | | | | | | | |
| 4. Income expectation of persons engaged in agriculture (farm income per full-time worker) | DM/year | 4 730 | 5 800 | 6 650 | 7 600 | 6 050 | 7 200 | 8 600 | |
| 5. Number of full-time workers whose expect- ation of income could be fulfilled from the farm income. | Mill. | 2.6 | 2.2 | 2.15 | 2.0 | 2.15 | 2.0 | 1.8 | |
| a) 1958/59 prices | " | - | 2.05 | 1.85 | 1.75 | 2.0 | 1.75 | 1.55 | |
| Price hypothesis II | " | - | | | | | | | |
| b) Assuming lower prices | " | - | | | | | | | |
| Price hypothesis I | " | - | | | | | | | |

(1) Value of food production including subsidies for milk, eggs and rape (rye subsidy is not included in future computations, see Table 3, footnote 1) ;

(2) Value of materials input, allowing for commercial fertilizer subsidies;

(3) It is assumed that alignment on the lower farm prices under price hypothesis I and the dismantling of subsidies will take place step by step. The process should be half-finished in 1965 and completed only by 1970.

(4) Since the individual prices under price hypothesis II differ from those of the base year 1958/59, the value of materials input in 1958/59 prices does not correspond exactly to its value in hypothesis II prices. However, the differences are so insignificant that for purposes of the table the value of materials input for price hypothesis II is equated with that under 1958/59 prices.

*) According to study (II); see para. 18.

The value of food production at 1958/59 prices corresponds to what it would be under price hypothesis II (see paragraph 38). It rises from a total of 22,000 million DM in 1958/59 to 28,800 million DM in 1975 (at the slower rate) and 29,200 million DM (at the faster rate). This increase also gives the volume expansion of food production compared with the initial 1958/59 situation. The rather stronger volume increase with a higher growth rate of the national economy (para. 31, hypothesis II) results from the higher food consumption which, granted the assumptions concerning food imports (see para. 47), enables German agriculture to increase sales, particularly of conversion products. Output will be able to keep pace, with the help of higher fodder imports.

The value of food production at hypothesis I prices (Table 5, 1 b) rises more slowly in relation to the initial 1958/59 situation, since the step-by-step reduction of real farm prices will be going on up to 1970. As a result the difference between the value of food production under price hypotheses II and I increases from 900 million to 1,900 million DM. This gap continues to widen even after 1970, though only slightly, because the real cutback in farm prices is applied to an increasing volume of output.

Moreover, a comparison of the value of food production from 1970 onwards under both price hypotheses shows a difference, for either assumption as to national economic growth, of about 7%, which more or less corresponds to the reduction in the price level. The change in the internal farm price relations therefore does not lead to any shift in quantitative structure which would mitigate the loss of income. This is worthy of note because farms will certainly try to adapt themselves individually to the new internal price relations.

Given the probable development of food consumption and the hypotheses concerning food imports, the effect of these adaptation processes on the economy at large is relatively insignificant.

Finally, it must be remembered that the loss of income resulting from the real reduction in farm prices is largely attributable to the discontinuance of subsidies here assumed (see para. 52).

51. Independently of the basic price hypotheses, the volume of materials input rises considerable because large-scale outlay on mechanization (replacement of labour by capital) has been allowed for. With stronger economic growth (hypothesis II) (see para. 31) the absolute increase is slower than that of value of output, but relatively faster, because the output increment under the strong growth hypothesis consists almost entirely of livestock products, which increasingly rely on bought feedstuffs.

The volume of materials input in this model is independent of the labour input. This assumes that capital outlay on implements and buildings can be put to more efficient use with a small than with a large labour force, something which would only be possible if greater improvements of farm structures and organization are introduced. The volume of materials input almost corresponds to its value under price hypothesis II, and is therefore not shown in Table 5 (see footnote 4 to Table 5).

The value of materials input under price hypothesis I, with fertilizer subsidies abolished, differs hardly at all in practice from the value of materials input at 1958/59 prices, since the removal of the subsidies is almost completely offset by lower prices for commercial fodder.

52. The overall farming income (added value) would grow slowly if farm prices remained the same (price hypothesis II) and subsidies continued. With the assumed reduction of farm prices and discontinuance of subsidies it would fall slightly at first and only get back to the 1958/59 level around 1970. The income difference in 1970, when the gradual reduction in farm prices over the transition period has been completed, will be about 1,900 million DM (roughly 13%).

With faster economic growth (hypothesis II) the operating income will hardly rise much more sharply than with the slower rate, since the improved marketing and production facilities are practically limited to those products which have to incorporate increasing amounts of feed imported or purchased from other sectors. The only extra income here is the value added by conversion.

The causes to which the decline of operating income shown by the model is to be attributed depend essentially on the evaluation of price hypothesis II, to which we here refer only in passing (see para.39).

It must further be remembered that farmers' own consumption of food grown on the farm is included in the overall operating income (added value). The real reduction in farm prices (price hypothesis I) therefore means that 200 - 100 million DM of the income difference represents a lower evaluation of the decline in own consumption.

In assessing the development of the operating income and the income difference it should finally be remembered that, on the basis of price hypothesis II (farm prices as in 1958/59), some of the operating income represents in the last analysis food and equipment subsidies. In the base year 1958/59, subsidies for milk, eggs, rape, rye, and commercial fertilizers together

amounted to 765 million DM, or about 6% of the farming income.

It can indeed be postulated that the percentage share of subsidies in the farming income would rise even further in the future (see para. 39) under a farm prices policy aimed at maintaining the 1958/59 price level. About one-half of the fall in farming income resulting from the drop in real farm prices (price hypothesis I) is thus to be attributed to the discontinuance of the former subsidies.

53. The overall added value of a sector of the economy has only limited significance for the appraisal of its economic situation. The vital point here is how incomes of persons employed in the sector develop. If numbers decline, such incomes can permanently improve even though the total added value for the sector ceases to grow or even falls.

The income from agricultural production per person employed is not directly estimated in the model. Table 5 simply shows how far labour productivity must increase if the present per capita income from agriculture is to rise relatively as much as a whole (see para. 49). The productivity increase needed for this - as reflected in higher income claims (Table 5, Point 4) - is considerable. In order to attain it, the persons shown as drawing incomes from agriculture in 1958/59 would need increasingly to rely for all or part of their livelihood on non-agricultural activities, in other words the number of full-time workers in agriculture would have to fall further. The figures in Table 5, Point 5 thus give a clue as to the extent of the influence which the probable changes in economic data have in modifying the whole structure of agriculture and

the organization of farms.

With the form of presentation chosen for the model, the influence of lower farm prices and the discontinuance of subsidies is reflected in the smaller number of full-time workers whose income requirements, rising in step with overall economic development, can be satisfied in agricultural employment. At 1958/59 prices this number would have to decline from 2,600,000 in 1958/59 to 2,000,000 in 1975, i.e. by 23% (with stronger growth under hypothesis II it would have to come down to 1,800,000). But if farm prices declined it would have to fall by a further 250,000 in 16 years, i.e. by 33% in all.

54. The model shows in particular that the changes to be expected in German agriculture are primarily attributable to national economic growth, and are accelerated and reinforced by the real reduction of farm prices. These changes go hand in hand with a considerable increase in the real income of the remaining farm labour force. The real income of persons leaving agriculture in future for other branches of the economy rises likewise. However, against this presumably favourable development must be set the fact that the drift from the land has its drawbacks for many people and the independent farmer is heavily handicapped.
55. It has already been emphasized that computable models are not to be regarded as predictions but as prognostics of possible contingencies.

The specific object of the "computed" comparison of overall future conditions is not to offer absolute figures about future development, but rather to reveal the driving forces and the economic processes set in motion by these. At the same time such comparisons show the points of leverage at which an efficient economic policy can be applied.

Hence, the point must constantly be stressed that the concrete figures in the model are not to be taken for the future reality itself. This can and will diverge more or less from the projections because of divergences from the conditions postulated or of unforeseeable external factors affecting the issue. Therefore the model has to be corrected and completed in the light of new developments. Handled in this way it can provide a chart for plotting the course of agriculture within the growth process of the national economy, as well as a basis for appraising the dynamics of the farming economy in relation to the impact of agricultural policy.

V. Adaptation in farm economics (1)

56. The overall future comparison can do no more than give a picture of the conceivable development of German agriculture as a whole. Yet the changes postulated in the overall picture are the result of innumerable individual economic mechanisms set in motion by changes in the basic data mainly as a result of economic growth and agricultural policy measures, including the establishment of a common agricultural market. The facts and figures used in the model are sometimes estimated in the light of the direction and scope of the changes to be expected in farm economics. It therefore seems appropriate to describe at any rate some of the basic factors which play a part in adapting farming to new constellations of data. This will also give some idea of the difficult tasks facing farmers in the Federal Republic.
57. In connection with the adaptation of sizes and types of farm, a distinction should be made between the effects of lower farm prices in the Common Market and those arising from technological advance and economic growth. These latter take the form of rising wages or wage demands and an increasing consumption of conversion products, and are to be expected whether farm prices are reduced or not. In this respect the extent to which the Common Market favours economic growth and therefore the demand for sophisticated foods, is immaterial. There is no point in taking the two groups of questions separately, because the factors determining the process of adaptation (bigger national product, growing demand for certain farm products, technical advances, rising wages or

(1) As explained in Section III, the Expert Committee based its work largely on the calculations of Plate, Woermann and Grupe recently published as special number 14 of "Agrarwirtschaft" : LANDWIRTSCHAFT IM STRUKTURWANDEL DER VOLKSWIRTSCHAFT (Agriculture in the changing structure of the national economy) by A.Plate, E.Woermann and D.Grupe. Because of the working method adopted by the Expert Committee and described in para. 23, certain sections of the experts' report inevitably reproduce practically word for word the corresponding sections of the above study.

wage demands and changes in the price structure) are to some extent interdependent, additive or subtractive, and must therefore be considered in their aggregate effect. In this interplay of forces, economic growth and technological progress are the most operative factors.

Lowering the level of farm prices makes adaptation more difficult and requires that it be carried through more rapidly.

58. Adaptation in future will mainly be a matter of continuing along the road followed in agriculture over the last decade. Even more than heretofore the aim will be to confine the increment in output to products which the market can absorb; to satisfy increasingly stringent quality demands; to take account of changes in the marketing system; to make farmers in general increasingly receptive to rational production method; to raise labour productivity by further mechanization; and to create the necessary structural and other preconditions for adaptation in farming.

The possible effects of adaptation on the individual farm essentially depend on :

- The available economically exploitable production capacity and any technical and organizational advances that may be achieved.
- The exploitation of market outlets for specific products according to local conditions.
- The possibilities of further rationalization in the use of manpower.
- In general, therefore, the possibilities and limitations, varying from one farm to another, of developing and tapping productivity reserves, and consequently also the capacity of management to secure optimum results.

Decline in the labour force and numbers of farms 1949 to 1960 (1)

59. The provisional results of the 1960 agricultural census show the changes in farm acreage and labour force in the various size categories of farms over the last decade. These changes should first be briefly summarized.

The sharp fall in manpower numbers between 1949 and 1960 - by 2,210,000 or 39.1% of all permanent workers - may be broken down as follows :

- The number of permanent non-family workers declined by about 680,000 or 68.4%. The fall chiefly affected the larger farms of 10 hectares or more (470,000). In smaller farms (up to 10 hectares) which lost a further 210,000 non-family workers, practically the whole of the remaining permanent labour force in 1960 consisted of family workers.
- The number of permanently employed family members declined more in absolute numbers, though relatively less : by 1,530,000, or 32.8%. The decline affected almost exclusively small farms of under 10 hectares (1,470,000) and was accompanied by a 356,000 reduction of the number of farms in this category. Of these, 136,000 were farms of under 2 hectares and 161,000 farms of 2 to 5 hectares.

(1) The figures given here are taken from the study "Wandlungen im Arbeitskräftebestand der landwirtschaftlichen Betriebe von 1949-1960". (Changes in the farming labour force between 1949 and 1960) by W.Schmidt in "Wirtschaft und Statistik". No. 5, 1961. The 1960 agricultural census covers persons occupied in farmwork, outdoor and indoor, in May 1960, broken down into full-time and part-time family and non-family workers. The statistics that follow therefore do not refer to the "full-time farm workers" (outdoor only) included in the model.

- Of the approximately 2,210,000 decline in the number of permanently-occupied family and non-family workers, nearly 1,700,000 were thus accounted for by small farms of under 10 hectares.

60. The provisional 1960 agricultural census returns show the main categories as follows :

- Between 0.5 and 2 hectares : 433,000 farms with 485,000 permanent workers but only 80,000 men;
- Between 2 and 5 hectares : 381,000 farms with 643,000 permanent workers but only 181,000 men;
- Between 5 and 10 hectares : 340,000 farms with 833,000 permanent workers including 362,000 men; this still means only 1.1 male worker per farm, as against 1.6 in 1941;
- Between 10 and 20 hectares : 284,000 farms with 870,000 permanent workers, including 429,000 men; this is still only 1.5 male workers per farm as against 2.2 in 1949;
- Between 20 and 50 hectares : 120,000 farms with 478,000 permanent workers including 261,000 men; this means 2.2 male workers per farm, as against 3.3 in 1949. The total number of permanently-occupied male and female workers per 100 hectares was 13.7, as against 20.9 in 1949;
- 50 hectares and over : 16,000 farms with 142,000 permanent workers including 96,000 men; this means 6 male workers per farm, as against 10.3 in 1949. Here the total number of permanently employed male and female workers per hectare was 10.5 as against 17.2 in 1949.

61. The most important size categories of farms in the Federal Republic at the present time (1960), both numerically and as regards the share of total farmland, are :

- The 5-10 hectare category, accounting for 19.7% of total farmland and 24% of the permanent agricultural labour force.
- The 10-20 hectare category, representing 31.6% of the farmland and about 25% of the labour force.
- The 20-50 hectare category, with 27.8% of the farmland and 14% of the labour force.
- The over 50 hectare category, representing about 10% of the farmland and 4% of the labour force.

62. Leaving out of account for the time being farms of over 50 hectares, the main problem for farmers in the other size categories is to choose a system of organization under which the labour requirement can be covered by the farmer's own family (possibly assisted by casual labour) with a degree of mechanization adapted to the particular labour capacity. The possible alternatives and combinations of production branches in each case then depend, on the one hand, on natural production conditions, the farm's supply and market situation, possibilities for specializing and mechanizing output, the extension of the conversion sector and the farmer's own capacities and inclinations; and on the other, on the arable area of the individual farm.

However, total acreage alone is not an adequate yardstick for delimiting the "minimum size" of economically viable farm units. At a given level of farm prices and given farm price relations, the productivity of the land, its suitability for particular crops and scope for conversion products, with or without

bought-in fodder, must be taken into consideration.

In the last analysis the decisive criterion as to whether a farm can be considered a "complete economic unit" for a family taking into account the number of persons permanently employed is thus its income-earning capacity assuming optimum organization.

63. Fundamentally, it should be pointed out that the forces of economic growth and the accompanying expectations of higher income exert constant pressure both for a sharper differentiation between spare-time, supplementary and full-time farming and for an increase in the income-earning capacity of the third of these. Other things being equal, rising labour productivity as a precondition for satisfying growing income expectations can be achieved only if the same volume is produced with a smaller labour force or if the output rises with the same number of workers. If, for any reason whatever, narrow limits are set to any increase in output, and if the number of family workers cannot be reduced, earned income stagnates. Such stagnation of income from farming activity can then be overcome only by creating farms with higher earning capacity, i.e. the minimum farm size above which it is possible to speak of fully economic farms capable of meeting growing income expectations tends to increase in proportion to economic growth.

Technological progress also plays an important role here. As a rule any increase in labour productivity requires the application of highly-mechanized working methods. These in turn - so far as there are no possibilities for hiring or pooling equipment - demand a considerable stock of machinery and/or larger, i.e. more costly, technical units, necessitating higher capital outlay and the rational use of equipment. But rational investment presupposes a greater volume of production to guarantee the

best possible use of technical resources and consequent smaller equipment costs per unit/product.

The underlying trend which is emerging is unmistakable : the fulfilment of rising income expectations in a climate of economic growth and technical development demand that full-time farms should be more productive economic units with improved farm structures more amenable to technical progress.

In smaller farms it is more a question of how far a judicious combination of agricultural production and non-agricultural activity can be achieved. Already non-agricultural activities have been making an essential contribution to family income on small farms. This being so, the effect of lower prices is less serious, since the family is not so dependent on income from farming. (1)

(1) The percentage breakdown of the principal sources of income or subsistence of male farm occupiers and of male members of their families or male relations living with them in the same household.

(Only persons age 14 and upwards - as of 1956) :

| Hectares of farmland | Self-employed and farming assistants | Persons also pursuing another occupation | Self-employed non-professionals (persons deriving their main livelihood from annuities, pensions, retirement, settlements, old age portions, etc. or from their personal means) |
|----------------------|--------------------------------------|--|---|
| 0.5 - 2 | 18 | 70 | 12 |
| 2 - 5 | 43 | 49 | 8 |
| 5 - 10 | 74 | 19 | 7 |
| 10 - 20 | 83 | 9 | 8 |
| 20 and above | 86 | 5 | 9 |
| total | 54 | 37 | 9 |

Source : Calculations based on : Statistisches Bundesamt, Statistische Berichte III/27/3, Wiesbaden 1957, Table 3, page 20 ff.

Consequences for further adaptation, in relation to size categories of farms

64. The indicated trend in total labour force and in individual categories of size of farm justifies the expectation that any further reduction in numbers would meet with greater difficulties, both subjective and objective, than in the past.

For the most part small holdings of under 5 hectares have insufficient production and earning capacity to guarantee a satisfactory income for a full-time worker (farm occupier), unless they can go over to special crops (vegetables, wine, tobacco, fruit, etc.) or expand conversion branches which are independent of acreage. Where this cannot be done, the farmers must have a secondary source of earnings or, like the members of their families, choose another main occupation outside agriculture. In areas with plenty of industry the dissolution of this category of farms may be expected to continue, in the sense that they will be scaled down to secondary sources of income, or leased to other farms that wish to expand. In such poorly developed agricultural regions, where there are scant possibilities of earning a living outside agriculture and small holdings predominate, the social situation of families cannot be improved except by regional development policy accompanied by appropriate measures of social betterment.

65. In farms of 5 to 10 hectares the number of workers has already fallen sharply. Where these farms represent the main source of income they can usually provide an adequate living for only one full-time worker. Income in many cases will in the long run not be able to keep up with the general rise in real incomes, particularly when the farms produce under conditions which exclude high area yields and the widespread cultivation of industrial crops.

Many farms in this size category will in future also have a surplus of labour in relation to their output potential. The need here is (a) to take further strenuous steps to improve farm structures and to eliminate structural defects which handicap productivity, (b) to obtain the highest possible gross cash return with the existing labour force by means of high yields per unit area and (c) at the same time to use surplus manpower, or any made redundant through the use of machines servicing more than one farm, to develop livestock products with the help of commercial feedstuffs. If there is little possibility of higher yields and narrow limits are set to the expansion of conversion products by an unfavourable supply or market situation or any other factor, the inadequate farm income must be supplemented from another secondary occupation. Should the necessary conditions for this be lacking, what was said of small holdings in underdeveloped rural areas as regards a regional development policy (see para. 64) will also in principle apply.

While the ploughing up of marginal land and the conversion of marginal farms to ancillary occupations in regions with plenty of industries and opportunities for alternative employment have gone ahead smoothly and will continue to do so with continuing economic growth, families of small holders in areas of low industrial density have to face much more difficult decisions. For them a change of occupation generally means leaving the district and in many cases giving up the farm. Even when this is not the case, the change to another occupation - as in farms of the size categories discussed above - is often only made by the rising generation. This process imposes hardship on those concerned and is therefore slow, and should be facilitated by State aid, as in the mining industry.

The improvement of farm structures by a sharper differentiation between spare-time, supplementary and full-time farms and the consequent possibilities for switching to non-agricultural occupations are mutually interdependent. Continuing economic

growth with a steady demand for labour is therefore one of the most essential prerequisites for agricultural reforms and social betterment in areas where farm incomes are stagnating.

In its turn the speed of this process of restructuring depends, first on possibilities of non-agricultural employment, secondly on how much land becomes available for enlarging certain farms by scaling down uneconomic units or in any other way, and finally on the extent of the requisite changes in the existing sizes of farms.

66. In medium-sized farms - here defined as holdings of 10 to 20 hectares and the smaller units in the 20 to 50 hectare category - rationalization has also advanced so far that in 1960 there remained only 1.5 regularly employed male workers per 10 to 20 hectare farm (plus 1.6 females regularly occupied in farm and indoor work). The number of regular male workers per farm is thus no more than roughly the total achieved or aimed at on rationally managed farms of 15 hectares and over at present. The trend will be for some of the smaller farms in this category to be able to provide a full income for one worker only.

The majority of these farms still have considerable production and productivity reserves which cannot be brought into play because of structural defects in agriculture. It is therefore vitally important, if the margin for adaptation in farm economics is to be enlarged, to eliminate such defects by the reform of land tenure, road building, soil improvement and other well-tried measures, as well as by increasing the size of farms.

Provided they are properly located farms of adequate size with satisfactory internal communications, the majority of family holdings are highly adaptable and as a rule still have considerable productivity reserves. Experience shows that in

developing their production techniques they somewhat lag behind efficiently-managed larger farms. They benefit by the elasticity of the family system of work when it comes to tapping unused productivity reserves. Furthermore they offer scope for technical progress and favourable conditions for efficient conversion farming. Under these conditions it may be expected that in this category at least farms having an adequate margin for adaptation will be able to adjust their structure of production to the altered price relations, albeit with a certain time lag, and - under the moderate growth hypothesis - to counter a gradual decline in farm prices by drawing on their productivity reserves.

67. The large farms - meaning here the larger units in the 20 to 50 hectare category and the smaller ones in the over 50 hectares - category which formerly had a regular supply of labourers in most agricultural regions, are the most severely affected by the drift of unmarried workers in particular, both men and women, away from the land. They often suffer from a growing manpower shortage unless they have taken timely steps to alter their employment arrangements and provided accommodation for married labourers. In most such cases the farms generally have good soil and grow root crops on a fairly large scale - a type of farming which demands a comparatively large labour force.

Other large farms are becoming or have already become family units, among other reasons because part of the land is leased out in order to cut down manpower requirements. They often turn to more extensive farming methods, going in for labour-saving forms of animal husbandry and cultivating the land less intensively by concentrating mainly on crops which require less labour and lend themselves easily to mechanization. Then the labour-intensive root crops are limited to the quantity which can be coped with with the existing number of family workers

(possibly with the additional assistance of casual hands and contractors). Farms poor in grazing may in certain circumstances give up livestock or confine themselves to store cattle or go over to grain-fed pigs and/or poultry. Farms having a more convenient layout favourable for mechanization, and adequate capital, have already been able to adapt themselves in this way, combining high labour productivity with intense mechanization and in general earn a satisfactory income; others which, for whatever reason have so far not been able to carry out the necessary conversions show inadequate labour productivity and therefore yield but poor incomes.

On the whole the organizational changes in this category of farms are concentrated on greater mechanization and specialization of production. Even when the high degree of mechanization essential on such farms is not attained with their own equipment alone but with the help of firms hiring out farm machinery, heavy capital outlay is required. In many cases this cannot be met from reserves and adaptation therefore demands credit and other forms of aid.

68. Apart from extreme cases the larger farms, meaning in this context units of over 50 hectares employing a substantial amount of hired labour generally have the greatest latitude for switching production. On such farms operating intensity can be stepped up or lowered according to the prevailing natural and economic conditions, and organization and methods adjusted to keep capital requirements within bounds and make optimum use of farm machinery. In this connection farms with productive soils prefer high yield forms of land use with a relatively high proportion of root crops, whereas others with heavy soils, or sloping hill farms, are less suitable for mechanization and prefer to expand their tillage of grain, oilseed and fodder rather than root crops. Under the influence

of changed price and cost relations, and especially rising wages, they endeavour to reduce the number of permanent hands to a minimum.

When wages are rising sharply the big farm is inclined to adopt highly mechanized forms of specialization both in land use and animal husbandry, but the need to do so is not so urgent as on the bigger peasant-type farm. The reason is that on the large farm, even with diversified plant production where the soil permits, the area under the different crops can be so large as to allow optimum use of even the bigger combine harvesters, with consequent smaller outlay on machinery per unit of production. When, as is usually the case, specialist workers are employed in the individual branches of grain conversion farming, it is possible here also to adapt the size of the different branches of stock-raising to a given labour capacity. However, in order to do this, farm buildings often have to be converted and equipped with labour-saving appliances.

The number of farms of over 50 hectares - 16,000 units averaging 84 hectares with a permanent labour force of 142,000 - is small in comparison with the other categories, but includes about 10% of all farmland in the Federal territory. On these farms rationalization has already gone very far, for between 1949 and 1960 the number of permanently employed male and female workers per 100 hectares of farmland fell from 17.2 to 10.5.

Thanks to highly efficient management, productivity on farms using hired labour is comparatively good, as the "Grüne Berichte" confirm. Productivity reserves are however already largely exhausted, so that even with all the possibilities for adaptation lower farm prices would greatly reduce the net returns of many farms working with paid labour, particularly those which mainly market the products on which the impact of the reduction of farm prices would be sharpest.

VI. Problems of the distribution of farm incomes

69. It has often been pointed out and demonstrated that an overall comparison of future conditions is not sufficient to estimate the effects of a real reduction of farm prices on incomes in German agriculture, but must be supplemented by a survey of any possible changes in the distribution of farm incomes resulting from lower prices (see para. 11, para. 13, last sub-para., and para. 23). The effects of lower farm prices on income distribution in agriculture indeed depend on adaptation in farm management, but the general theoretical observations concerning the possibilities and limitations of such adaptation (Section V) do not permit of an appraisal as to the future distribution of farm incomes. On the contrary, this requires an analysis of the present distribution of incomes, and of farm prices and other data concerning technological progress and growth, with which the different types of farms in the various income groups will have to contend in the future and by which their adaptation will be governed.
70. The Expert Committee raised these questions but came up against the impossibility of itself conducting a comprehensive inquiry equal in scope to the overall figuring for the model into the influence of lower farm prices and of economic growth on the distribution of German farm incomes. It therefore feels it is not in a position to answer in detail this important question for the future of farm policy, but must confine itself to pinpointing some of the relevant problems.

The problems at issue and the difficulties of dealing with them

71. The overall computable model gives a picture of the development of average per capita income of persons occupied in German agriculture under the influence of economic growth and a reduction of farm prices.

As with all calculations of averages, its reliability depends on whether the present scatter of farm incomes about the mean, and the position of the individual farms within that scatter, alter materially under the influence of these determining factors. For instance, it is important in the last analysis to know, if the present distribution about the mean becomes narrower, whether those receiving roughly equivalent incomes will in future earn incomes which are in some cases above and in others below the mean, or whether - if the scatter should become wider - it will be especially those with relatively unfavourable incomes today who will be most severely hit by economic growth and a reduction in farm prices.

72. Differences in average per capita income in German agriculture arise first between farm occupiers and employed members of their families on the one hand, and hired workers on the other. The overall model does not distinguish between these two groups. The development of the incomes of the first category would obviously be less favourable than the average shown in the model if the wage rates of farm hands rose faster than national income and at the same time the number of such workers could not be reduced as fast as that of family workers. Whatever the future trend in the number of hired workers, their influence on the incomes of farm occupiers and their family workers as a whole

should not be too great, for wage earners already account for only a very small proportion of total farm labour.

73. The figures presented and the published literature on the subject confirm the empirical rule that present incomes of farmers and family assistants vary greatly. The differences are based on conditions which are partly objective (nature of the soil, climate, size of farms, etc.) and partly subjective (influence of the farm manager, etc.). Since German farming has over the last decade already been influenced by a high economic growth rate, it would be profitable to examine how the degree of adaptability has varied in the past and influenced the position of the individual farms in the income scatter, and how it will probably affect this in future.

74. In testing the differentiation of farm incomes against objective criteria, it should first be noted that some of these, e.g. natural site conditions (nature of the soil, and climate) are largely constant, whereas others, like the size of farms, their organization, or regional differences in farm price relations, are subject to change. Changes in the size structure of farms largely depend on the possibilities of earning a living outside agriculture and on the mobility of markets for the sale and lease of land, changes in farm organization and methods, natural and technical possibilities and the limits of adaptability. They are also influenced in turn by farm price relations.

75. According to the conclusions to be drawn from price hypothesis I (see Table 3), the real reduction in farm prices changes most of the present farm price relations in German agriculture. It should however be remembered in this connection that both the hypothesis I prices and the 1958/59 reference prices (hypothesis II) are again only average values for the Federal Republic. This means, however, that the price level can and does differ from one region to another. It also means that the average change in price relations gives no indication as to the extent to which they may be below average in some regions and above it in others. It further follows that any changes in the price level in particular regions may differ widely.

In this connection it is significant that under the EEC Commission's proposals for grain, which have meanwhile been approved by the Council of Ministers, a target price system is to be introduced, under which producer prices for grain will fall in proportion to distance from a "consumption centre", in order to allow for transport costs. This system of price formation will also result in sharper differentiation than hitherto, varying according to regions, in the prices of grain bought in by the farm, and will mean on the whole that farm prices and farm price relations will alter to differing extents in different regions. One certain effect of this system will be that prices and price relations will change much less in the consumption centres than in outlying areas. How greatly farm prices and farm price relations will vary from one district to another on this account depends as much on the changes planned, but not yet decided, in transport tariffs as on what

centres there may be for the marketing and purchasing of bread grains and feed grains as well as for other agricultural products - on how these are distributed regionally and on how far from the centres farms may be. In this connection it must be remembered that "parity points", whose number and situation are not yet settled, are to be established for State intervention on grain markets.

76. It should be noted that the organization and output of farms in the various regions of the Federal Republic are not governed by the average price level and the average 1958/59 price relations in the country as a whole, but by the prices obtaining locally, and that future changes will diverge from the average changes under price hypothesis I (Table 3) both upwards and downwards. This has consequences as regards the appraisal of adaptation in farming, which depends not only on the development of demand for farm products and on technical progress, but also on price relations.

77. Some of these considerations have an important bearing on the indicative value of a comparison of present conditions. On the basis of the statistical material for the "Grüne Berichte", amounts at present marketed by a great number of farms, and their actual receipts from sales, are known from statistical returns.

Assuming that the quantitative structure of output and input side does not alter, we can attempt to show how a sudden reduction of farm prices would influence agricultural revenue and incomes ("Gegenwartsvergleich" - comparison of present-day conditions).

Since the farm incomes ascertained on the basis of statistical returns are also influenced by price relations which vary from farm to farm, a comparison of present conditions can only be attempted for relatively large categories of farms, for which it is fairly probable that the average of actual prices will correspond to the mean 1958/59 values for the whole country, and that the reductions in farm prices deduced from price hypothesis I will also on average prove applicable in the category of farms considered. Otherwise it would be necessary to make detailed estimates of the future differentiation of the structure of farm prices for the categories of farms to be studied. At present hardly any basic material is available for doing so.

78. All these considerations show that changes in the distribution of farm incomes are indeed probable. They also show that there are great difficulties in the way of any successful study of income distribution in German farming under the influence of economic growth and reduced farm prices, and that such a study would call for extensive preparatory work which this Expert Committee is not in a position to undertake.

Supplementary observations by a member of the Expert Committee

One member of the Committee, Professor Priebe, wishes to state the following minority opinion.

The experts' report does not justify the misgivings often voiced in agricultural policy discussions that the common policy would have particularly unfavourable effects on those sectors of German farming where the income situation is already bad, and above all on farms with an adequate production basis - deficiencies of size and structure. The reason is that - as mentioned in para. 70 - the Committee was not in a position to quantify the differing effects of price changes on individual types of farm.

In keeping with the statements in para. 69 it should also again be emphasized that the fundamental observations concerning adaptation in farm economics (Section V) do not provide adequate basis for judging the future distribution of farm incomes. Quantitative estimates of the long-term development possibilities of different types of farm could only be made from the standpoint of present differences in productivity and income, together with an answer to the question of what rationalization reserves could be tapped in the various types of farm by technical developments in production and changes in farm structure. However, the Expert Committee was not in a position to undertake such investigations. For this reason it would also not be admissible, relying on the mean values of the overall computable model and on theoretical disquisitions concerning adaptation in farm economics, to attempt an interpretation of the facts that would support particular views on the future possibilities of development of the various types of farm.

As regards the decline in the labour force of 800,000 or 1,050,000, as shown in the model in relation to the growth of the national economy, it should be pointed out that the greatest changes are to be expected in the range of farms with under 20 hectares of agricultural land, which at present still employ 83% of all permanent workers. The future development possibilities of full-time farm units in this sector will depend chiefly on how quickly productivity can be improved by structural reforms and farm modernization, and

To what extent they can thus take advantage of the growth of consumption of livestock products by developing rational production methods and extending their market relationship.

For the development of family farms the creation of the requisite conditions for higher productivity is therefore of the utmost importance, and their situation will be determined to a particularly large extent by internal farm price relations and the other market conditions which will emerge in the Common Market. For these farms, which have a particularly large stake in the economics of conversion, the probable improvement of internal price relations - referred to in paras. 37, 38 and 43 of this report - will be a positive gain.

On the other hand, for the social status of families which do not at present occupy an efficient full-time farm and lack the prerequisites to develop one, opportunities for jobs and earnings in non-agricultural activities are more important, in a context of general economic growth, than any farm and price policy measures.

VII. Conclusions

79. If the aim of economic policy is that the increase of per capita income in agriculture shall keep step with that in other branches of the economy, the achievement of this objective requires that, with unchanged price relations between farm products and means of production, the productivity of labour in farming shall rise to the same extent as the average for the whole economy. However, the needful rise in productivity presupposes that the farming labour force should be reduced by manpower economies, since in view of the trend in demand for farm products the output of West German agriculture can only be raised comparatively slowly.

This statement is confirmed by past experience. In recent years farm price policy has not made any substantial contribution towards raising the overall operating income of West German agriculture. If nevertheless the trend of per capita farm income broadly matched that in most other sectors, analysis of developments in the fifties has shown that, with moderately rising output, this was mainly attributable to increased labour productivity coupled with changes in the size of farms and the transfer of a great number of workers to other occupations. As the overall model shows, this development will continue in the future quite independently of whether the EEC exists or not. There is only limited scope in farm policy for mitigating this trend and the resultant pressure to step up labour productivity.

80. The adaptations which economic growth makes necessary are in essence a continuation of the trend of agriculture over the past decade. A reduction of the level of farm prices makes adaptation even more imperative and calls for an acceleration of the process, particularly if in non-agricultural sectors productivity grows faster than in farming. In the past German agriculture has managed to step up productivity per worker somewhat more than proved possible in the rest of the economy. It benefited from the fact that the demand for additional manpower in expanding sectors of the economy was particularly strong, whereas after 1945 there was still an abundance of agricultural labour. Farmers also succeeded not only in making good relatively quickly the lower yields recorded during the war and the immediate post-war years, but also in raising output, under the protection of agricultural policy, to such a point that the increase in food consumption could largely be covered from home production. Meanwhile, the initially above-average yearly growth rates of gross agricultural production have merged with the normal long-term trend. The possibility is not excluded that the future growth rate will be lower.
81. The main emphasis in adaptation has been laid on the overhaul of the labour economy. This is still in a state of flux, calling for large-scale and in some cases heavy investment, relating to farm operations and indoor work, as well as alterations and new building if labour productivity is to keep pace with economic growth. The possibilities for further mechanization and the influence of this on income formation are again in wide sectors bound up with progress towards improved farm structures.

The structural reforms carried out so far have exceeded all expectations. Although the end-result of the breaking up of small holdings is to consolidate the category of family farms, it is unwelcome in many quarters and is represented as a sacrifice of "independent livelihood" which, the critics claim, could be avoided or cushioned by a farm policy oriented towards higher prices. In this connection, however, it is often overlooked that farms of the size categories adversely affected contribute but little to the market, and that powerful price rises - always supposing the market could take them - would not materially add to their incomes.

In view of the thorough-going reforms in farm structures in all their aspects, and the occupational and social changes which are an inevitable concomitant of economic growth, the nub of all agricultural and social policy for a long time to come will have to be a resolute programme of structural reform, going hand in hand with price and market policy.

82. In the last decade, as the conclusions of the "Grüne Berichte" and numerous other investigations confirm, the individual size categories of farm and different systems of farming varied considerably in their capacity to react to changed economic conditions or adapt themselves quickly to new situations. Analysis of the existing situation has led to the introduction of appropriate aids in the framework of agricultural policy. These will be even more necessary in future, to give greater scope for adaptation and direct it into the proper channels. However, this process will take a long time, for :

- A considerable proportion of farms - chiefly the uneconomically sited smaller units - have no adequate elbow room for adaptation. These cease to be full-time enterprises, and can only be kept on as complementary or secondary occupations, or given up to enable other farms to expand. Even in districts with industries near at hand this structural reform demands a good deal of time, since it is well-nigh impossible for the older generation to change occupations. In economically backward rural areas, the necessary conditions for structural change must first be provided by a regionally-orientated economic policy.
- For conversions involving heavy investment, larger farms where production conditions are favourable and there is sufficient margin for adaptation must be allowed an amount of time - that will vary according to local conditions and personal needs - in order to achieve a higher degree of mechanization, continue the requisite reform of organization and methods to match the size of farm, and effect the alterations or new building rendered necessary in many cases by whatever extension of conversion farming may be desirable.

On the whole, it may be said that there are still considerable possibilities for stepping up labour productivity in agriculture, given farms of more economic size, more efficient management and also, in many cases, the collaboration of specialists. Finally, consideration must be given to the development of rational sales and distribution circuits adapted to the revolutionary changes in food marketing which in some cases are only now beginning. This puts a limitation on the speed with which reserves of productivity can be tapped. Some of the older generation of farmers (and farm labourers) will find

difficulty in keeping up with the high demands which the changed economic conditions make on farm management. Adaptation must therefore be expected to run up against special difficulties for a period which it would not be exaggerated to estimate at 15 years, i.e. a half a generation.

83. It is no part of the Expert Committee's task to provide a blueprint for an agricultural policy programme. Some conclusions may, however, be drawn from the diagnosis of the development process now going on in German agriculture, although only in an outline making no claim to completeness. It is essential first of all to facilitate and guide by planned measures the adaptation processes made necessary by vigorous economic growth. These include :

- A regional policy aimed at establishing industrial development centres in backward agricultural areas and thus providing extra jobs. This could be done by subsidizing on a bigger scale whole regions or localities, or advancing public funds for such purposes as building primary and secondary schools and improving communications;
- An educational and cultural policy in rural areas to raise general standards, facilitate the proper choice of a career and develop vocational training for farming and other occupations;

- A social policy to encourage the transfer of efficient farms to the younger generation by providing for the economic situation of retired farmers and their dependents; an aid programme similar to that for miners, to enable, by payments supplementary to old age pensions, elderly farm labourers to retire earlier, thus helping farms to adjust the numbers of permanent workers to actual requirements;
- A farm-structures policy including, in addition to other well-tried measures, facilities for purchasing and closing down non-viable farms in exchange for alternative accommodation on housing estates, and the release from agricultural use of land no longer worth cultivating;
- Investment aids
 - To enable farms to carry through organizational reforms (conversions and new building, building up of herds in improvement areas, membership of machinery co-operatives, and so on).
 - To improve marketing arrangements, and
 - To improve housing accommodation and lighten housework with the ultimate aim of harmonizing living conditions between town and country.

84. As already explained, a reduction of the real level of farm prices demands a speeding up and intensification of the process of farm adaptation as compared with what might be looked for in response to economic growth alone, if farm incomes are to keep up with those in other sectors.

If at the same time economic growth is proceeding vigorously, there is a danger that many farmers will be unable to keep abreast and that agricultural incomes will lag even farther behind the national average. Such a development would run counter to the aims of both the German agricultural law and the EEC Treaty (Article 39).

85. In the Committee's view, it would be no solution for the Common Market to adopt the real German farm price level, among other reasons because the drastic rise in farm prices which this would involve in the present low-price countries would involve risks which, though different in kind, are just as great as those entailed by lowering prices in the Federal Republic.

The question of how far production in these countries, particularly France, would be stimulated by such a rise in farm prices is indeed still a matter of controversy. It is very probable, however, that in view of the already very high degree of self-sufficiency in the EEC area, the common agricultural market would work with these high farm prices (see paras. 3,4 and 71). An even higher level compared with neighbouring countries or other industrialized countries could perhaps under particular conditions be attained or kept up in a single country but not in a larger area like EEC, having sizable production reserves in relation to the growth of consumption and a big stake in the world economy. Moreover, any raising of farm prices in the present low-price countries to the current German level would have unfortunate repercussions on their general economies; it could, for instance, unleash or strengthen inflationary trends and involve changes in exchange rates.

86. In view of the more urgent need for German agriculture to adapt itself to a reduction in the real level of farm prices, direct income support limited in time, and additional to the planned adaptation aids (para.83) should be considered in order to avoid any break of continuity in the development of incomes.

It would have to be granted in such a form as to interfere as little as possible with the adaptation of production to demand and with the necessary changes in farm organization and structures. For this reason it should :

- Be granted in accordance on a simple qualifying condition (e.g. in relation to average income and other farm parameters) and not tied to individual products;
- Be capitalizable under certain conditions (e.g. provided non-viable farms are abandoned, or to finance investments offering a permanent increase in labour productivity);
- Be laid down for a period which allows for the fact that long-term adaptation processes are involved; the duration and volume of the income support need to be revised periodically;
- Be degressive and at rates fixed all the higher initially the shorter the period during which price alignment in the Common Market is to be carried out.

Such a measure would have the advantage

- That the approximation of farm prices between the countries could be speeded up as required by the decisions of the Council of Ministers of 14 January 1962;
- That the reactions of production and demand in the member countries to an appreciable change in the level and relations of farm prices would begin to be discernible after a few years;
- That the desirable common farm price level could then be finally fixed with greater certainty.

The extent to which similar problems of adaptation to those in the Federal Republic arise in other Community countries or territories, and justify aid in the form of temporary direct income support, should be looked into.

Nevertheless, such measures would need to be carefully synchronized in EEC so that no new distortions of competition arise.

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