the communication govt. of the possessed organisation of the management reflects the opinion. The views expressed in this paper do...
REFERENCES


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I. INTRODUCTION

II. BACKGROUND, FACTS, AND PROBLEM STATEMENT

III. OBJECTIVES OF THE STUDY

IV. LITERATURE REVIEW

V. METHODOLOGY

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VII. CONCLUSION

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X. INDEX
In this paper we use a multi-sectoral model of the Australian economy to analyse the allocative effects of home price schemes. We investigate the likely implications, for the agricultural sector and for the economy in general, of the introduction of a home price scheme for wheat. In doing so we indicate which sectors of the economy ultimately pay for the producer benefits of the scheme.\footnote{An alternative answer to the question posed in our title concerns the effects of such schemes on the personal distribution of income. It is often claimed that, because of the nature of the products to which they are applied, home price schemes are regressive. Our analytical tool does not at present allow us to throw any light on this issue.}

The paper is organized as follows. In section 2 we provide a brief survey of the Australian literature on home price schemes. In section 3 we describe the method for simulating the effects of a home price scheme for wheat using the ORANI model. The results of the simulation are presented in section 4. Section 5 contains our conclusions.

ORANI does not allow for endogenous substitution between intermediate inputs of a given I-O class and any other input, intermediate or primary. Substitution is allowed between imported and domestic supplies of a given category of intermediate inputs but wheat is not a commodity which faces import competition in the domestic economy. An implication of this production function specification is that industries use wheat in fixed proportions with output and an increase in the price of wheat is then strictly equivalent to the imposition of a production tax on the using industry.

The required production taxes were imposed by increases in the prices of 'other costs' (variable $f_{(g+j)}$) for $j = 8,22$. In the ORANI data base the share of 'other costs' in the total costs of industry 22 is 0.02425, whilst the share of wheat is 0.19526. A 7.5 per cent increase in the price of wheat is therefore equivalent to a $7.5 \times 0.19526 = 0.2283$ per cent increase in 'other costs'. For the case of industry 8 the relevant shares of 'other costs' and wheat in total costs are, respectively, 0.06708 and 0.02805, so that an exogenous increase of 3.13 per cent in 'other costs' was required.
3.2 Difficulties for Home Price Assessments

The main issues in this section draw heavily on McHugh's paper. McHugh argues that the key to addressing these issues is to ensure that home price assessments are based on a comprehensive understanding of the market conditions and trends. This requires a deep understanding of the local real estate market and the factors that influence home prices. Without this understanding, it is difficult to accurately assess the value of a home.

V. CONCLUSION

In conclusion, home price assessments require a thorough understanding of the local real estate market and the factors that influence home prices. This knowledge can be gained through research and experience, and it is crucial for accurate assessments to be made. By taking into account all relevant factors, it is possible to provide accurate and reliable assessments that are useful to both buyers and sellers.

APPENDIX: Technical Details of the Estimation

The appendix contains technical details of the estimation process, including assumptions, methodology, and results. It provides a deeper understanding of the factors that influence home prices and how these factors were accounted for in the estimation process.
was supported by the war-time Rural Reconstruction Commission. The next major government-commissioned review of agricultural policy, the 'green paper' of 1974, did not specifically endorse the use of home consumption pricing arrangements but it did note that agricultural pricing and support policies could facilitate a move to more uniform effective rates of protection between the rural and non-rural sectors of the economy and between industries within the rural sector.

Home consumption pricing arrangements have also been justified as a means of offsetting monopoly power elsewhere in the economy. Implicit in this argument is the view that farmers are poorly organized and lack the bargaining power enjoyed by the domestic purchasers of their products. Thus, farmers should be permitted to engage in 'orderly marketing' on the domestic market; their behaviour as monopoly sellers being justified as countervailing the monopoly power exercised elsewhere in the economy.

Finally, the balance of payments constraint to economic growth under a fixed exchange rate regime during the post war period (at least until the 1960's mining boom) and the contribution of rural exports to foreign exchange earnings has been advanced as providing some justification for the introduction of agricultural assistance measures such as home consumption pricing.

---

2. See Rural Policy in Australia (1974, p.152). However the 'green paper's' preferred course of action for achieving a more efficient allocation of resources between sectors was for a gradual lowering of protection to manufacturing industries with commensurate adjustments to the exchange rate rather than via tariff compensation to rural industries.

because of the projected rearrangement of production between industries within the agricultural sector, the export squeeze leads to a net adverse effect for only two rural industries in our simulation. The most obvious losers are in the minerals and processed foods sectors.
domestic prices for agricultural commodities are passed on into the cost

3.2 Studies of resource allocation offices

...
structure of the domestic economy and the subsequent implications for
the competitive position of the agricultural sector in international
trade. Another previously neglected issue is the extent to which the
resulting change in the relative farm-gate prices of agricultural
commodities leads to changes in the product mix, and hence in agricul-
tural industry outputs and incomes, in the fundamentally multiproduct
Australian agricultural sector.

Within the restrictive partial equilibrium framework it is
assumed that, under a high home price scheme, income is transferred to
farmers from the whole body of consumers. However, Giblin writing in
a memorandum to the 1934-35 Royal Commission on the wheat, flour and
bread industries¹ argued forcefully that the income benefits of such a
scheme are paid for mainly by the export sector as a whole, the burden
being particularly onerous on those exporting industries which receive
least assistance. Mauldon (1979) argues along similar lines.² If it
could be established empirically that most of the income transfer is from
other export industries rather than from domestic consumers then this
might suggest that home consumption pricing schemes are of dubious value
as a means of providing compensatory assistance to the rural sector.

In part (b) of Table 4.4 we have presented projections
of income changes for six broad sectors of the economy.³ Agriculture
as a whole gains income but all other sectors experience income losses.
The losses are most severe in the sectors which contain significant
export industries, i.e., Fishing and Forestry, Mining and Processed
Foods. This is explained by the cost-price squeeze which is imposed
on exports by the inflationary effects of home consumption pricing.
Most of the import competing industries (textiles, machinery, motor
vehicles, etc.) are classified in the Manufacturing sector. The
slight fall in income projected for this sector is a consequence of the
loss of competitiveness vis-à-vis imports which the domestic inflation
imposes on the import competing industries. The final sector, Services,
is dominated by industries producing non-traded commodities. Since
aggregate domestic absorption is held constant in our simulation, income
changes in this sector are only very small.

1. See Giblin (1934).
2. The proposed mechanism is that alluded to earlier. A high home price
raises labour costs via wage indexation. Many import competing industries
are able to pass on, to some extent, these additional labour costs through
higher output prices. Agricultural export industries not producing commod-
ities whose domestic prices are administered above export parity,
are poorly placed to pass on such domestic price increases and therefore
suffer a cost price squeeze.
3. The sector results were obtained as the obvious weighted averages
of results for the industries comprising the sectors.
1. A useful description of the basic structure of ANZ is given in

We have identified the first of the direct effects of the introduction of a home

process which matches the price of home to non-agricultural domestic

3.1 The specification of the direct effects of the

Introduction of a Home Price Scheme for whom

3.1.1 The specification of the indirect effects of the

to capture the pricing details of the current home specification scheme.

the model. It should however be noted that our analysis does not set out

of the sector, alternative commodity distribution in the current version of

alternative commodity distribution. We could equally well have chosen any of the other sector-

commodity price scheme for whom the choice of whom is no particular

We have chosen to illustrate the essential features of a home

(1979).

expenditure. Full details are given in Duxon, Panter, Rowlatt and Francis

expenditure. Full details are given in Duxon, Panter, Rowlatt, and Francis

expenditure. Full details are given in Duxon, Panter, Rowlatt, and Francis

expenditure. Full details are given in Duxon, Panter, Rowlatt, and Francis

I.Agricultural Indicators

DFAE1977 + 96

Agricultural Indicators

Percentages

Real Value Add:

Table 4.4: Projected percentage changes in

Note: 6.9% growth expected for

parli. 1978-79

parli. 1979-80

parli. 1980-81

parli. 1981-82

parli. 1982-83

parli. 1983-84

parli. 1984-85

parli. 1985-86

parli. 1986-87

parli. 1987-88

parli. 1988-89

parli. 1989-90

parli. 1990-91

parli. 1991-92
users by 10 per cent. It is assumed that revenues from those domestic sales and revenues from all other, mainly export, sales are pooled and that wheat producers are paid an average price. The producers, moreover are assumed to act as price takers. That is, in planning output decisions they do not account for any effect which changes in their supply levels might have on the pool price.

Equation (1) relates the percentage change in the average price paid to wheat producers \((p_1)\) to the percentage changes in net prices for wheat recovered from domestic, non-agricultural users \((p^d)\), domestic agricultural users \((p^a)\) and exports \((p^e)\).

\[
p_1 = S_d p^d + S_a p^a + S_e p^e
\]  
\(1\)

The coefficients \((S_d, S_a, \text{and } S_e)\) are the shares of the various sales categories in total revenue from wheat sales in the base period. Setting

\[
p^a = p^e = 0, \quad p^d = 10
\]

market share but the gain is insufficient, in this case, to offset the effect of the fall in total demand for the commodity which it produces. Only the Poultry industry has no opportunity to mitigate the effects of commodity demand contraction by gaining market share from non-specialist producers.

4.4 Sector Incomes

The effects of the hypothetical wheat price scheme on real returns to factors employed in various sectors of the economy are given in Table 4.4. These results summarise neatly the conclusions which we have drawn from our simulation about the likely effect of home price consumption schemes on the structure of the economy. They confirm the impression of the likely fate of the agricultural sector which was given in the last section. Income gains are experienced in the wheat producing industries (i.e., the three zones, especially the Wheat-Sheep Zone) and in those industries which are able to increase their shares of markets for products which they produce in common with the wheat producers (i.e., Meat Cattle, Milk Cattle and Pigs, Other Farming Import Competing). Both the industries Other Farming Export and Poultry lose income as a consequence of a falling demand for the exported commodities which they produce, combined with the absence of opportunities to increase their market shares.

1. We assume that the small share of total wheat sales which is represented by usage within agriculture does not pass through the centralized selling system and hence is not priced at the home consumption level. Sales to the Poultry industry are assumed to attract the home consumption price. For this purpose then, Poultry is referred to as non-agricultural.

2. The price actually paid by users for wheat includes the cost of various margins associated with the transfer of the wheat from the producer to the user. Note that we have assumed a 10 per cent increase in the basic value component of this purchaser's price.

3. Note that we ignore, amongst other features of the existing wheat stabilization scheme, the concept of the guaranteed price for a stated volume of wheat exports. In principle however there is no reason why the ORANI model could not be used to replicate the details of such a combined home consumption and guaranteed price arrangement.

1. The projected percentage changes in factor returns, or real value added, have been calculated as weighted sums of projected percentage changes in returns to land, labour and capital in each sector.
1. This consideration, for the most part, supports and other expansion coefficient.

2. The expansion of the capacity also increases the miles.

3. See section 3.2, 4.1, 5.1.

4. Are given in the Appendix.

5. For technical reasons it is difficult to plot the relevant axis.

6. A1: The expansion of the capacity also increases the miles.

7. To zero, no influence of trade characteristics has been imposed in the model.

8. The appendix gives a more detailed treatment of the relevant axis.

9. The Appendix gives a more detailed treatment of the relevant axis.

10. See section 3.2, 4.1, 5.1.

11. Are given in the Appendix.

12. For technical reasons it is difficult to plot the relevant axis.

13. A1: The expansion of the capacity also increases the miles.

14. To zero, no influence of trade characteristics has been imposed in the model.

15. The appendix gives a more detailed treatment of the relevant axis.

16. A1: The expansion of the capacity also increases the miles.
There are only three significant non-agricultural users of wheat in the domestic economy. They are industry 8 (Poultry), industry 22 (Flour and Cereal Products) and industry 25 (Food Products n.e.c.), which account respectively for 1.7 per cent, 18 per cent and 6 per cent of total wheat sales. In our simulation the higher home consumption price is imposed only on the first two of these users. An aggregation problem, which was insoluble in the short run, prevented the application of the price increase to industry 25. Wheat is used in this industry mainly in the production of stock-feed but the industry also encompasses sugar refining. Refined sugar is an important export commodity and the refining industry is one of those for which exports are usually determined endogenously in ORANI 78.

Under this specification, the domestic price of the industry's output is set by world prices rather than by domestic costs so that the imposition of an increase in the price of its inputs would cause a contraction in exports rather than an increase in domestic prices. The solution to the problem is to split the sugar production and the stock-feed enterprise into separate industries, a fairly time consuming and data intensive task. In the meantime, we have chosen not to allow the increase in domestic wheat prices to affect stock-feed prices in our simulation. An alternative interim measure would be to treat exports from industry 25 as exogenous. This is less attractive since an issue of paramount interest in this paper is the effect of the general inflationary implications of the home price scheme on the export sector (see section 4 below).

1. Note, however, that we have allowed for effects on wheat producers of the increased wheat-pool revenue implied by a rise in the price of wheat sold to stock-feed manufacturers. What is not allowed for is the extent of this price rise on the price of stock-feed.

2. In this paper we overlook restrictions placed on Australian sugar exports by the recently introduced international sugar agreement. Historically this would indicate that, in any case, this phenomenon is likely to be transitory.

cattle prices is necessary. A secondary effect of this rise is to increase the rentals earned by fixed factors in the Milk Cattle industry and thus to raise the price of milk cattle. Similar factors explain the rise in the price of the commodity 'other farming import competing'. The Wheat-Sheep Zone, which produces 5 per cent of total output of this commodity, is projected to reduce its supply. A rise in price is necessary to induce increased output from the specialist producer.

Given the relative price changes shown in the final column of Table 4.3, the projected changes in commodity outputs within the first three industries, the BAE zones, are explained by the operation of the CRETH supply system (equations (4.1) - (4.3)). The CRETH share weighted industry prices which appear in equation (4.2), are given in the final row of Table 4.3 and the estimated values for the parameters $\delta$ can be found in Table 3.4 of Dixon, Parmenter, Powell and Vincent (1979). The prices of all commodities other than wheat are projected to fall relative to the industry weighted averages and producers in each zone are projected to transform their product mixes in favour of wheat at the expense of other commodities.

In the Pastoral and High Rainfall Zones wheat is a comparatively minor product and is assumed to be produced in fixed proportions with a number of other minor commodities. The Pastoral Zone is projected to increase its output of the composite containing wheat and to reduce its output of both wool/sheep and meat cattle. The much greater fall in

1. Meat cattle accounts for 25 per cent of the output of the Milk Cattle industry.
2. These are barley, other grains and other farming import competing in the case of the Pastoral Zone and barley, other grains, milk cattle and pigs, and other farming export in the case of the High Rainfall Zone.
3. Wool and sheep meat are assumed to be produced in fixed proportions in the Pastoral Zone.
2. Sales to Manufacturers accounts for 5% of the total

\[ \text{Sales to Manufacturers} = 0.05 \times \text{Sales} \]

3. Sales to Consumers accounts for 70% of the total

\[ \text{Sales to Consumers} = 0.70 \times \text{Sales} \]

4. Sales to Government accounts for 15% of the total

\[ \text{Sales to Government} = 0.15 \times \text{Sales} \]

5. Sales to Foreign accounts for 10% of the total

\[ \text{Sales to Foreign} = 0.10 \times \text{Sales} \]

The assumptions are:

1. The structure assumed in this paper was made with standard

2. Assumptions underlying the simulation:

3. Production of both stages were assumed on the model are given in the

4. At the point of change in the farm-gate price

5. To summarize, the impact offers of the introduction of our

6. The effects of how these changes were imposed on the model are shown in the

7. In order to induce a partiality component -

8. The price of the gross butterfat milk may be altered by

9. The price of the gross calcium milk may be altered by

10. The price of the gross phosphorus milk may be altered by

11. The price of the gross protein milk may be altered by

12. The price of the gross fat milk may be altered by

13. The price of the gross moisture milk may be altered by

14. The price of the gross crude fiber milk may be altered by

15. The price of the gross crude protein milk may be altered by

16. The price of the gross crude fat milk may be altered by

17. The price of the gross crude moisture milk may be altered by

18. The price of the gross crude calcium milk may be altered by

19. The price of the gross crude phosphorus milk may be altered by

20. The price of the gross crude protein milk may be altered by

21. The price of the gross crude fiber milk may be altered by

22. The price of the gross crude fat milk may be altered by

23. The price of the gross crude moisture milk may be altered by

24. The price of the gross crude calcium milk may be altered by

25. The price of the gross crude phosphorus milk may be altered by

26. The price of the gross crude protein milk may be altered by

27. The price of the gross crude fiber milk may be altered by

28. The price of the gross crude fat milk may be altered by

29. The price of the gross crude moisture milk may be altered by

30. The importance of measures in obtaining the

(v) 100 per cent indexation of wages to the consumer price index, and
(vi) a fixed exchange rate.

Assumption (i) is a conventional, neo-classical short-run assumption. When combined with the CES production functions used in ORANI, it implies that industries' supply curves slope upwards in the short run. Note that the assumption does not preclude investment. Changes in the allocation of the investment budget among investing industries in response to changes in relative rates of return are allowed in the simulation. The effects of such changes are evident in changes in the pattern of demand for investment goods (see section 4) but an implicit single-period gestation lag on capital formation prevents changes in capital availability within the solution period. An appropriate calendar time interpretation of this short run would be 1-2 years.

Assumption (ii) indicates that our simulation abstracts from any effect which the introduction of the home price scheme for wheat might have on the level or broad composition of real domestic absorption. The macro expenditure aggregates are regarded as determined by other instruments of economic policy, fiscal and monetary policy, for example, independently of agricultural price support measures. The size of the foreign trade component of the gross domestic product is, however, endogenous in the simulation. Assumption (ii) reflects our decision not to impose a balance of trade constraint in the short-run focus.1

1. For longer run simulations the reverse assignment, i.e., an exogenous balance of trade constraint and endogenous real domestic absorption would usually be more appropriate.

The export volumes of three of the commodities listed in Table 4.3, i.e., wool, barley and other cereal grains, are determined endogenously in the simulation. Under this treatment their domestic prices are linked closely to world prices via equations (4.4) and (4.5),

\[ P_{i}^{e} = \gamma_{i} x_{i}^{(4)} \]  
(4.4)

and

\[ P_{i}^{e} = S_{BV1i} P_{il} + S_{mi} P_{m} \]  
(4.5)

where

- \( P_{i}^{e} \) is the percentage change in the at port (f.o.b.) export price of commodity \( i \),
- \( x_{i}^{(4)} \) is the percentage change in the level of exports of commodity \( i \),
- \( P_{il} \) is the percentage change in the basic value of commodity \( i \),
- \( P_{m} \) is the percentage change in the price of margins services,
- \( \gamma_{i} \) is the reciprocal of the foreign elasticity of demand for commodity \( i \) and \( S_{BV1i} \) and \( S_{mi} \) are, respectively, the shares of basic values and margins in the at port export value of a unit of commodity \( i \).

Export volumes are squeezed by the rise in domestic costs caused by the introduction of the wheat price scheme but, given the high values of the relevant export demand elasticities, the squeeze is associated with only...
The tariff structure of the cotton industry, as implied by the results of the present study, indicates a significant impact of foreign competition on the domestic market. The protection of the cotton industry has been essential to maintain domestic production levels. However, the competitive pressure from foreign producers has forced domestic producers to adapt and innovate.

The study also highlights the importance of understanding the economic factors that influence the cotton market. The relationship between the price of cotton and the cost of production is crucial in determining the competitiveness of domestic producers. The study further examines the impact of technological advancements and the role of government policies in shaping the market dynamics.

In conclusion, the cotton industry is faced with a complex set of challenges that require a multifaceted approach. The study suggests that addressing these challenges will necessitate a combination of policy interventions, technological advancement, and market reforms. The results of this study provide valuable insights for policymakers and stakeholders in the cotton industry.
4. RESULTS

4.1. Macro and employment results

The projected effects of the introduction of the wheat price scheme on some macro-economic indicators and employment variables are listed in Table 4.1. The correct interpretation of these results, indeed of all the results from the simulation, is that they are projections, conditional upon the assumptions discussed in subsection 3.2 (above), of the effects of the imposed exogenous shock alone. Thus our results must be distinguished carefully from forecasts. Rather than make explicit forecasts of how the endogenous variables will actually change over any particular period, ORANI simulations aim to give estimates of how the values of the endogenous variables would differ, if the shock were imposed, from the values which would apply in the absence of the shock. For example, from Table 4.1 it can be seen that ORANI projects an increase in the consumer price index of 0.097 per cent in the current experiment. That is, the model indicates that the consumer price index would be 0.097 per cent higher 1 - 2 years after the imposition of the hypothetical wheat pricing scheme than it would have been had the scheme not been implemented.

The implications of home consumption pricing for the domestic price level are crucial to the understanding of the effects on the economy in general. The most obvious domestic price effect of the scheme which has been imposed in our simulation is to increase the basic value price of flour and cereal products (the output of industry 22) by 2.23 per cent¹.

¹ The impact effect of the scheme is equivalent to a 10 per cent rise in the price of wheat to industry 22. Wheat accounts for about 20 per cent of the industry's costs. Projections of changes in basic value prices by commodity are produced as part of the output of ORANI simulations. For reasons of space, a full list is not presented here but is available on request from the authors.

\[ p_{q}(j) = \sum_{t} h_{tq}(j) p_{t} \]  

(4.3)

where the notation is explained below.

Equation (4.1) reflects the assumption of fixed commodity proportions within composite commodities. It states that the percentage change in the production of commodity \( i \) by industry \( j \) \( (y_{i}(j)) \) is equal to the percentage change in the output of composite commodity \( r \) by industry \( j \) \( (y_{r}(j)) \) for each commodity \( i \) included in that composite commodity. Equation (4.2) shows that, under CRETH, the output of the \( r \)th composite commodity produced in industry \( j \) changes in proportion to the overall level of activity in industry \( j \) \( (z_{j}) \). It also responds to any deviation between the percentage change in price of the \( r \)th composite commodity \( p_{r}(j) \) and a weighted average of the prices of all composite commodities produced in the \( j \)th industry. The weight \( R_{q}^{*}(j) \) is related to the share (denoted by \( R_{q}(j) \)) of composite commodity \( q \) in the total revenue of industry \( j \).¹ Equation (4.3) defines the percentage change in the price of a composite commodity as a weighted average of the percentage changes in the prices of the individual products included therein. The weights \( h_{tq}(j) \) are the shares of the products \( t \) in the total value of output of composite commodity \( q \) for industry \( j \). The non-negative parameter \( \phi_{q}(j) \) in equation (4.2) reflects the ease of transformation within industry \( j \) between composite commodity \( r \) and other composite commodities produced by the industry.

¹ \( R_{q}^{*}(j) = \phi_{q}(j) R_{q}(j) \sqrt{\sum_{q} \phi_{q}(j) R_{q}(j)} \)
I. The exchange is assumed to take the price of goods to domestic users of a commodity.

\[ (1) \quad (f)^2 = (f)^2 + \lambda \]

In the case of commodities, the following and the same applies:

\[ \text{Price of goods to domestic users of a commodity} \]

\[ (2)^2 \quad ((f)^2)^2 (f)^2 + \lambda = (f)^2 \]

A commodity supply system in possession of the same as follows:

- Produced in fixed proportion. This set of assumptions yields no change in the proportion of commodities produced. Commodities are assumed to be
- Single commodity. Within commodities, commodities are assumed to be
- No special targets in terms of commodities to which the other commodities are contributed. again, the presence of the CMN. A portion of the CMN is produced, the CMN to be produced. Commodities are assumed to be
- Mannered towards subject to intercommodity production possibilities constraints. To this end, a constraint is imposed on the commodity to be produced. Commodities are assumed to be
- Classified as composed of at least that commodity of the commodity (AMR).

The first three industries in Table 4.2 are based on the same
table.

- Geographical dimensions

<table>
<thead>
<tr>
<th>Proliferation</th>
<th>Employment</th>
<th>Variable</th>
<th>Percentage</th>
</tr>
</thead>
</table>

Note: For further detail on how and employment variables

The table 4.4: Projections of the effects of the introduction of a home price
Flour and cereal products, in turn, account for 21 per cent of the costs of industry 23 (Bread and Cakes) so that the price of its output is also increased significantly. (The projected rise in the basic value price of bread and cakes is in fact 0.54 per cent.) These two price rises alone contribute an increase of 0.022 per cent in the consumer price index.\footnote{1} Other indirect effects and the multiplying effect of full wage indexation\footnote{2} lift the eventual rise in the consumer price index to 0.097 per cent. Note that the investment price index rises by a smaller percentage (0.064 per cent). The prices most severely affected by the wheat price scheme have very low weights in this index.

The impact of the increase in domestic prices is clearly reflected in the projections for aggregate international trade flows. Aggregate exports fall (0.185 per cent) in response to the cost-price squeeze imposed on domestic producers attempting to sell on world markets which are assumed to exhibit fairly high elasticities of demand for Australian exports.\footnote{3} Some increase in import penetration is also projected. The net effect is to move the balance of trade slightly towards deficit.\footnote{4}

The most obvious feature of the employment results shown in Table 4.1 is the significant increase in the employment of rural workers (0.267 per cent). This is a direct result of the stimulation of wheat production.

1. The weight of flour and cereal products in the ORANI index of consumer prices is 0.065 and the weight of bread and cakes is 0.020.
2. Wages are about one half of total costs in the data base so that the effect of wage indexation is to approximately double the direct and indirect effect on the price level of the changes.
3. Values for the elasticities range from 1.3 (wool) to 20 (fishing, minerals and sugar). See Dixon, Parmenter, Powell and Vincent (1979), Table 4.4.
4. Note that disposal to export of the increased supply of wheat generated by the home price scheme (see p.9) would raise export earnings by about 0.12 per cent. Under this assumption a net decrease in export revenue only 0.065 per cent would be implied. The adverse movement in the balance of trade would be correspondingly smaller.

| Commodity | Wool | Sheep | Beef | Other Farming | Export | Other | Poultry | Commodity Prices
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted Average Price (a)</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.17</td>
<td>-0.22</td>
<td>-0.22</td>
<td>-0.08</td>
<td>-0.02</td>
<td>-0.07</td>
</tr>
<tr>
<td>Weighted Average Price (b)</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-0.17</td>
<td>-0.22</td>
<td>-0.22</td>
<td>-0.08</td>
<td>-0.02</td>
<td>-0.07</td>
</tr>
<tr>
<td>Industry Outputs (c)</td>
<td>0.04</td>
<td>0.02</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.08</td>
<td>0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>

\( (a) \) The industry output changes are the share weighted averages of individual industry output changes in each industry. \( (b) \) The industry price changes are the share weighted averages of individual industry price changes. \( (c) \) The industry output changes are the share weighted averages of individual industry output changes in each industry. The appropriate weights are in Dixon, Parmenter, Powell and Vincent (1979).
4.2. Industry outcomes: growth and losses

To summarize a small fall in aggregate expenditure,

...industry in question has a significant impact on the economy. The following factors are critical to the achievement of a successful insular economy:

1. Productivity gains in the insular economy
2. Efficient use of resources
3. Innovation and research
4. Government policies and regulations
5. Infrastructure development
6. International trade
7. Labor market conditions

The relative importance of each factor is determined by factors such as labor productivity, technology, and market conditions.
<table>
<thead>
<tr>
<th>Industry</th>
<th>Projection Rank</th>
<th>Industry</th>
<th>Projection Rank</th>
</tr>
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<tbody>
<tr>
<td>76 Agricultural Machinery</td>
<td>.455</td>
<td>42 Joinery and Wood Products</td>
<td>-.014</td>
</tr>
<tr>
<td>7 Wheat/Soya Zone</td>
<td>.260</td>
<td>33 Wool and Worsted Yarns</td>
<td>-.015</td>
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<tr>
<td>49 Chemical Fertilizers</td>
<td>.115</td>
<td>34 Textile Fibres</td>
<td>-.017</td>
</tr>
<tr>
<td>9 Services to Agriculture</td>
<td>.085</td>
<td>48 Commercial Printing</td>
<td>-.017</td>
</tr>
<tr>
<td>4 Northern Beef</td>
<td>.050</td>
<td>65 Structural Metal</td>
<td>-.018</td>
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<tr>
<td>5 Milk Cattle</td>
<td>.047</td>
<td>47 Newspapers and Books</td>
<td>-.020</td>
</tr>
<tr>
<td>1 Pastoral Zone</td>
<td>.041</td>
<td>43 Furniture, Mattresses</td>
<td>-.021</td>
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<tr>
<td>84 Building e.o.c.</td>
<td>.029</td>
<td>83 Other Manufacturing</td>
<td>-.031</td>
</tr>
<tr>
<td>60 Ready-Mixed Concrete</td>
<td>.021</td>
<td>89 Wholesale Trade</td>
<td>-.022</td>
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<tr>
<td>7 Other Farming Input Competing</td>
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<td>57 Iron and Steel</td>
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<tr>
<td>65 Concrete Products</td>
<td>.015</td>
<td>70 Leather Products</td>
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<tr>
<td>3 High Rainfall Zone</td>
<td>.013</td>
<td>71 Textile Floor Covers</td>
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<tr>
<td>92 Other Repairs</td>
<td>.010</td>
<td>72 Aircraft Building</td>
<td>-.024</td>
</tr>
<tr>
<td>50 Cement</td>
<td>.007</td>
<td>73 Rubber Products</td>
<td>-.027</td>
</tr>
<tr>
<td>56 Oil and Coal Products</td>
<td>.004</td>
<td>74 Sawmills Products</td>
<td>-.027</td>
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<tr>
<td>15 Crude Oil</td>
<td>.004</td>
<td>75 Electrical Machinery</td>
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</tr>
<tr>
<td>90 Retail Trade</td>
<td>.002</td>
<td>91 Road Transport</td>
<td>-.030</td>
</tr>
<tr>
<td>91 Motor Vehicle Repair</td>
<td>.001</td>
<td>92 Plastic Products</td>
<td>-.030</td>
</tr>
<tr>
<td>87 Residential Building</td>
<td>.000</td>
<td>93 Forestry</td>
<td>-.031</td>
</tr>
<tr>
<td>103 Ownership of Dwellings</td>
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<td>96 Metal Products e.o.c.</td>
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<tr>
<td>105 Defence</td>
<td>.000</td>
<td>98 Scientific Equipment</td>
<td>-.033</td>
</tr>
<tr>
<td>86 Water, Sewerage</td>
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<td>99 Nargisinae, Oils and Fats</td>
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<tr>
<td>106 Public Administration</td>
<td>.001</td>
<td>100 Textile Products e.o.c.</td>
<td>-.037</td>
</tr>
<tr>
<td>152 Soft Drinks, Cordials</td>
<td>.001</td>
<td>101 Brew, Cakes</td>
<td>-.038</td>
</tr>
<tr>
<td>168 Education, Libraries</td>
<td>.002</td>
<td>102 Motor Vehicles, Parts</td>
<td>-.038</td>
</tr>
<tr>
<td>168 Non-Metallic Minerals e.o.c.</td>
<td>.003</td>
<td>103 Forestry</td>
<td>-.040</td>
</tr>
<tr>
<td>62 Non-Metallic Minerals</td>
<td>.002</td>
<td>104 Chemical Products e.o.c.</td>
<td>-.043</td>
</tr>
<tr>
<td>27 Beer and Malt</td>
<td>.005</td>
<td>105 Signs, Writing Equipment</td>
<td>-.043</td>
</tr>
<tr>
<td>30 Fruit and Vegetable Products</td>
<td>.005</td>
<td>106 Steel Products</td>
<td>-.044</td>
</tr>
<tr>
<td>106 Welfare Services</td>
<td>.006</td>
<td>107 Paper, Pulp</td>
<td>-.045</td>
</tr>
<tr>
<td>106 Health</td>
<td>.006</td>
<td>108 Industrial Chemicals</td>
<td>-.054</td>
</tr>
<tr>
<td>110 Restaurants, Hotels</td>
<td>.006</td>
<td>109 Electronic Equipment</td>
<td>-.056</td>
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<tr>
<td>18 Milk Products</td>
<td>.006</td>
<td>110 Other Machinery</td>
<td>-.066</td>
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<tr>
<td>95 Gas</td>
<td>.007</td>
<td>111 Railway Transport</td>
<td>-.066</td>
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<tr>
<td>111 Personal Services</td>
<td>.007</td>
<td>112 Cotton, Silk, Flax</td>
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<tr>
<td>99 Finance and Life Insurance</td>
<td>.008</td>
<td>113 Other Metallic Minerals</td>
<td>-.072</td>
</tr>
<tr>
<td>54 Cosmetics, Toiletery</td>
<td>.008</td>
<td>114 Textile Yarns</td>
<td>-.094</td>
</tr>
<tr>
<td>51 Paints, Varnishes</td>
<td>.009</td>
<td>115 Man-Made Fibres, Yarn</td>
<td>-.074</td>
</tr>
<tr>
<td>52 Pharmaceuticals</td>
<td>.009</td>
<td>116 Poultry</td>
<td>-.074</td>
</tr>
<tr>
<td>55 Soap and Detergents</td>
<td>.009</td>
<td>117 Detergent Products</td>
<td>-.074</td>
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<tr>
<td>17 Services to Mining</td>
<td>.009</td>
<td>118 Other Non-Metallic Products</td>
<td>-.074</td>
</tr>
<tr>
<td>29 Tobacco</td>
<td>.010</td>
<td>119 Detergent Products</td>
<td>-.074</td>
</tr>
<tr>
<td>109 Amusement</td>
<td>.010</td>
<td>120 Other Business Services</td>
<td>-.081</td>
</tr>
<tr>
<td>37 Existing Mills</td>
<td>.010</td>
<td>121 Furniture Export</td>
<td>-.087</td>
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<tr>
<td>102 Other Business Services</td>
<td>.011</td>
<td>122 Flour and Cereal Products</td>
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</tr>
<tr>
<td>36 Clothing</td>
<td>.011</td>
<td>123 Other Basic Metals</td>
<td>-.093</td>
</tr>
<tr>
<td>32 Iron</td>
<td>.011</td>
<td>124 Basic Iron and Steel</td>
<td>-.096</td>
</tr>
<tr>
<td>48 Clay Products</td>
<td>.012</td>
<td>125 Construction Equipment</td>
<td>-.113</td>
</tr>
<tr>
<td>109 Other Insurance</td>
<td>.012</td>
<td>126 Ship and Boat Building</td>
<td>-.118</td>
</tr>
<tr>
<td>29 Alcoholic Drinks e.o.c.</td>
<td>.012</td>
<td>127 Fishing</td>
<td>-.120</td>
</tr>
<tr>
<td>95 Water Transport</td>
<td>.012</td>
<td>128 Transeptive Products</td>
<td>-.123</td>
</tr>
<tr>
<td>98 Banking</td>
<td>.013</td>
<td>129 Plastic Products</td>
<td>-.130</td>
</tr>
<tr>
<td>84 Electricity</td>
<td>.013</td>
<td>130 Starch</td>
<td>-.130</td>
</tr>
<tr>
<td>101 Investment, Real Estate</td>
<td>.013</td>
<td>131 Resinous Fibers</td>
<td>-.130</td>
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<tr>
<td>112 Business Expenses</td>
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<td>132 Non-Ferrous Metals</td>
<td>-.151</td>
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<td>96 Air Transport</td>
<td>.014</td>
<td>133 Meat Products</td>
<td>-.220</td>
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<tr>
<td>134 Food Products e.o.c.</td>
<td>.014</td>
<td>135 Domestic Consumption</td>
<td>-.241</td>
</tr>
</tbody>
</table>

or after further processing in industry 23 (Bread and Cakes). Aggregate domestic consumption is held fixed in our simulation but the adverse relative price movements for these wheat using consumer commodities are projected to generate significant substitution against them by consumers.

Import competing industries are not represented among the main gainers or losers in Table 4.2, but the inflationary effect of the wheat pricing scheme has adverse consequences for their competitive position.

The increase in domestic prices is projected to cause domestic users of import competing goods to substitute imports for domestically produced commodities. Import competing industries are therefore generally projected to experience contractions in their output levels in Table 4.2. Industries in the textile sector, industries 31 (Man Made Fibres) and 32 (Cotton, Silk and Flax) for instance, and the Motor Vehicle industry (industry 68) are important examples.

Industries producing non-traded commodities sold mainly to domestic consumption show, in general, very little output movement in our simulation since aggregate consumption is constant. Industries 90 (Retail Trade), 91 (Motor Vehicle Repairs) and 26 (Soft Drinks, Cordials) are typical. Demands for such commodities change in the simulation only as a result of minor reallocations of the fixed aggregate consumer spending in response to projected relative price changes.

1. See section 5.2.
2. The projected increase in the basic value price of bread and cakes is 0.54 per cent.
3. The extent to which industries compete with imports in ORANI depends both on the elasticity of substitution between imports and domestic output and on the level of import penetration in the base period. See BPRS (1977), sections 3.5, 16.5(a) and 21.
I. Dixon, Pancreas, Poole, and Wynch (1799), section 3.3.

The strong negative correlation of industrialization to agricultural productivity.

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to agriculture, especially to the wheat producing sector. Industry 76 supplies both intermediate and capital inputs to agriculture. In particular almost 22 per cent of its sales in the ORANI data base are sales of investment goods to the Wheat-Sheep Zone. An increase in investment of 1.8 per cent is projected for this zone in our simulation. The sales of industries 49 and 9 are mainly intermediate sales to agricultural industries. Sales to the Wheat-Sheep Zone account for 40 per cent of the total sales of industry 49 and 29 per cent of the sales of industry 9.

The remaining three of the twelve principal gainers in Table 4.2 form a highly interdependent group. Industries 60 (Ready-mixed Concrete) and 61 (Concrete Products) are both primarily suppliers of inputs to industry 88 (Building n.e.c.). The outputs of the former pair therefore move very closely with the output of the latter industry. The sales of industry 88 comprise mainly sales to investment. As explained in section 3.2 aggregate investment spending is held constant in the current simulation. The output gain experienced by industry 88 (and hence industries 60 and 61) is therefore a consequence of a projected reallocation between industries of the economy's fixed investment budget. The importance of construction in the structure of the new capital formation is much greater for the industries which show strong output (and therefore investment)

gains in Table 4.2 than for the industries which suffer output declines and shrinking shares in the investment budget.1

Of the industries occupying the last twelve places in the ranking given in Table 4.2 (i.e., the twelve main losers from the wheat pricing scheme), eleven depend heavily on exporting. Industries 25 (Food Products n.e.c.), 18 (Meat Products), 30 (Prepared Fibres), 14 (Coal), 11 (Fishing), 65 (Basic Iron and Steel) and 64 (Other Basic Metals) are all major exporting industries which are assumed to face fairly elastic foreign demand curves. Export levels for these seven industries are determined endogenously in our simulation. The model projects falls in their exports3 and thus in their output levels as a consequence of the introduction of the hypothetical home price support scheme for wheat.4

1. The weighted average share of inputs from industry 88 in new capital formation in the top ten gainers in Table 4.2 is 62 per cent. The corresponding share for the top 10 losers is 29 per cent, and that for the economy as a whole 39 per cent.

2. The assumed demand elasticities are 20 for industries 25, 14, 11, 63, and 64; 16.6 for industry 18; and 2.6 for industry 30.

3. The projected percentage changes in exports are as follows: industry 25 (-0.75), industry 18 (-0.75), industry 30 (-0.23), industry 14 (-0.30), industry 11 (-0.18), industry 65 (-0.45) and industry 64 (-0.20).

4. For ORANI in short run mode, i.e., with fixed industry specific capital stocks, the elasticity of supply with respect to real value added price for industry \(j\) \((\eta_j)\) is given by

\[
\eta_j = \sigma_j S_{lj}/(1-S_{lj})
\]

where \(\sigma_j\) is the elasticity of substitution between capital and labour in industry \(j\) and \(S_{lj}\) is the share of labour in primary factors costs in industry \(j\). The assumed value of \(\sigma_j\) is 0.5 for all industries. The values of the \(S_{lj}\) for these export industries range from 0.52 to 0.80. Taking a typical value of 0.65 yields a supply elasticity of 0.9.