

Centre of Policy Studies Melbourne Vic 3800 Phone: 03 9905 2398 Fax: 03 9905 2426 http://www.monash.edu.au/policy/

The Economic Effects of

the Tasmanian Freight Equalisation Scheme

A study undertaken for the Department of Infrastructure, Energy and Resources

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Centre of Policy Studies Monash University Clayton Victoria 3800 Australia

Contact persons:	A/Prof. John R Madden
Telephone:	(61-3) 9905 9757
Facsimile:	(61-3) 9905 2426
Email:	john.madden@buseco.monash.edu.au
Web address:	http://www.monash.edu.au/policy/

Executive Summary

This study reports on simulations with a multiregional economic model of the Australian economy that assess the current economic effects of the Tasmanian Freight Equalisation Scheme on the Tasmanian economy. Both the current economic effects of the TFES and the economic consequences over each of the next ten years of withdrawal of the Scheme are examined.

The TFES acts to increase the competitiveness of Tasmanian industries by subsidizing the price of eligible Tasmanian-produced goods in mainland markets and subsidizing the prices of certain mainland-produced inputs used by Tasmanian industries. The dollar values of the subsidizes on the flows of each commodity category across Bass Strait are available from Department of Transport and Regional Services statistics. The ultimate effects of the Scheme on prices and economic activity were then estimated with the aid of the well-known MONASH multiregional forecasting (MMRF) model.

The simulation of the current economic effects indicate that the TFES has led to a significantly larger Tasmanian economy than would otherwise be the case. The effects on the Australian economy as a whole are estimated as being negligible. It is estimated that Tasmanian real gross state product, real consumption and employment are between 1 and 2 per cent higher as a result of the TFES. In dollar terms the TFES' contribution to Tasmanian GSP is between \$150 million and \$300 million. Average jobs are estimated as being between around 2,150 (average-time) jobs and around 4,300 jobs higher than would have been the case in the absence of the Scheme. These effects on economic activity and employment are very slightly more than offset by reduced economic activity and employment in mainland states. There is a slight estimated increase in real consumption per head for Tasmanian residents and a trivial reduction in real consumption per head of residents in Australian mainland states.

While the Tasmanian industry activities that receive the major boost from the TFES are industries producing commodities subject to the major northbound subsidies (metal, wood & paper, and food products), all Tasmanian industries are estimated to have significantly higher output than would have been the case without the Scheme. Thus, under standard assumptions, industries in the Tasmanian services sector are estimated to have 1 or 2 per cent higher output due to the TFES. These industries gain from multiplier effects, particularly through induced higher demand from Tasmanian consumers. The Tasmanian construction industry is estimated to be 2 per cent larger due to higher investment in Tasmanian generated by the TFES.

The simulation of a hypothetical withdrawal of the Scheme in 2005-06 showed that the Tasmanian economy would experience substantial negative effects on employment and activity that would intensify over time. In that initial year Tasmania would feel just under a third of the ultimate reduction in gross state product and about 45 per cent of the ultimate reduction in employment. By the tenth year of the simulation Tasmanian employment would have almost fully adjusted to the loss of the Scheme, with total employment down by up to around 4,250 jobs compared to the baseline forecast with the existing Scheme in place.

1. Introduction

In May 2005 the Department of Infrastructure, Energy and Resources (DIER) commissioned the Centre of Policy Studies (CoPS) to estimate the contribution of the Tasmanian Freight Equalisation Scheme (TFES) to the Tasmanian economy and the consequences of any reduction in the schemes subsidy levels or its complete withdrawal. This report details the method and results of this analysis.

The economy-wide effects of the TFES scheme have been estimated using the MONASH Multiregional Forecasting (MMRF-GREEN) model of the Australian economy. MMRF-GREEN is a dynamic multiregional computable general equilibrium model. A brief overview of the key features of MMRF-GREEN is provided in Section 2.1. In section 2.2 the MMRF simulations for each of the TFES scenarios are described. The simulation results for the economic contribution of the TFES are outlined in Section 3.1,

2. Study Method

2.1 MMRF-GREEN

The MMRF-GREEN model divides Australia into eight regions (the six states and two territories). At the state level there is detailed modelling of the behaviour of five types of economic agents: industries, capital creators, households, governments, and foreigners. At the lower level of spatial aggregation (statistical division), a top-down decomposition of state results is employed. Readers interested in a detailed description of MMRF should consult Adams, et al (2003). For a briefer overview, see Adams et al. (2000).

In the version of MMRF-GREEN used for the study, there are 49 industry sectors. All industries, except Petroleum Products, produce a single commodity¹. Investment is allocated across industries to maximise rates of returns to investors (households, firms). Capital creators assemble, in a cost-minimizing manner, units of industry-specific capital for each industry. Each state has a single household and a state government. There is also a federal government. Finally, there are foreigners, whose behaviour is summarised by export demand curves for the products of each state and by supply curves for international imports to each state.

As is standard in CGE models, MMRF-GREEN determines the supply and demand for each regionally produced commodity as the outcome of optimising behaviour of economic agents. Regional industries are assumed to choose labour, capital and land so as to maximize their profits while operating in a competitive market. In each region a representative household purchases a particular bundle of goods in accordance with the household's preferences, relative prices and its amount of disposable income.

States are linked via interstate trade, interstate migration and capital movements and governments operate within a fiscal federal framework.

In the current study we make use of the dynamic features of MMRF-GREEN to simulate the effects of three TFES policy scenarios over a ten-year period from the year the policy change is assumed to be introduced (2005-06). We also undertake a comparative static simulation to analyse the economic effects on the Tasmanian economy of the TFES in 2004-05.

¹ Petroleum Products produces various fuels such as automotive petrol, aviation fuels, diesel and LPG. This is of no particular relevance to the current project.

For the dynamic simulations we first generate a baseline forecasts for the Australian economy. We then conduct simulations to examine the deviations away from the baseline that result from the TFES scenarios under examination. MMRF-GREEN provides results for economic variables on a year-on-year basis. The results for a particular year are used to update the database for the commencement of the next year. In particular the model contains a series of equations that connect capital stocks to past-year capital stocks and net investment. Similarly debt is linked to past and present borrowing/saving and regional population is related to natural growth and international and interstate migration.

2.2 The Simulations

2.2.1 Simulation Tasks

Two sets of simulation tasks were requested by DIER. These tasks are as follow:

- 1. Determine the current economic effects on the Tasmanian economy of the presence of the Tasmanian Freight Equalisation Scheme.
- 2. Determine the impacts on the Tasmanian economy of a withdrawal of the Scheme.

Task 1 is performed with the model being used in what is termed comparative-static long-run mode. This is because we wish to examine the effects on the Tasmanian economy in 2004-05 of a long-running Scheme, one that has been in place since 1976. Although the Scheme has been revised on a number of occasions, it can be safely assumed that the economy has for all intents and purposes fully adjusted to all past changes in the scheme. By adopting a long-run simulation mode we take into account the full extent of the effects of the scheme on Tasmanian variables, such as population and industry capital stocks, that take a considerable time to adjust.

On the other hand under the second task, we wish to look at the effects of a hypothetical removal of the Scheme. In this case we are interested in the adjustment path of the economy, and thus employ the model in dynamic mode.

2.2.2 <u>Exogenous Shocks</u>

The effect of the TFES is to lower the sea freight costs of importing selected goods into Tasmania and exporting certain goods from Tasmania to other states². In order to simulate the effects of the TFES, we first had to decide which variables of the model to shock and the size of the shocks.

With regard to the first of these questions, we chose tax/subsidy variables which fall on the basic value of flows of commodities between regions specified by user. This is best explained by looking at an example of an MMRF price equation that relates the price paid by the domestic purchaser of a domestically produced good to its basic (or factory/farm-gate) value. Such an equation is³:

 $^{^{2}}$ It is assumed in this study that the sea freight cost of transporting an eligible good is reduced by the full amount of the subsidy.

³ This equation is a stylized one that conveys the concept of the relevant price equation. The actual MMRF equations differ slightly. Indeed the working version of MMRF contained no useable variables (ones that could be made exogenous) that could be used to impose the TFES subsidy shocks (that varied by commodity, user, and source and destination states). Thus relevant TFES subsidy variables were introduced into MMRF for the purposes of this study.

$$P_{is}^{jr} = P_{is}^{0} + T_{is}^{jr} + \sum_{m=1}^{M} A_m^{is,jr} P_{mr}^0$$
(1)

where P_{is}^{jr} is the purchasers' price of good i produced in state/territory s sold to user⁴ j located in region r, P_{is}^{0} is the basic price⁵ of good i produced in state s, T_{is}^{jr} is the TFES subsidy associated with the sale of the good each user, $A_m^{is,jr}$ are the quantities of transport and other margin services required to facilitate the flow of a unit of the good between producer and user. It will be noticed that the prices of margins inputs are expressed as basic prices (it is assumed there are no margins or taxes on margins) whose origin subscripts are the destination region r (reflecting an MMRF assumption that margin services are produced only by the purchasing region).

In percentage change terms equation (1) can be represented as:

$$P_{is}^{jr} p_{is}^{jr} = (P_{is}^{0} + T_{is}^{jr}) p_{is}^{0} + P_{is}^{0} (100 * \Delta G_{is}^{0}) + \sum_{m=1}^{M} A_m^{is, jr} (p_{mr}^{0} + a_m^{is, jr})$$
(2)

where lower case variables are the percentage change in the corresponding upper case variable, and ΔG_{is}^0 is the change in the TFES subsidy rate (i.e. G_{is}^0 is defined as the subsidy rate (= T_{is}^{jr} / P_{is}^0)).

It is the $100^* \Delta G_{is}^0$ that we shock in order to simulate a change in the TFES subsidy rate. Thus, the main task in establishing the shocks is to compute a subsidy rate on each individual flow of a good from a particular origin region to a particular user in a particular destination region. The source for the subsidy values is DoTaRS (2004). This publication provides the value of the TFES assistance by commodity code for northbound and southbound cargoes for the year 2002-03. The source for the basic price values of flows was the MMRF data base for the same year. MMRF's data files contain separate values for each of the required interstate sales (by good i, by origin s, by user j, by destination region r). It is assumed that the subsidy rates for 2002-03 also applied to following years⁶.

The TFES statistics for Northbound sea cargoes are at a quite disaggregated level and thus could in most cases be fairly unambiguously classified to an MMRF commodity group. However, the subsidies on southbound cargoes were often very broadly defined (e.g. raw materials, high density), particularly for manufacturing and mining inputs. Such goods were allocated across commodity categories in relation to a modified pattern of MMRF inputs for current and capital purchases by the relevant

⁴ For Northbound goods, for instance, there are 99 users. These are the 49 industries purchasing goods for use as intermediate inputs, the 49 industries purchasing goods for use in capital formation, and households.

⁵ The basic price of a domestically-produced commodity, P_{is}^0 , is set equal in another MMRF equation,

not shown here, to the costs of production. This yields an (upward-sloping) supply curve for the commodity. Equilibrium basic prices are established by market-clearing equations.

⁶ DoTaRS' TFES data is also available for 2003-04. However, we used the 2002-03 data, rather than the later year, so as to have a year consistent with the year of the Tasmanian Freight Demanders Survey. Interstate trade figures could be estimated from the Survey as a check on the MMRF data base interstate trade figures that are themselves estimates formed by a modified gravity method.

industry sector⁷. The modification of the pattern took into account southbound eligibility restrictions, such as:

- Goods must be non-bulk (i.e. be subject to packing or unitization of some sort);
- Goods can not be fuels or lubricants;
- Goods can not be building or construction materials and equipment; and
- Goods can not be motor vehicles that manufactures/miners will register for use on public roads.

Having estimated subsidy values by commodity it was then necessary to spread these values across source and destination regions, and users. Naturally, for all southbound cargoes the subsidy values were assigned only to Tasmanian industry purchasers in the agricultural, mining and manufacturing sectors, and only to sales from producers in mainland states (and territories). Similarly, for northbound freight subsidy values were assigned only to sales from Tasmanian producers, and only to industries and households in Australian mainland regions. The allocation across individual mainland states and territories, and across classes of users, was made in line with 2002-03 sales/purchase shares in the MMRF data base. Thus, estimated subsidy rates were uniform across classes of relevant Tasmanian purchasers and across mainland sellers (southbound) and across mainland purchasers (northbound). This straightforward allocation method could be used because relative distances of mainland states to Tasmania are irrelevant. The subsidies are provided by formulae set to alleviate the disadvantage of Bass Strait transportation compared to a road freight equivalent (a notional wharf to wharf disadvantage plus a fixed intermodal cost) and we calculate the subsidy value on the basic price⁸.

Dividing the value on the subsidy flows by the corresponding basic flow value gives the value of all the required subsidy rates. These rates are shown in Table 2.1. Only good categories for which a subsidy was claimed in 2002-03 are shown in the table. It can be seen that the estimated subsidy rates vary considerably across commodities, particularly in the case of northbound freight. For eligible purchasers, the (weighted) average subsidy rates on those goods belonging to categories that attracted subsidies were a little over 2 per cent (northbound) and a little over 1.7 per cent (southbound). The average subsidy rates for all goods (but not services) to all classes of purchasers were just under 1.6 per cent (northbound) and just over 0.6 per cent (southbound). The substantial difference in the two types of averages on southbound routes derives to a large extent from the restrictions in the classes of purchasers who can claim TFES assistance.

⁷ Only sales to primary and secondary industry are eligible for southbound subsidies. We do not in our allocation take into account different sea/air ratios in shifting certain kinds of freight. Given the degree of estimation required and the fact that over 99 per cent of the volume of Bass Strait freight movement is by sea (ABS 9222.0), this is unlikely to have much of an effect on the results (the sea freight share would be somewhat lower by value). Indeed, one would expect only trivial effects on results of the method of allocation of TFES subsidies across commodities.

⁸ By applying the subsidy value to the basic value, and given quantities in MMRF are defined in terms of an initial \$1 price, we are essentially capturing the notion that the subsidy is basically a function of quantities (eg TEUs) shipped.

	Northbound	Southbound
1 Agriculture	1.82%	3.48%
3 Iron Ore	0.05%	-
4 Non-ferrous ores	1.04%	-
9 Food and beverages	3.13%	1.56%
10 Textiles, clothing & footwear	0.65%	1.49%
11 Wood & paper products	2.92%	1.83%
12 Chemicals	0.16%	1.55%
19 Non-metallic mineral products	0.81%	1.49%
20 Cement	0.02%	1.49%
21 Steel	0.39%	1.49%
22 Aluminium & manganese	1.26%	1.49%
23 Other metal products	2.65%	1.49%
24 Vehicle parts	_*	1.49%
25 Other_man	0.18%	1.99%

Table 2.1 TFES subsidy rate as a percentage of basic value flows

* Machinery and transport equipment northbound subsidy assigned to other manufacturing

For both northbound and southbound industry subsidy rates shown in Table 2.1, we include as eligible purchases, inputs to capital formation as well as material inputs into current production (provided the good itself is deemed an eligible good for that route). However, with the current theoretical structure of MMRF it is not possible to distinguish industry classes of purchasers for capital formation⁹. As a result we assumed for the purposes of the simulation that all southbound subsidies fell on current inputs. This made very little difference to the southbound subsidy rates used in the simulation from those shown in Table 2.1, since most purchases of capital goods imported directly from interstate were by the tertiary sector (which includes construction, communications, etc). For most goods there was no difference in the percentage shock at the second decimal place. For Other metal products the shock imposed was 1.52 per cent (0.03 per cent higher). Only in the case of Other manufacturing was a much higher shock (of 3.56 per cent, or 1.57 per cent greater) than the Table 2.1 value imposed, due to it now being applied to a much smaller base.

2.2.3 Simulation Assumptions

2.2.3.1 Simulation of TFES effects on Tasmania in 2004-05 (Comparative-static)

Labour Markets

We assume that the rate of unemployment is fixed in each state, so that at the national level, given a fixed working-age population and participation rate, the aggregate level of employment is also fixed. Thus we assume that the TFES has no lasting effects on the national employment level, with any effects the Scheme has on the economy-wide demand for labour resulting in a slight movement in the national real wage level. The fixed state unemployment rates are accommodated by population movements between the states (i.e by implied changes in rates of net interstate migration).

Rates of return on capital, investment and capital stocks

In long-run comparative static mode the economy-wide rate of return is assumed to be fixed. That is, we assume that on average the rate of return is determined by the world

⁹ Only minor changes to the structure of MMRF could be undertaken within the resources of the current study.

interest rate. An industry's capital stock is positively related to the industry's rate of return compared with the economy-wide rate. Investment is determined by an assumption of each industry having a fixed investment to capital ratio.

Real Consumption

<u>Private</u> consumption in each region is a function of regional household disposable income. Real <u>public</u> consumption by the federal government is assumed to be unaffected by the TFES. State governments are assumed to alter their <u>public</u> consumption in line with changes in their revenue bases.

Government budgets, balance of trade

It is assumed that the effect of the TFES is budget neutral for both federal and state governments. The federal government is assumed to adjust slightly the Australia-wide PAYE tax rate to cover the cost of operating the Scheme, while as noted above state governments adjust their current expenditure levels to prevent the Scheme affecting their public sector borrowing requirement. Under these circumstances, it can be expected that there is virtually no impact on the balance of trade.

2.2.3.2 Simulation of a hypothetical removal of the TFES (Dynamic)

Labour markets

At the national level, we assume that the deviation in the national real wage rate from its base case level increases in proportion to the deviation in economy-wide employment from its base case level. Eventually, the real wage adjustment eliminates any deviation in national employment caused by a particular year's set of shocks. At the regional level, we assume that labour is mobile between state economies. Labour is assumed to move between states/territories so as to maintain inter-state wage and unemployment rate differentials at their base case levels. Accordingly, for the TFES removal scenario, mainland states and territories can be expected to experience projected increased employment and population at the expense of Tasmania.

Real Consumption

In each year of the deviation scenarios, aggregate real private consumption in state r diverges from its base case level by an amount reflecting the divergence in real aftertax income available to the residents of r.

Analogously to the TFES-benefits simulation, we assume that the time path of real public consumption is unaffected by a reduction in the Scheme's payment rates.

Government budgets, balance of trade

The assumptions here are the same as for the TFES-current-effects simulation.

Rates of return on capital, investment and capital stocks

In deviation simulations MMRF-Green allows for short-run divergences in rates of return on industry capital stocks from their levels in the base case forecasts. Such divergences cause divergences in investment and capital stocks. The divergences in capital stocks gradually erode the divergences in rates of return.

3. **Results**

3.1 <u>The Economic Effects of the TFES in 2004-05</u>

The TFES-current-effects simulation is implemented by simulating the long-run effects of a removal of the Scheme. In effect we are simulating the effects in 2004-05 of removing the Scheme quite some years ago (so that all adjustments of removing the TFES have all taken place). We then report the economic effects of the TFES as the negative of our simulation results. Thus the economic effects of the TFES are measured as a comparison between the Tasmanian economy as it is in 2004-05 and what it would have looked like had there been no Scheme in 2004-05, nor indeed for many years so that the economy had fully adjusted to this situation.

The estimated major effects of the TFES are reported in Table 3.1.

			R	est of		
	Tasmania		Australia		Australia	
	%	Change*	%	Change*	%	Change*
Real GDP/GSP	2.07	304	-0.05	-317	0.00	-12
Real Private Consumption	2.14	209	-0.05	-218	0.00	-8
Real State Government Consumption	2.08	55	-0.04	-31	0.03	24
Real Investment	2.07	61	-0.04	-80	-0.01	-19
Real International Exports	-0.25	-7	-0.04	-55	-0.04	-62
Real International Imports	2.07	42	-0.05	-91	-0.03	-49
Real Interstate Exports (a)	6.57	217	-6.57	-217	n.a.	n.a.
Real Interstate Imports (a)	3.42	192	-3.42	-192	n.a.	n.a.
Employment	2.08	4,280	-0.05	-4,578	0.00	-298

 Table 3.1: Effects of TFES in 2004-05 on Macroeconomic Variables (standard elasticities)

* Changes are in \$million, except employment which is in persons (average-time jobs)

(a) Interstate trade for the Australian mainland shown only for trade with Tasmania

It can be seen that the TFES acts to increase Tasmanian output and employment by around two per cent. There is, however, only a small increase in Tasmanian welfare per head. Real Tasmanian private consumption is projected to be 2.14 per cent higher, compared with a population increase of 2.08 per cent. The overall effect on Australia as a whole is close to zero. A slight overall negative effect would normally be expected due to a slight distortionary effect of the subsidy. However, the small negative effect in our results is mainly the result of a compositional change in regional labour supply.

Given the size of the TFES subsidy, estimated at around \$88 million for 2004-05, the effect on Tasmanian GSP may appear quite large. The size of the effect is the consequence of the change in Tasmanian competitiveness and regional multiplier effects. Without these effects, the TFES would merely act to increase Tasmanian consumption. The immediate effects of the TFES are essentially equivalent to an increase in mainland demand for Tasmanian products, and a mainland funding of Tasmanian costs (i.e. an increase in Tasmania's terms of trade). However, with Tasmania able to sell its goods more cheaply on the mainland (via the reduction in northbound freight costs and a reduction in input costs via the southbound subsidy),

the rest of Australia wishes to substitute towards the Tasmanian product. There is an increase in the demand for Tasmanian labour, which is met in the long run from interstate migration. The initial boost to Tasmanian activity is enlarged by increased consumption expenditure arising from increased Tasmanian income, and by increased government spending arising from the Tasmanian government being able to maintain real per capita spending out of an increased revenue base. Tasmanian interstate exports receive a boost of almost 6.6 per cent. This acts to lower Tasmanian interstate export prices (since mainland demand curves for Tasmanian products are downward sloping). This largely removes the initial gain in Tasmania's effective terms of trade.

A key factor in the degree of expansion is the rate at which Australian purchasers switch towards Tasmanian goods for given decreases in their relative prices. This is governed by the relevant elasticities of substitution that are in the MMRF data base. We employ the standard MMRF interstate-trade elasticities that are our best judgment of the degree of substitution for each product for each class of purchaser. For TFES assisted goods for which there is Tasmanian production, these elasticities vary from 2.5 for Iron ore to almost 17 for Textile, clothing and footwear sales to households. This latter elasticity is particularly high, with all other elasticities in the range being below 10. Due to the dearth of data on interstate trade, the estimates for these elasticities are based largely on judgment. It is therefore important to test the sensitivity of the simulation results to these elasticities. We consequently conducted a second simulation in which all non-zero interstate elasticities were reduced to 2.0. This number would generally be thought of as a quite low (highly conservative) value for interstate substitution elasticities.

The result for the major effects of the TFES under the assumption of low substitution elasticities are reported in Table 3.2.

	Tasmania		Rest of Australia		Australia	
	%	Change*	%	Change*	%	Change*
Real GDP/GSP	1.04	153	-0.02	-149	0.00	4
Real Private Consumption	1.09	106	-0.03	-118	0.00	-12
Real State Government Consumption	1.05	28	-0.01	-7	0.02	21
Real Investment	1.05	31	-0.02	-31	0.00	0
Real International Exports	0.50	14	-0.03	-48	-0.02	-35
Real International Imports	0.87	18	-0.02	-45	-0.01	-28
Real Interstate Exports (a)	2.16	71	-2.16	-71	n.a.	n.a.
Real Interstate Imports (a)	1.43	80	-1.43	-80	n.a.	n.a.
Employment	1.04	2,147	-0.02	-2,301	0.00	-155

Table 3.2: Effects of TFES in 2004-05 on Macroeconomic Variables (low interstate substitution elasticities assumed)

* Changes are in \$million, except employment which is in persons (average-time jobs)

(a) Interstate trade for the Australian mainland shown only for trade with Tasmania

It can be seen that the effects of radically reducing the value for the interstate substitution elasticities cuts the effects on the Tasmanian economy by about half. The Table 3.2 results should be seen as a very conservative estimate of the effects of the TFES. In the rest of this report, we show results only for the standard set of elasticities.

The estimated effects (using the standard elasticities) of the TFES on Tasmanian industries output and employment are shown in Table 3.3.

	Indu	stry		
	Output (a)		Industry Employme	
Industries (b)	%	\$m	%	Jobs
1 Agriculture	1.76	9.2	2.18	175
2 Forestry	2.54	5.5	5.20	144
3 Iron Ore	0.27	0.1	0.03	0
4 Non Iron Ore	1.28	1.2	1.18	20
5 Black Coal	1.35	0.1	1.03	2
9 Food	4.27	15.6	5.00	307
10 Textiles, Clothing, Footwear	3.54	2.4	3.79	56
11 Wood & paper	4.60	21.7	5.60	412
12 Chemicals	2.08	1.6	2.08	25
14 Non metallic products	2.63	1.5	2.76	27
15 Cement	1.15	0.3	0.76	3
16 Steel	0.44	0.3	0.21	3
17 Aluminum, Magnesium	2.42	1.7	2.73	16
18 Other Metal Products	6.63	5.5	7.29	140
19 Motor Vehicles & Parts	0.00	0.0	0.00	0
20 Other manufacturing	1.46	1.9	1.37	40
25 Electricity Hydro	2.15	6.7	2.18	58
26 Electricity Biom	2.16	0.1	2.18	1
30 Electricity Supply	2.15	2.8	2.15	11
31 Urban Gas Distributors	2.22	0.0	2.36	0
32 Water	2.05	3.2	2.00	24
33 Construction	1.99	19.7	1.97	400
34 Trade & Hotels	1.82	37.7	1.73	613
35 Road Direct	1.43	1.0	1.20	13
36 Road Freight	2.23	6.8	2.28	102
37 Rail Direct	0.00	0.0	0.00	0
38 Rail Freight	1.63	0.0	1.48	1
39 Water Direct	0.97	0.2	0.61	3
40 Water Freight	1.92	0.3	1.84	0
41 Air Direct	1.80	0.7	1.60	6
42 Air Freight	1.92	0.1	1.80	1
43 Other Transport	1.30	2.7	0.86	21
44 Communications	1.17	3.9	0.66	24
45 Finance & Bus. Services	2.08	34.8	2.07	388
46 Dwellings	2.11	29.5	2.14	0
47 Public Services	1.73	50.1	1.69	1,203
48 Other Services	1.19	4.2	0.77	38
49 Private Transport Services	2.13	8.2	0.00	0
All Tasmanian industries	2.06	281	2.08	4,280

Table 3.3: Effects of TFES on Tasmanian Industries 2004-05

(a) In terms of value added at factor cost

(b) Industries with no or minor production in Tasmania not shown

The three industries to show the greatest expansion, Other metal products, Wood & paper products, and Food, are also the industries producing commodities on which there are the greatest northbound subsidies¹⁰. On the other hand, Agriculture which

¹⁰ About 80 per cent of TFES subsidies are on northbound freight.

receives the fourth highest level of northbound TFES support is projected to receive only a modest boost to its employment and a below all-Tasmanian-industry average increase in its output. Agriculture also enjoys the benefit of a high TFES subsidy on agriculture inputs it purchases from the mainland. However, mainland Agricultural products make up less than 6 per cent of Tasmanian Agriculture's material inputs (compared to Tasmanian Food products for whom 14 per cent of material inputs are mainland Agriculture)¹¹. Two other factors also form a limitation on Agriculture's expansion. The first is that the industry uses agricultural land that is assumed to be in fixed supply. Secondly, Tasmanian Agriculture also sells a portion of its output to overseas markets. There is some crowding out of Tasmanian overseas exports by interstate exports.

Table 3.3 demonstrates that the benefits to Tasmanian industries spread much wider than those industries which receive direct assistance from the TFES. For instance, Forestry's output is increased by around 2.5 per cent. The major reason for this is the heavy concentration of this industry's sales to the Wood & paper industry. Excluding intra-industry sales, about 45 per cent of Forestry's sales are to Wood & paper. Like Agriculture, Forestry's employment is increased by considerably more than it's output due to constraints in the supply of forestry land¹².

Looking at the \$ million change in the value of output and the change in job numbers it can be seen that Public services and Trade and hotels are the most affected industries in output and employment. These industries are affected through the induced effects to government consumption and private household consumption. Similarly consumption induced and production effects boost Dwellings, Financial & business services, etc. Higher economic activity also results in higher investment in the state, which in turn boosts the Construction industry.

3.2 <u>The Economic Effects of a Hypothetical Withdrawal of the TFES from 2005-</u><u>06</u>

We now turn to the simulations of hypothetical reductions, including a full withdrawal, of the TFES in 2005-06 and trace out the time path of the impact on the Tasmanian economy over the coming decade.

The effects of a withdrawal of the TFES in 2005-06 for the years to 2014-15 can be seen in Table 3.4. It can be seen that the economy adjusts over the decade towards a similar outcome to that which is suggested by our long-run results of the previous section. As we are simulating in this section the effects of a withdrawal of the Scheme, rather than its current effects on Tasmanian economic activity, as was reported in the previous section, the results are of the opposite sign.

¹¹ Food purchases around 83 per cent of all mainland Agriculture sold to Tasmanian industry for current production.

¹² Indeed, Forestry is particularly intensive in (forested) land inputs, requiring a percentage increase in Forestry employment just over double its percentage increase in output.

		2006	2007	2008	2009	2010
Real gross value added (GDP/GSP)	%	-0.66	-0.90	-1.07	-1.20	-1.35
	\$m	-100	-138	-167	-192	-220
Real consumption	%	-0.60	-0.83	-0.99	-1.12	-1.25
	\$m	-60	-85	-103	-119	-134
Real state government	%	-0.73	-0.91	-1.04	-1.18	-1.31
consumption	\$m	-20	-25	-30	-34	-39
Real investment	%	-3.02	-3.02	-3.16	-3.18	-3.11
	\$m	-95	-102	-109	-109	-115
Real international exports	%	2.69	2.54	2.17	1.81	1.57
	\$m	77	70	65	59	52
Real international imports	%	-1.27	-1.44	-1.58	-1.66	-1.77
	\$m	-23	-27	-32	-32	-38
Real interstate exports	%	-5.01	-5.21	-5.47	-5.68	-5.81
	\$m	-166	-185	-201	-212	-218
Real interstate imports	%	-2.44	-2.53	-2.59	-2.68	-2.76
	\$m	-134	-151	-168	-180	-192
Employment (hours)	%	-1.25	-1.46	-1.57	-1.64	-1.74
	'000'	2.56	3 01	3 78	3 17	3 60
	jobs	-2.50	-5.01	-3.28	-3.47	-5.09
		2011	2012	2012	2014	2015
		2011	2012	2013	2014	2015
Real gross value added (GDP/GSP)	%	2011	2012	2013	2014	2015
Real gross value added (GDP/GSP)	% \$m	2011 -1.47 -244	2012 -1.57 -266	2013 -1.66 -285	2014 -1.73 -303	2015 -1.79 -319
Real gross value added (GDP/GSP) Real consumption	% \$m %	2011 -1.47 -244 -1.37	2012 -1.57 -266 -1.47	2013 -1.66 -285 -1.56	2014 -1.73 -303 -1.64	2015 -1.79 -319 -1.71
Real gross value added (GDP/GSP) Real consumption	% \$m % \$m	2011 -1.47 -244 -1.37 -149	2012 -1.57 -266 -1.47 -163	2013 -1.66 -285 -1.56 -176	2014 -1.73 -303 -1.64 -188	2015 -1.79 -319 -1.71 -199
Real gross value added (GDP/GSP) Real consumption Real state government	% \$m % \$m %	2011 -1.47 -244 -1.37 -149 -1.42	2012 -1.57 -266 -1.47 -163 -1.53	2013 -1.66 -285 -1.56 -176 -1.61	2014 -1.73 -303 -1.64 -188 -1.69	2015 -1.79 -319 -1.71 -199 -1.75
Real gross value added (GDP/GSP) Real consumption Real state government consumption	% \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43	2012 -1.57 -266 -1.47 -163 -1.53 -47	2013 -1.66 -285 -1.56 -176 -1.61 -50	2014 -1.73 -303 -1.64 -188 -1.69 -53 200	2015 -1.79 -319 -1.71 -199 -1.75 -56
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment	% \$m % \$m % \$m %	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment	% \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports	% \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports	% \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82 31	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 25	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports	% \$m % \$m % \$m % \$m %	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90	2013 -1.66 -285 -1.56 -1.76 -1.61 -50 -2.90 -113 0.82 31 -1.95	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports	% \$m % \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84 -1.84 -41	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90 -44	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82 31 -1.95 -47	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports Real interstate exports	% \$m % \$m % \$m % \$m % \$m % \$m %	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84 -41 -5.97	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90 -44 -6.10	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82 31 -1.95 -47 -6.21	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50 -6.30	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53 -6.38
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports Real interstate exports	% \$m % \$m % \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84 -41 -5.97 -250	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90 -44 -6.10 -265	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82 31 -1.95 -47 -6.21 -280	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50 -6.30 -297	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53 -6.38 -313
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports Real interstate exports Real interstate imports	% \$m % \$m % \$m % \$m % \$m % \$m %	$\begin{array}{r} 2011 \\ -1.47 \\ -244 \\ -1.37 \\ -149 \\ -1.42 \\ -43 \\ -3.06 \\ -115 \\ 1.28 \\ 44 \\ -1.84 \\ -41 \\ -5.97 \\ -250 \\ -2.83 \end{array}$	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90 -44 -6.10 -265 -2.87	2013 -1.66 -285 -1.56 -176 -1.61 -50 -2.90 -113 0.82 31 -1.95 -47 -6.21 -280 -2.90	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50 -6.30 -297 -2.93	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53 -6.38 -313 -2.95
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports Real interstate exports Real interstate imports	% \$m % \$m % \$m % \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84 -41 -5.97 -250 -2.83 -223	2012 -1.57 -266 -1.47 -163 -1.53 -47 -2.98 -114 1.03 37 -1.90 -44 -6.10 -265 -2.87 -236	$\begin{array}{r} 2013 \\ -1.66 \\ -285 \\ -1.56 \\ -176 \\ -1.61 \\ -50 \\ -2.90 \\ -113 \\ 0.82 \\ 31 \\ -1.95 \\ -47 \\ -6.21 \\ -280 \\ -2.90 \\ -250 \end{array}$	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50 -6.30 -297 -2.93 -264	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53 -6.38 -313 -2.95 -278
Real gross value added (GDP/GSP) Real consumption Real state government consumption Real investment Real international exports Real international imports Real interstate exports Real interstate imports Employment (hours)	% \$m % \$m % \$m % \$m % \$m % \$m % \$m	2011 -1.47 -244 -1.37 -149 -1.42 -43 -3.06 -115 1.28 44 -1.84 -41 -5.97 -250 -2.83 -223 -1.81	$\begin{array}{r} 2012 \\ -1.57 \\ -266 \\ -1.47 \\ -163 \\ -1.53 \\ -47 \\ -2.98 \\ -114 \\ 1.03 \\ 37 \\ -1.90 \\ -44 \\ -6.10 \\ -265 \\ -2.87 \\ -236 \\ -1.86 \end{array}$	$\begin{array}{c} 2013 \\ -1.66 \\ -285 \\ -1.56 \\ -176 \\ -1.61 \\ -50 \\ -2.90 \\ -113 \\ 0.82 \\ 31 \\ -1.95 \\ -47 \\ -6.21 \\ -280 \\ -2.90 \\ -250 \\ -1.91 \end{array}$	2014 -1.73 -303 -1.64 -188 -1.69 -53 -2.80 -111 0.63 25 -1.99 -50 -6.30 -297 -2.93 -264 -1.95	2015 -1.79 -319 -1.71 -199 -1.75 -56 -2.72 -109 0.47 19 -2.02 -53 -6.38 -313 -2.95 -278 -1.98

Table 3.4: Impact of Scheme Withdrawal on Tasmanian Macroeconomic Variables (percentage deviations from Baseline)

*years are financial years ending in date indicated; e.g. 2006 indicates 2005-06 financial year

In 2005-06, the year of the hypothetical withdrawal of the TFES, there is a much more muted response in the effect on Tasmanian activity¹³. Tasmanian Gross State Product deviates by 0.66 percentage points below its baseline growth rate. The reason for the short-run effect on GSP being much smaller than in the long-run has to do with the fixity of capital. In general installed capital can not be easily moved to other

¹³ In Table 3.4 we denote the year in which the financial year is completed. For instance, 2006 in the column heading indicates the year 2005-06, while 2015 indicates the year 2014-15.

economic activities, in particular not to other economic activities interstate. However, over time, with lower levels of investment, baseline growth in the economy, and depreciation, capital stocks return to their desired levels. With the negative effects of a TFES withdrawal on Tasmanian economic activity in 2005-06, excess capacity results. This causes negative deviations in rates of return of Tasmanian industry as the rental cost of capital falls relative to the baseline forecast. With the cost of capital now cheaper than in the baseline forecast, Tasmanian industries substitute capital for labour (subject to the substitution possibilities implied by their production functions). Thus we see a negative effect on Tasmanian employment's growth rate of 1.25 percentage points in 2005-06. In order to reduce the level of the capital stock to a lower level than it otherwise would have been, there is a reduction in the growth rate of real Tasmanian investment of just over 3 percentage points, around one percentage point more than its long-term reduction (see Table 3.1).

0.00 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 -0.50 -1.00 per cent -1.50 -2.00 -2.50 Real gross value added (GDP/GSP) — Real consumption — Employment (hours)

Figure 3.1 Effects of TFES Wihdrawal on Tasmanian GSP, consumption and employment (deviation from baseline)

Real public and private consumption growth rates deviate below their 2005-06 baseline growth rates as a result of the negative deviation in Tasmanian incomes. A reduction in Tasmanian demand also leads to negative deviations in both interstate and international imports into Tasmania. As expected, the removal of the TFES subsidy results in a sharp negative deviation of 5 per cent in Tasmania's interstate exports. However, there is a positive short-run impact on the State's international exports. A reduction in primary factor costs that accompanies the slowing in the State's economy reduces the costs of supplying the international export market. Thus, there is some diversion of the interstate exports priced out of mainland markets to overseas markets. This effect is quite strong in 2005-06, but gradually diminishes over time, although it persists to a small degree in the long-run (see Table 3.1).

As capital stocks adjust, the growth rate of the Tasmanian economy continues to deviate more negatively from its baseline forecast. This is demonstrated in Figure 3.1

that shows the time path of the percentage deviations for Tasmanian GSP, real (private) consumption, and employment. It can be seen, however, that the economy has not fully adjusted to the withdrawal of the TFES by 2014-15. As employment is the most variable factor, it undertook much of its adjustment early, and by 2014-15 has a negative deviation of 1.98 per cent compared with a long-run deviation of 2.08 per cent (see Table 3.1). However, the slow speed of adjustment of the capital stock means that the negative deviation in Tasmanian GSP has only reached about 85 per cent of its long term deviation by 2014-15 (-1.79 per cent compared to 2.07 per cent).

The time paths for the deviations in other Tasmanian macroeconomic variables are shown in Figure 3.2.



Figure 3.2: Effect of TFES on other Tasmanian Macroeconomic Variables (deviation from baseline)

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Review of the Tasmanian Wheat Freight Scheme

Prepared for the Department of



Agriculture, Fisheries and Forestry–Australia

FINAL REPORT

Centre for International Economics Canberra & Sydney

March 2001

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REVIEW OF THE TASMANIAN WHEAT FREIGHT SCHEME

5.4 Changes in Commonwealth assistance payable under the TGFS relative to the status quo Assuming no change to 1999-2000 tonnages

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Glossary

AFFA	Agriculture, Fisheries and Forestry-Australia
ASW	Australian Standard White (wheat)
AWB	Australian Wheat Board
CIE	Centre for International Economics
DOTF	Department of Treasury and Finance (Tasmania)
DPIE	Department of Primary Industries and Energy (former)
DPIWE	Department of Primary Industries, Water and Environment (Tasmania)
FCL	full container load
RFE	rail freight equivalent
TFES	Tasmanian Freight Equalisation Scheme
TGEB	Tasmanian Grain Elevator's Board
TGFS	Tasmanian Grains Freight Scheme
TW	terminal to wharf
TWFS	Tasmanian Wheat Freight Scheme
WT	wharf to terminal
WW	wharf to wharf

Executive summary

Background to the review

On 15 November 2000 the Federal Minister for Agriculture, Fisheries and Forestry, the Honourable Warren Truss MP, announced an independent review of the Commonwealth's Tasmanian Wheat Freight Scheme (TWFS). The Centre for International Economics (CIE) was commissioned to undertake the review.

In keeping with the terms of reference, the following issues are evaluated in this report.

- Can the TWFS be justified in economic terms?
- Should it continue?
- What are the benefits, costs, and overall impacts of the TWFS on Tasmanian wheat users, downstream industries, and the community in general?
- Are there alternative ways of achieving the Scheme's objectives?

The TWFS provides freight assistance to offset the cost of shipping wheat from the mainland to Tasmania in bulk and in containers. The Scheme dates back to 1953 when it was introduced as a means of equalising price for wheat in Tasmania and the mainland. While the policy of an equalised home consumption price was removed in 1989, the TWFS was continued in order to allow a transitional period for Tasmanian wheat users to adjust to deregulated wheat marketing.

The TWFS is funded with an appropriation from Commonwealth consolidated revenue. The amount of assistance has been phased down from an initial 1989 level of \$3.6 million (nominal value) to the current level of \$1.2 million. At present, the TWFS offsets approximately 80 per cent to 100 per cent of freight costs, depending on the quantity of wheat imported.

In the broader context of freight assistance, the Commonwealth government also provides financial support to Tasmania through the Tasmanian Freight Equalisation Scheme (TFES). The objective of this scheme is to provide Tasmanian industries with equal opportunities to compete in mainland markets, recognising that, unlike their mainland counterparts, Tasmanian shippers do not have the option of transporting goods interstate by road or rail.

Whilst the TFES does not provide assistance to wheat freight, it is nevertheless relevant to this review because the scheme delivers assistance to containerised imports of processed wheat products from the mainland that compete with Tasmanian products. In addition, the TFES provides assistance to containerised shipments of grains that are substitutes to wheat in the production of stockfeed. This review is undertaken in the context that TFES arrangements are fixed.

Tasmanian demand for wheat and other grains

Approximately 40 000 to 55 000 tonnes of wheat is imported by Tasmania from the mainland each year with assistance from the TWFS. About half of this tonnage is hard quality wheat, which is processed by the state's sole flour mill in Launceston. The other half is feed quality wheat, which is used as stock feed by numerous animal industries. The imported grain supplements Tasmania's domestic production of 20 000 tonnes of wheat. Approximately 370 persons are directly employed by primary wheat-using industries.

The flour mill is dependent on mainland wheat because there is little scope for Tasmania to produce commercial quantities of hard wheat that is suitable for flour milling. The potential for expanding the local production of feed quality wheat is more positive. However, it is unlikely that Tasmania would be able to totally replace imports of feed wheat because the scale of expansion that would be required is limited by agroclimatic and economic factors.

Anomalies of current assistance arrangements

The current arrangements for grain freight assistance produce a number of anomalies. These anomalies arise because the TWFS and TFES schemes have different frameworks for determining eligibility and assistance rates. This is despite the fact that all grains have similar characteristics with respect to transport and handling. The main anomalies are:

 there is no logical basis for determining the level of assistance for wheat under the TWFS. In contrast, assistance under the TFES is

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determined on the basis of a cost-disadvantage principle, which is transparent and defensible;

- the 'fixed sum assistance' provided by the TWFS causes assistance rates to vary from year to year depending on the level of wheat imports. Perversely, in drought years when the demand for feed wheat is greatest, the rate of assistance is lowest;
- under existing arrangements, assistance is available for freighting wheat in bulk but not for freighting other grains in bulk. To the extent that container freight is more costly than bulk, the TFES is supporting an inefficient method of transport for grains; and
- business investment in Tasmania is potentially undermined by the uncertainty surrounding TWFS arrangements.

These anomalies have perpetuated because the two assistance schemes, since their inception, have been reviewed independently of one another. In order to rectify the inconsistencies, this review of the TWFS focuses on the design of a common framework for determining assistance to wheat and other grains.

A framework for grains freight assistance

Cost disadvantage and the land bridge concept

In this review it is proposed that freight assistance to all grains, including wheat, be determined on the basis of the cost disadvantage incurred by Tasmanian industries due to the necessity to import grain by sea across Bass Strait. This policy would bring wheat in line with other commodities that receive assistance under the TFES.

Under the TFES, the concept of a land bridge is used to measure the cost disadvantage. The size of disadvantage is defined as the difference in sea freight costs for the transport of goods between northern Tasmania and mainland Australia, and the notional freight cost associated with moving the same goods an *equivalent distance* by rail or road (approximately 420 kilometres) across a conceptual land bridge.

The land bridge concept is appealing because it provides a clear, logical basis to establishing a measure of cost disadvantage. In addition, our consultations revealed that it has widespread acceptance among industry groups in Tasmania. Most parties we spoke to believe that the new TFES is a fair and reasonable scheme.

Principles for determining assistance

The definition of cost disadvantage, as outlined above, excludes any disadvantage related to the 'tyranny of distance'. This is in keeping with the principle that assistance to Tasmania should be limited to the additional freight costs that this state incurs due to the necessity to ship goods by sea rather than by land. Compensating for distance is not recommended as there are many other regional areas in Australia, such as Darwin, that are disadvantaged due to distance from sources of grain, yet these regions do not receive freight assistance.

The other principle underpinning the TFES is that shippers are only compensated for the cost disadvantage associated with the least-cost option for transporting grain to Tasmania. Thus, more expensive transport modes or routes are assisted at a rate determined by the least-cost option.

Cost assessment of grain transport options

The majority of wheat is shipped to Tasmania in 'mini bulk' loads of 7000 tonnes. A lesser quantity (10 to 20 per cent of imports) is shipped in containers. Whilst container freight is generally more expensive than bulk freight, containers are an attractive option to some wheat users because they offer greater flexibility in terms of storage and the ability to spread grain purchases over time.

Before taking assistance into account, the typical cost of shipping wheat in bulk from a major Victorian country grain terminal to Devonport, in northern Tasmania, is \$69.60 per tonne. The cost of freighting wheat between these same two points in containers is estimated to be \$92.20 per tonne.

If a land bridge existed between Geelong and Devonport, wheat could be transported by rail from the country terminal to Tasmania for \$57.70 per tonne. Therefore, the cost disadvantage associated with bulk and container wheat freight is estimated to be \$11.90 and \$34.50 per tonne respectively.

It is recommended these principles be adopted for determining assistance to wheat and other grains.

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Do the existing freight assistance schemes off set the cost disadvantage?

Last financial year, the rate of assistance available for wheat freight under the TWFS was \$23.00 per tonne for bulk and container shipments. At this assistance rate, and on the basis of the land bridge concept and associated principles, Tasmanian firms are being *overcompensated* by \$11.10 per tonne for bulk shipments. In other words, assistance is at a level whereby Tasmanian firms are paying less freight than mainland firms for freighting wheat, in bulk, over an equivalent distance.

Furthermore, the assistance delivered to container shipments of other grains under the TFES is promoting an inefficient method of transport. Shippers currently receive \$34.00 per tonne assistance for non-wheat grain shipped in containers, which effectively puts the container rate below the unassisted bulk freight rate. Therefore, shippers have no incentive to use bulk freight, despite it being a cheaper option than unassisted container freight.

Policy options evaluated by the review

Option 1: Retain the status quo

A continuation of existing assistance arrangements for wheat and other grains would perpetuate that inconsistencies and inefficiencies that currently prevail. In summary, these are:

- an arbitrary rate of wheat freight assistance that lacks a sound basis and produces uncertainty for Tasmanian wheat users;
- over compensation to Tasmania for bulk shipments of wheat; and
- perverse incentives to shippers of other grains to use container freight, which is an inefficient method of grain transport.

For these reasons it is recommended that the existing arrangements for wheat freight assistance be revised.

Option 2: Discontinue assistance to wheat

This option is rejected on the grounds that it is illogical to single wheat out and treat it separately from other grains that receive assistance under the TFES. The review finds that bulk shipping of wheat does incur a cost disadvantage so it should not be exempted from assistance.

Furthermore, significant distortions would be introduced if the TWFS was abolished and no alternative assistance provided to wheat. It would trigger an increase in the quantity of TFES imports of other grains, flour, and stockfeed from the mainland, which could undermine the viability of some wheat using businesses and increase the burden on the TFES budget.

The review recommends against abolishing wheat freight assistance altogether.

Option 3: Discontinue assistance for bulk wheat freight but retain container assistance

This option involves the removal of the TWFS and the inclusion of container shipments of wheat as an eligible commodity under the TFES. If this policy were adopted, it would encourage an influx in container shipments of wheat to Tasmania as the effective rate for containers would lie below the bulk freight rate. This is an undesirable outcome because it would promote an inefficient method of transport. If all the wheat currently being imported in bulk was shipped in containers, the added cost to the TFES scheme would be approximately \$1.4 million per annum.

The review recommends against incorporating container shipments of wheat into the TFES without making provisions for bulk freight assistance.

Option 4: The proposed Tasmanian Grains Freight Scheme

With this option, it is proposed that a single scheme be established for delivering freight assistance to grain, referred to henceforth as the Tasmanian Grains Freight Scheme (TGFS). This policy would involve:

- abolishing the TWFS;
- removing grains from the TFES; and
- establishing a new, consolidated scheme that would provide freight assistance to all grains on the basis of the cost disadvantage principle.

Under this scheme, assistance would be available for both container and bulk shipments of grain. However, the level of assistance would be determined on the basis of the cost disadvantage associated with bulk grain shipments from a Victorian country terminal to Devonport which, for wheat, is estimated to be \$11.90 per tonne. The advantages of this option are as follows:

- it would encourage Tasmanian shippers of grain to use the more efficient method of bulk freight instead of container shipments;
- assistance would be calculated using a uniform and defensible method for all grains;
- the policy would bring wheat assistance into line with the methods used by the TFES to determine assistance; and
- given the commonalties between the proposed scheme and the TFES, there could be future prospects for merging the administration of the two schemes.

The basic principle of the proposed TGFS has widespread support among stakeholders. The review team consulted extensively with interested parties and there was unanimous support for an amalgamated scheme for grains, with assistance for cost disadvantage being underpinned by the principle of a land bridge.

The content of this report provides guidance as to how the proposed scheme might be implemented. However, the operational details of the TGFS would need to be developed in further consultation with stakeholders. In particular, it will be necessary to take into account the implications that the scheme might have for the Commonwealth Department of Transport and Regional Services.

It is recommended that, subject to further consultation, the TWFS be replaced with an amalgamated scheme that would deliver freight assistance to all grains according to the cost disadvantage principle. This policy would require 'other grains' to be removed from the TFES and included as an eligible commodity in the new TGFS.

Benefit-cost analysis of the proposed Grains Freight Scheme

The proposed TGFS would impact on Tasmanian wheat-using industries via an increase in the price of wheat imported from the mainland. Under the TGFS, the landed wheat price would increase by \$11.10 per tonne, which is equivalent to a 4 to 5 per cent increase on current price. It is expected that the local price of Tasmanian wheat would also increase by the same amount. The price of other grains would remain unaffected because shippers would be able to ship these grains in bulk at an effective freight rate equal to today's rate for container shipments. A value-chain analysis was used in this study to estimate the impact of the TGFS on wheat using industries in Tasmania. The worst-case scenario is the situation whereby industries have no capacity to adjust to higher wheat prices and therefore must absorb completely the extra cost. These circumstances apply to firms who cannot use wheat substitutes or pass on costs up the value chain. Under this scenario, the reduction in value added is estimated to be \$0.8 million per annum. Tasmanian wheat growers would stand to gain \$0.2 million due to higher prices for wheat, and the Commonwealth government would make a cost-saving of \$0.65 million in assistance payments.

Consultations with key industry stakeholders revealed that most businesses have the capacity to make adjustments, which would minimise the impact of a 5 per cent increase in wheat price. These adjustments include marginal changes to output levels, output pricing, labour inputs, and the substitution of wheat for other grains. Some animal industries could adjust by importing processed stockfeed from the mainland or using greater quantities of other grains in feed rations.

When adjustments are allowed for, the loss in value added to Tasmanian wheat users is estimated to be significantly less than \$0.8 million. Benefits to wheat growers would be less than \$0.2 million, as a consequence of lower demand for wheat. The cost-saving to the Commonwealth in assistance is estimated to be \$0.5 million. This estimate assumes that Tasmania reduces its demand for mainland wheat by 25 per cent and replaces 15 per cent of its flour and stockfeed production with imports from the mainland. These shifts in demand are not 'hard and fast' results, but are based on an informed assessment of the adjustment capacity of Tasmanian industries.

Introduction

Background to the review

On 15 November 2000 the Federal Minister for Agriculture, Fisheries and Forestry, the Honourable Warren Truss MP, announced an independent review of the Commonwealth's Tasmanian Wheat Freight Scheme (TWFS). The Centre for International Economics (CIE) was commissioned to undertake the review.

The TWFS was last reviewed in 1993 by the former Commonwealth Department of Primary Industries and Energy (DPIE). This current review takes into account developments since that time. In keeping with the terms of reference, the following issues are evaluated in this report:

- can the TWFS be justified in economic terms;
- should it continue;
- what are the benefits, costs, and overall impacts of the TWFS on Tasmanian wheat users, downstream industries, and the community in general; and
- are there alternative ways of achieving the Scheme's objectives?

This report is an outcome of the review, which has involved extensive consultation with interested parties and the consideration of views expressed in verbal and written submissions to an initial discussion paper that canvassed the main issues relating to the TWFS.

Historical origins of the TWFS

The TWFS was initially introduced in 1953 as part of Australian wheat marketing legislation. The original objective of the scheme was to equalise the price for wheat in Tasmania with that on the mainland, consistent with the administered domestic pricing arrangements set out by the wheat marketing legislation at that time. These arrangements guaranteed an equalised home consumption price. The philosophy of the day was that Tasmanian consumers should have access to staple foods (bread, eggs, milk and meat) served h

at similar prices enjoyed by mainland consumers (Interstate Commission 1985). The subsidy was funded by a consumer levy on all sales of wheat within Australia. The funds raised by the levy were used by the former Australian Wheat Board (AWB) to meet the cost of transporting wheat from mainland ports to Tasmanian ports.

These arrangements remained in force until 1989, at which time wheat marketing was deregulated and administered pricing was removed. However, a revised form of the TWFS was retained with the objective of:

providing freight assistance on wheat shipments to Tasmania, subject to threeyearly review, to allow a transitional period for Tasmanian industries to adjust to wheat marketing changes. (DPIE 1993, p. 5)

The Commonwealth department responsible for administering the scheme is Agriculture, Fisheries and Forestry-Australia (AFFA).

Since the revisions in 1989, the TWFS has been funded with an appropriation from Commonwealth consolidated revenue. The amount of assistance has been phased down from an initial level of \$3.6 million (nominal 1989 value) to the current level of \$1.2 million. The terms and conditions of the scheme allow freight and handling costs associated with both bulk and containerised shipments of wheat to be eligible for assistance. At present, the TWFS offsets approximately 80 per cent to 100 per cent of freight costs, depending on the quantity of wheat imported.

Numerous Tasmanian industries benefit from TWFS assistance. Approximately 40 000 to 55 000 tonnes of wheat are imported by Tasmania from the mainland each year with assistance from the scheme. About half of this tonnage is processed by the state's sole flour mill in Launceston with the remainder used as a feed input by a variety of animal industries. A detailed profile of these industries is contained in chapter 2.

The Tasmanian Freight Equalisation Scheme

In reviewing the TWFS, it is necessary to take into account the Tasmanian Freight Equalisation Scheme (TFES) which is managed by the Commonwealth Department of Transport and Regional Services. The TFES is relevant to this review because the scheme delivers assistance to imports from the mainland that compete with Tasmanian wheat-based products such as flour and processed stockfeed. Furthermore, the TFES provides assistance to grains that are substitutes to wheat in the production of stockfeed. The scheme was introduced in 1976 with the objective of providing Tasmanian industries with equal opportunities to compete in mainland markets, recognising that, unlike their mainland counterparts, Tasmanian shippers do not have the option of transporting goods interstate by road or rail. Commodities eligible for 'northbound' assistance include goods produced or manufactured in Tasmania for use or sale on the mainland. 'Southbound' assistance is available for nonconsumer raw materials imported from the mainland for use in the manufacturing, mining, agricultural, forestry, and fishing industries.

Wheat is explicitly excluded from the scheme because it is covered by the TWFS. In addition, bulk shipments of goods are not eligible for compensation as it is generally accepted that the cost disadvantage associated with bulk freight is negligible. That is, bulk freight rates are deemed to be costcompetitive with land freight. The implication of these exemptions is that bulk imports of grains other than wheat do not receive assistance.

While it is beyond the terms of reference of this review to recommend changes to the TFES or to question the general principle of providing freight assistance to Tasmania, this review does investigate the interrelationships between the TFES and TWFS.

Anomalies in assistance arrangements

The existing arrangements for delivering freight assistance produce some significant anomalies with regard to grain transport. These anomalies arise because the TWFS and TFES schemes have different frameworks for determining eligibility and assistance rates, despite the fact that all grain types have similar characteristics with respect to transport and handling. The main anomalies are:

- there is no logical basis for determining the level of assistance for wheat under the TWFS. Unlike the TFES, which is based on a costdisadvantage principle, the \$1.2 million of assistance provided by the TWFS is an arbitrary amount;
- the 'fixed sum assistance' provided by the TWFS causes assistance rates to vary from year to year depending on the level of wheat imports. Perversely, in drought years when the demand for feed wheat is greatest, the rate of assistance is lowest;
- under existing arrangements, assistance is available for freighting bulk wheat but not for freighting other grain in bulk. To the extent that container freight is more costly than bulk, the TFES is supporting an inefficient method of transport for grains; and

 business investment in Tasmania is potentially undermined by the uncertainty surrounding the continuation of the TWFS, as opposed to the TFES which is 'taken as given'.

It is important to note that in the past these schemes have been reviewed independently, and this has exacerbated the inconsistencies between the two schemes. In order to remove these inconsistencies, this review focuses on the design of a common framework for determining assistance to wheat and other grains.

A framework for grains freight assistance

A recent review of the TFES recommended major changes to the way assistance is determined within the scheme. On 1 July 1999 these recommendations were incorporated into a new TFES structure, and assistance is now calculated on the basis of a 'cost disadvantage' principle. This principle is appealing because it has a clear, logical basis. Our consultations revealed that it also has widespread acceptance amongst industry groups in Tasmania. Most parties we spoke to believe that the new TFES is a fair and reasonable scheme.

This review of the TWFS is undertaken in the context that TFES arrangements are fixed, at least in the medium term.

Cost disadvantage and the land bridge concept

The TFES defines the cost disadvantage experienced by Tasmania as the difference in sea freight costs for the transport of goods between northern Tasmania and mainland Australia, and the notional freight cost associated with moving the same goods an equivalent distance (approximately 420 kilometres) across a conceptual land bridge. The land bridge concept is used to establish a 'land freight equivalent' which serves as a benchmark against which to measure the amount of assistance required to offset the freight disadvantage.

There are two important elements embodied within this definition of cost disadvantage. Firstly, the 'tyranny of distance' is not a factor in determining the size of disadvantage. In other words, assistance is only available to cover the additional handling and freight costs associated with sea freight as opposed to land freight. Secondly, assistance is only available to offset the disadvantage associated with the shortest, least cost journey between mainland Australia and Tasmania.

In this review it is proposed that the land bridge concept be applied to determine the level of assistance payable to Tasmanian firms for wheat freight. This would bring wheat under the same umbrella as other grains (which fall under the TFES scheme) and remove the uncertainty and ambiguity currently associated with the TWFS. In our consultations with Tasmanian industry groups and other stakeholders we found that there is substantial 'in principle' support for this proposal. However, the parties concerned were not willing to 'sign off' on anything until details of the proposal were disclosed.

Tasmanian wheat using industries

Tasmanian demand for wheat and other grains

Tasmania imports 45 000 to 55 000 tonnes of wheat from the mainland each year for flour milling and to supplement the local supply of feed wheat for various animal industries. Last year local production was in the vicinity of 20 000 tonnes (ABS 2000). The amount of imported wheat varies from year to year depending on the seasonal conditions in Tasmania. Dry seasons trigger an increased demand for stockfeed, which is met by imports of feed quality wheat and other grains. In 1999-2000 approximately 72 000 tonnes of wheat was used in Tasmania, 72 per cent of which was imported.

Tasmania's demand for wheat has declined by 30 to 40 per cent since mid-1990 due to the closure of a number of flour mills and the demise of the starch industry (chart 2.1). Up until 1996, 27 000 tonnes of wheat was used by Tasman Starches Pty Ltd to produce starch and gluten. The starch was an input to the manufacture of paper at Tasmania's pulp mills, while the



2.1 Tasmanian wheat imports

Data source: AFFA, pers. comm., February 2001.
gluten was exported to the United States. Discussions with industry sources revealed that the starch factory closed because of factors that were independent of the TWFS and the declining levels of assistance available under this scheme. The main factors responsible were:

- the availability of price-competitive supplies of starch from the mainland;
- depressed prices for gluten; and
- a tightening of restrictions on the factory's effluent discharge.

Wheat demand by industry group

The approximate proportion of wheat used by each industry group in Tasmania is shown in chart 2.2. The state's flour mill in Launceston accounts for 27 per cent of all wheat used in Tasmania. It processes 20 000 tonnes per year, all of which is high protein milling wheat sourced from the mainland. A similar proportion of wheat (29 per cent) is used by the dairy, pig and grazing industries in feed rations. The third and fourth largest users are the poultry meat (20 per cent) and egg industries (13 per cent). Smaller users are Tasmania's aquaculture and beef feedlot operations which, respectively, account for 5 per cent and 6 per cent of demand. The demand by these intensive industries is largely unaffected by seasonal conditions.

The approximate proportion of wheat that is imported from the mainland and sourced locally by each industry group is summarised in table 2.3. The flour mill depends entirely on wheat from the mainland as locally grown wheat is not suitable for bread making. Thus, 40 per cent of all imported wheat is milled for flour. The remaining 60 per cent is combined with locally grown wheat and used as stockfeed. Wheat used by the animal industries is either fed out to animals as whole grain or is processed and mixed into a feed ration, either by a stockfeed mill or on-farm.

Industry supply chain

A supply chain for the main wheat-using industries in Tasmania is outlined in chart 2.4. With the exception of the flour mill, wheat is just one of a number of inputs in a production process. Many of the animal industries and stockfeed mills combine wheat with other grains, meals and protein to make up a feed ration. The supply chain illustrates:

- the range of sources from which industries obtain their wheat and other grain requirements;
- inter-industry linkages;



- goods from the mainland that compete with Tasmanian wheat-based products; and
- the end consumers of wheat-based products.



2.2 Proportion of wheat used by Tasmanian industries in 1999-2000

Data source: CIE estimates.

2.3 Tonnages of wheat used by Tasmania industries in 1999-2000

Industry	Imported	Domestic	Total
	t	t	t
Flour mill	20 000	nil	20 000
Stockfeed mills			
Cambridge aquafeed mill	4 000	nil	4 000
Carrick stockfeed mill (Pivot)	3 500	6 500	10 000
Longford stockfeed mill (Inghams)	8 000 8	8 000	16 000
Livestock industries (whole grain)			
Tasmanian Feedlot Pty Ltd.	2 820	1 880	4 700
Dairy, piggeries, and graziers	na	na	9 200
Poultry meat and eggs	na	na	8 500
Total	52 000	20 400	72 400

na = not available.

Source: CIE estimates.



Industry profiles

Flour milling

A single flour mill operates in Tasmania and is located in Launceston. The mill employs 21 people and processes 20 000 tonnes of wheat per year, constituting 17 000 tonnes of hard wheat and 3000 tonnes of ASW. This grain is sourced entirely from the mainland in bulk with freight assistance from the TWFS. The wheat is purchased through Pivot Grain and AWB Ltd.

Annual production from the mill is 16 000 tonnes of flour and 4000 tonnes of mill-run (a by-product). The flour is sold exclusively on the domestic Tasmanian market, 11 000 tonnes as a bulk product and the remainder is sold in 25 kilogram bags. The gross value of flour sales is approximately \$7.3 million. The mill-run by product is used as an ingredient in stockfeed rations at the Carrick feed mill, which is also operated by Pivot. The mill-run is valued at \$121 per tonne or \$0.46 million. Therefore, the total gross value of production from the mill is \$7.7 million.

The Pivot flour mill is the sole supplier of bulk flour in Tasmania. Bulk flour is used by three major bakeries, two of which are owned by Pivot and the other is operated by Goodman and Fielder. These bakeries have installed equipment to handle flour in bulk as it is a more efficient receival method compared to handling flour in bags. However, smaller bakeries and food manufacturers rely on bagged flour. The Pivot mill has an 85 per cent share of the bagged flour market, with the other 15 per cent held by Westmans and Goodman & Fielder, who import bagged flour from the mainland with assistance from the TFES.

Approximately 5400 tonnes of flour and bread mixes were imported under the TFES in 1999-2000 (TFES Statistics 2000). The mill manager from Pivot informed the review team that the mill is operating at the threshold in terms of being able to compete with imports of bagged flour. However, it is observed that the Tasmanian mill has a competitive edge over flour imports in that it can supply the bulk flour market. There may be scope for the mill to price-discriminate on these grounds.

Stockfeed milling

Two stockfeed mills operate in Tasmania with a combined estimated turnover of \$19 million per annum. The Pivot mill at Carrick produces 30 000 tonnes of stockfeed per year. Approximately 18 000 tonnes (60 per cent) of output from the Pivot mill is sold to the dairy industry. The other main user is the egg and poultry industry, which takes about 4500 tonnes (15 per cent). The dairy product line contains about 30 per cent wheat, while poultry rations contain about 68 per cent wheat. Other ingredients in these rations include protein meals, barley, and mill run which is sourced from Pivot's flour mill. The Pivot mill processes 10 000 tonnes of feed grade wheat, 35 per cent of which is imported from the mainland and 65 per cent of which is sourced locally.

The other feed mill is located at Longford and is operated by Inghams Pty Ltd. The mill processes 16 000 tonnes of wheat per annum, 50 per cent of which is imported from the mainland. The other half is locally produced. Total output from this mill is 24 000 tonnes, 83 per cent of which is used in Inghams poultry enterprise. The balance is sold as stockfeed to the dairy industry.

Aquaculture industry

Aquaculture is an expanding industry in Tasmania, particularly the production of Atlantic salmon. Commercial output is over 7000 tonnes, worth about \$65 million in gross value. The industry obtains the majority of its feed rations from an aquafeed mill in Cambridge which, until recently, was owned by Pivot Ltd. Wheat comprises about 10 per cent of the ration, with fish oil and fish meal making up the rest of the product. The aquaculture industry uses 4000 tonnes of hard wheat each year, all of which is imported from the mainland in containers. Hard wheat is preferred over ASW and other types of grain because of its high protein content.

Poultry and egg industries

The largest producer of poultry meat in Tasmania is Inghams who produce five million birds per annum, all of which are sold to Tasmanian consumers. The other main producer is Nicholls Poultry who produce 600 000 birds per annum, also for the domestic market. Approximately 75 per cent of Tasmania's total consumption of chicken meat is produced within the state. The remainder is sourced from the mainland.

It is estimated that the Tasmanian poultry meat industry uses 15 200 tonnes of wheat, which constitutes 20 per cent of total wheat demand in Tasmania. Inghams obtains its feed rations from its mill in Longford. Other producers either mill and mix their own rations on-farm or buy it premixed from a stockfeed agent. The industry employs 250 full time persons and annual output is estimated to be worth \$32 million gross value at first stage processing. The Tasmanian egg industry comprises 200 000 laying hens, 90 per cent of which are held by 10 main producers. Collectively, these firms produce approximately 4.5 million dozen eggs per annum for the local market. Only a small quantity of eggs (15 000 dozen) are imported from the mainland, and these are used for producing egg pulp. The majority Tasmanian product is sold to Tasmanian supermarkets as whole eggs. The gross value of production is estimated to be \$10 million, and the industry provides direct employment for 100 people.

The wheat requirement for the egg industry is estimated to be 10 000 tonnes. Of this total, 2750 tonnes is processed and mixed into rations at the Pivot stockfeed mill. The other 7250 tonnes is raw grain that is milled onfarm by egg producers. Like the poultry meat industry, wheat makes up a large proportion (68 per cent) of the feed ration. Therefore, the egg and poultry meat industries are major beneficiaries of TWFS assistance.

Beef feedlot

A single beef feedlot is operated in Tasmania, and is owned by a Japanese interest, Aeon Group. The feedlot turns off 8000 bullocks per annum, which are slaughtered at an abattoir in Longford. This level of production equates to 1320 tonnes of boned out beef, almost all of which is exported to the Japanese market. Gross turnover is approximately \$11 million and the feedlot employs 18 people. There are plans to expand the output to 10 000 bullocks.

The feedlot uses 12 300 tonnes of grain, of which 4700 tonnes is wheat. 60 per cent of this wheat is imported in bulk from the mainland and the remainder is sourced through contracts with local growers. The other grains in the ration are barley (4500 tonnes) and triticale (3100 tonnes). The majority of this grain is sourced from local growers. The feedlot has 6000 tonnes of on-farm grain storage and the rations are milled and mixed onsite.

Dairy, piggeries, and graziers.

It is estimated that the dairy, pig, and grazing industries collectively used 20 500 tonnes of wheat in 1999-2000, or 29 per cent of all wheat consumed in Tasmania. The quantity of wheat used by the dairy and grazing industries is variable, depending on seasonal growing conditions in Tasmania. The demand for supplementary feed is greatest during drought years, particularly for sheep and beef. A dry season generally increases the requirement for imported wheat by 10 000 tonnes.

The dairy industry has increased its use of grain as a feed source over the past 20 years in order to increase output. In 1999-2000 it is estimated that the dairy industry accounted for 12 000 tonnes of wheat used in Tasmania.

The annual demand for wheat by the pig industry is less variable as grains are the primary source of nutrition in this enterprise. The majority of pig producers mill their own rations on-farm, using a combination of local and mainland wheat. The demand for wheat by the Tasmanian pig industry has been declining since the early 1990s due to the industry downsizing. This adjustment has been caused by:

- low national pork prices;
- the availability of price-competitive product from Canada; and
- the annual importation of 20 000 live pigs into Tasmania from the mainland with assistance from TFES.

The availability of low-priced imported pork and bacon has eroded the price-premium that Tasmanian producers used to enjoy relative to imported meat which had the cost of freight factored in. The current industry constitutes about 25 pig farmers, with the majority of production from fewer than 40 herds.

Potential for expansion of Tasmanian wheat production

Extensive consultations were conducted with agronomists and industry experts to ascertain whether there is potential for hard quality wheat to be grown in Tasmania. It appears that there is little or no scope for Tasmania to produce commercial quantities of hard wheat that is suitable for flour milling. A considerable amount of research effort has gone into experimenting with different hard varieties of wheat but with limited success. The grain produced from these trials is not of satisfactory quality, or the quality is too inconsistent and unreliable for four milling. Consultations with Pivot Ltd revealed that it would not be economical for the flour mill to use grain of this quality because it would require extra processing, blending and segregation.

The potential for expanding the feed wheat industry is more positive. The Grains Research and Development Corporation is currently investing \$780 000 over five years in a project with the CSIRO which breeds for highyielding, rust-resistant winter wheat varieties suited to different regions of high rainfall zones, including Tasmania. Four varieties have recently been released from the project, including Gordon and Tennant, which were taken up by Tasmanian grain growers during the last cropping season. 13

Yields of 4.5 tonnes per hectare are common on the better soil types in high rainfall areas of the state. This makes wheat an attractive economic proposition as a break crop in rotation with poppies.

In recent years there has been a significant increase in the amount of wheat grown in Tasmania. Chart 2.5 shows that wheat output has increased from an average of 7000 tonnes to approximately 20 000 tonnes. However, discussions with Tasmanian agronomists revealed that this increase is due mainly to cereal growers shifting out of malting barley and into wheat, rather than a net increase in the production of cereals. Growers have opted out of barley in recent years because the varieties grown in Tasmania have had quality problems which has led to the crop being downgraded to feed grade.

The potential for further expansion of the feed wheat industry is constrained by a variety of agroclimatic and economic factors.

Agroclimatic constraints

Soil types

Wheat requires a well-drained, fertile soil to achieve yields that are economically competitive with other enterprises. Of all the cereals, wheat is the most sensitive to adverse soil conditions. Approximately one third of Tasmania is used for agricultural purposes with an extreme range of soil types from some of the most fertile in the world (krasnozem soils of the



2.5 Cereal production in Tasmania

Data source: ABS (2000).

north west coast) to low fertility shallow duplex soils. The majority of agricultural land falls into the latter category. Thus, the area available for reliable wheat cropping is severely limited.

Frost

The incidence of frost in low-lying areas of Tasmania is frequent, particularly during late spring when wheat is most vulnerable to damage.

Rainfall

Approximately half the arable land has a predominantly winter rainfall of less than 600 millimetres. The lack of growing season rainfall, combined with soils that have extremely poor water holding capacity, limits the expanion of cereal cropping in Tasmania.

Steepness of terrain

The Tasmanian landscape is not amenable to broad-scale cropping because paddocks are relatively small and terrain is steep. These conditions make it difficult to operate machinery. Furthermore, the cropping of hillsides presents a soil erosion risk.

Economic constraints and other factors

One of the most significant limitations to expanding the wheat industry is the competitive returns that can be obtained from other crops such as poppies and potatoes. For example, the gross margin for poppies ranges between \$1500 and \$3100 per hectare depending on rainfall zone. In comparison, the gross margin for wheat on equivalent soil types ranges from \$295 to \$325 per hectare (table 2.6). Therefore, while wheat is frequently used as a break-crop in rotation with poppies, it is not the primary economic driver of the rotation.

Enterprise	Yield	Price	Enterprise output	Variable costs	Gross margin
	t/ha	\$/t	\$/ha	\$/ha	\$/ha
High rainfall districts					
Processing potatoes	50.0	191	9 550	4 057	5 493
Poppies	2.5	1 640	4 100	982	3 118
Processing peas	5.8	340	1 972	683	1 289
Longbow wheat	4.5	170	765	441	324
Low rainfall districts					
Processing potatoes	50.0	191	9 550	4 245	5 305
Poppies	1.5	1 640	2 460	876	1 584
Narrow leaf lupins	4.0	230	920	581	339
Longbow wheat	4.0	170	680	385	295

2.6 Crop gross margins 1999-2000

Source: Tasmanian DPIWE (2000).

In regions that have not traditionally supported cropping, farmers are reluctant to shift into cropping. For many of these farmers it would be uneconomical to invest in new machinery, and the availability of contractors is very limited. Furthermore, cropping requires a whole set of new skills and involves a different lifestyle compared to that associated with animal enterprises. Another factor that was raised in consultation with industry groups is the uncertainty associated with contract payments for wheat. Tasmania does not appear to have a well-organised system for forward contracts, and this could be responsible for some farmers deciding to opt out of growing wheat. Efforts are being made to rectify this situation by some wheat using businesses, such as Inghams and Pivot. These firms are offering contracts to local farmers.

Impact of the TWFS

The question arises as to whether the TWFS is having an adverse impact on the domestic wheat industry. In the short-term it is expected that if freight assistance on wheat is removed, the price of local wheat would increase by an amount equivalent to the freight assistance. However, this upward adjustment could be short-lived if the demand for wheat by Tasmanian industries was reduced as a consequence of the higher prices they face for wheat imported from the mainland. Assumptions about the shifts in demand for each wheat-using industry are made in chapter 5, which contains a detailed assessment of the impacts of reducing freight assistance to wheat.

Potential substitutes for wheat

In reviewing the impact of changes in the level of wheat freight assistance, it is necessary to examine how the production processes of wheat-using industries would be affected. This requires an understanding of the following:

- to what extent is wheat an essential input for processing firms in Tasmania; and
- are there other inputs that can be used as substitutes for wheat?

Flour milling

After widespread consultation with key people in Tasmania and on the mainland, it is clear that Tasmania does not have suitable agroclimatic conditions to produce hard wheat of a satisfactory quality for flour milling, at least not on a commercial scale. The quality of locally produced wheat is too variable to represent an economically viable alternative to importing hard wheat from the mainland. Therefore, the flour mill does not have the flexibility to substitute out of imported wheat if freight assistance was reduced.

Intensive animal industries

The stockfeed manufacturers and intensive animal industries have greater flexibility than the flour mill with respect to the utilisation of wheat substitutes. If necessary, most of the intensive animal industries have the option to reduce their dependence on wheat by:

- changing the ration mix and substituting wheat for other grains or meals;
- importing ready-mixed processed feed from the mainland with assistance from TFES; or
- supplementing the local production of animal products with produce from the mainland.

In meetings with Pivot and Inghams, the review team was advised that feed mills frequently change the ratio and types of ingredients in their feed products in response to changes in the price of grains and other inputs. In the case of poultry and dairy rations, there is scope for wheat to be partially substituted for barley and triticale, both of which are grown locally in Tasmania. Wheat is currently the preferred ingredient because of its higher nutritional value and competitive price. However, if the cost of importing wheat from the mainland was to rise, there is the potential to supplement wheat with other grains and protein additives. Indeed, Tasmania already imports about 38 000 tonnes of other grains from the mainland, some which is processed into feed rations (table 2.7). About 15 000 tonnes of this grain is shipped in containers and receives assistance from the TFES (TFES Statistics 2000).

Another alternative is for animal industries to import ready-mixed processed feed from the mainland. There is evidence that this is already occurring in some industries, such as the poultry industry. In the last calendar year, 1440 tonnes of processed feed was imported from the mainland in containers (TFES Statistics 2000). In consultations with the poultry industry, it was revealed that poultry feed is being imported to Tasmania from New South Wales with TFES assistance, and retails at a price that is competitive with poultry feed produced in Tasmania.

For some firms, a third option is to supplement local production of animal products with unprocessed produce from the mainland. For example, Inghams has the option of importing frozen whole birds from the mainland with assistance from TFES and undertaking further processing at their plant in Sorell. It is conceivable that eggs and other meat products could similarly be imported. Clearly, this strategy would reduce the amount of value adding that takes place in Tasmania.

Grazing industry

The grazing industry also has some flexibility with respect to its reliance on wheat. If the costs of obtaining wheat were to increase for farmers, an optimal strategy in dry years could be to destock rather than carry the stock through the summer and incur the cost of supplementary feeding. Alter-

Grain type	
	t
Barley	19 006
Oats	8 273
Soya meal	2 377
Lupins	5 400
Canola	1 914
Triticale	1 221
Sorghum	115
Other	250
Total	38 556

2.7 Tasmanian imports of grains other than wheat from the mainland in 2000^a

^a Includes container and bulk shipments.

Source: Australian Quarantine and Inspection Service, pers. comm., February 2001.

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natively, there may be a greater incentive for farmers to invest in on-farm grain storage as a mechanism for minimising drought risk. Grain could be grown on-farm or be sourced from other growers in Tasmania.

From discussions with the Tasmanian Farmers and Graziers Association, it appears that graziers are reluctant to build on-farm storage because droughts are relatively infrequent in Tasmania. However, in a submission received from the Tasmanian Department of Primary Industries, Water and Environment (DPIWE) it is stated that on-farm storage has increased substantially since the drought of the mid-1990s. It seems that there is some capacity for graziers to improve their preparedness for drought.

In summary

- Most industries have the capacity substitute wheat, to varying degrees, for other grains should Tasmanian firms be required to pay the full cost of wheat freight (table 2.8).
- The exception is the flour milling industry, which does not have access to alternative sources of hard wheat.
- Some Tasmanian wheat-using businesses face competition from imports of end-products from the mainland, which receive freight assistance from the TFES (table 2.8).
- The industries facing the greatest competition from imported products are the stockfeed mills and the flour mill.

Industry	Quantity of wheat used	Size of industry (annual turnover)	Substitution possibilities	Level of competition from imported goods
	t	\$ m		
Flour mill	20 000	7.7	Nil	High
Stockfeed mills	26 000	19.0	Some	High
Aquafeed mill	4 000	57.0	Some	Low
Aquaculture	4 000	65.0	Some	Low
Poultry meat	15 200	32.0	Some	Moderate
Eggs	10 000	10.0	Some	Moderate
Beef feedlot	4 700	10.9	Some	Nil
Dairy	12 000	138.0	Many	Moderate
Pigs	3 500	10.4	Some	High
Grazing	5 000	210.0	Many	Low

2.8 Summary of key characteristics of wheat using industries in Tasmania

Source: CIE estimates.

Shipping cost assessment

Transport modes and pathways

Wheat is transported from the mainland to Tasmania in containers and in 'mini-bulk' loads, typically 7000 tonnes per shipment. The passage of wheat to Tasmania via these methods is illustrated in chart 3.1. The diagram traces the movement of wheat from the farm gate on the mainland to the customer in Tasmania. An example is depicted in which farmers deliver their wheat to a major country receival terminal in Victoria, where it is stored temporarily before being freighted by rail to an export terminal some 400 kilometres away. The main Victorian export terminal is Geelong.

Wheat destined for Tasmania is also sourced from New South Wales. High protein wheat suitable for flour milling is usually sourced from Port Kembla and Newcastle, while grain from Geelong is usually only suitable for feed. JP Shipping provides a bulk shipping service (MV Enterprise) that is capable of delivering 7000 tonnes of grain in one shipment. The hold of the ship can be segregated into four separate 1750 tonne compartments, which allows different types of grain to be carried in one shipment. The ship discharges its entire load at Devonport on Tasmania's north coast.

The shipping of wheat in containers generally involves additional handling relative to bulk because the grain must firstly be packed into containers at a grain terminal before being trucked a short distance by road to the container wharf (chart 3.1). There are several shipping lines that transport containerised grains. In recent years, some wheat has been sourced from Western Australia to take advantage of competitive grain prices in that state and low-cost freight rates that were achievable due to back-loading arrangements. Depending on the shipping line and customer requirements, the containers are delivered to the Tasmanian ports of Hobart, Burnie, Devonport, and Bell Bay. They are then forwarded to the customer by road or rail.







Factors influencing choice of transport mode

The majority of wheat is shipped to Tasmania in bulk, although up to 20 per cent of total imports has been transported in containers in recent years. The choice of transport mode by shippers is influenced by a number of factors, including:

- the effective freight rate (after assistance)
- storage and handling costs
- the price of grain available from a given mainland port
- the level of convenience offered by each method
- the level of grain consistency required by customers
- grain inspection costs.

Bulk freight has a number of advantages over containers. It is generally a cheaper mode of transport and it delivers grain of consistent quality, which is important for the production of flour. Furthermore, bulk shipments allow quarantine inspections to be carried out more efficiently, and at lower cost, relative to individual containers.

On the other hand, container freight is appealing to some customers because it offers greater flexibility than bulk. Firstly, purchases can be spread over a longer period of time, which means that users can make strategic purchases of low-priced grain rather than committing to a bulk purchase. Secondly, containers enable users to avoid the cost of maintaining a large grain inventory. A third benefit of container freight is that it allows users to order relatively small quantities of a specific type, or quality, of wheat that may be unavailable in bulk. However, discussions with Tasmanian firms revealed that this is not a major consideration as most wheat types can be obtained in bulk.

Storage and handling in Tasmania

The Tasmanian Grain Elevator's Board (TGEB) is responsible for the majority of grain storage in Tasmania, including both imported and domestic grain. It also coordinates the logistics of delivering grain to customers. The TGEB operates three storage centres which are located at Devonport wharf (11 000 tonnes), Launceston (11 400 tonnes) and new facilities at Bridgewater (2520 tonnes). Bulk wheat delivered to Devonport is either storage on the wharf or freighted by road to one of the other storage centres or delivered directly to the flour mill in Launceston. Often this onforwarding is undertaken while the bulk ship is discharging as the capacity

at Devonport is insufficient to handle the entire shipment as the silos are also used to store grain that is produced locally.

Three shippers use the services of the bulk vessel, MV Enterprise, to transport bulk wheat to Tasmania. Pivot Ltd imports wheat for use in its flour mill and stockfeed businesses. AWB Ltd lands wheat in Tasmania to fulfil orders taken by the TGEB. The third shipper is Inghams Enterprises Pty Ltd, which imports wheat for use in its Longford feed mill. The TGEB provides storage, handling, and delivery services for these shippers.

AWB Ltd and Pivot are also responsible for most of the container shipments of wheat into Tasmania. Pivot imports containers of feed wheat to Devonport, which are then railed to Launceston and forwarded by road to the Pivot stockfeed mill at Carrick. Purchases of containerised wheat by the TGEB are generally delivered to Hobart, then freighted by road to Bridgewater silos for storage. In recent years some container wheat has also been delivered to Bell Bay and Burnie, then hauled by road to Launceston and Devonport respectively.

During the 1990s significant changes were made to the handling and storage of grain in Tasmania. These changes were stimulated by the revised TWFS that was introduced in 1989, as the new arrangements put a cap on the level of assistance. Restrictions on the total amount of assistance available have encouraged the TGEB to seek out low-cost methods of meeting Tasmania's demand for mainland wheat. Up until 1995, shipments of bulk wheat were discharged at three Tasmanian ports: Devonport, Launceston, and Hobart. At this time, a bulk vessel called the River Torrens was in service. It had a hold capacity of 27 000 tonnes, almost four times the capacity of the ship presently used. The larger cargo meant that it was not possible to discharge the ship at a single port. The necessity to visit three ports added to the total cost of freighting wheat.

These arrangements changed in the mid to late 1990s, coinciding with the closure of the flour mills at Hobart and Devonport. A smaller ship, the MV Express, replaced the River Torrens and deliveries of bulk wheat to Hobart ceased. Further efficiency gains in storage, handling, and distribution were made in 1997 when Tasmania moved to a single-port discharge, with all bulk wheat being delivered to Devonport. At about the same time, the MV Express was replaced with the MV Enterprise, which has an even smaller capacity than the MV Express.

To complement these changes in shipping and discharge, a new storage facility was built by the TGEB at Bridgewater. As a consequence of these changes, total storage capacity has been reduced by 20 per cent but the new



system is more flexible because each storage centre can handle multiple segregations of grain. Another consequence of this rationalisation is that freight rates have decreased, in real terms, by 50 per cent over the period 1989-90 to 1998-99 (chart 3.2). The increase in rates depicted in 1999-2000 is due to the lower fuel efficiency attained by the MV Enterprise relative to the MV Express, which was removed from the Bass Strait route in 1997.

Cost assessment of transport options

In this section of the report comparisons are made between the cost of freighting wheat to Tasmania by sea (in bulk and container) as opposed to transporting wheat by rail over a conceptual land bridge. This approach is taken as a means of establishing the size of cost disadvantage incurred by Tasmanian wheat users relative to firms on the mainland.

Importantly, the cost disadvantage measure only includes the higher per kilometre freight rate and extra handling costs associated with sea transport relative to land transport. It does not include any disadvantage related to distance. This is in keeping with the principle that there are many other regions in Australia, such as Darwin, that are disadvantaged due to their distance from sources of grain, yet do not receive assistance. Therefore, the case for assistance to Tasmania is founded on the basis that this state is separated from the mainland by sea and consequently incurs additional costs not experienced by mainland users.



3.2 Efficiency improvements in bulk wheat freight since 1989-90^a

^a Real values (2001 dollars). ^b 'Other costs' include inward and outward wharfage, discharge, stevedoring and port charges.

Data source: AFFA, pers. comm., February 2001.

Chart 3.3 sets out a basis for calculating and comparing the cost of sea freight versus rail freight over an equivalent distance. A sensible and logical basis for this assessment is to assume that, in both cases, grain is delivered by growers to a major Victorian country receival terminal then freighted through to a receival terminal at Devonport wharf. The relevant set of costs for comparison are those that are incurred between these two points. The costs incurred in getting grain from the farm gate to the Victorian receival terminal are identical for land and sea options so these costs cancel out. Similarly, the costs of freighting grain by rail or road from Devonport to customers in Tasmania are irrelevant to the analysis because these costs would be incurred regardless of whether or not a land bridge existed.

The series of costs associated with each transport option are identified in chart 3.3. In the case of sea freight, additional costs are incurred by shippers due to the necessity to deliver grain to an export terminal, load the ship, and discharge at Devonport. By contrast, the option of freighting grain by rail across a land bridge avoids these extra handling costs because wheat could, conceptually, be freighted directly to Devonport. The land bridge option is akin to the situation faced by a flour mill in Melbourne which sources hard wheat from a grain terminal in New South Wales. Typically, the wheat would be railed from New South Wales to a domestic terminal in Victoria, then hauled by road to the customer.

The land bridge concept is a reasonable approach for measuring a 'rail freight equivalent' (RFE) because Tasmania is separated from the mainland by Bass Strait. Rail rather than road is assumed to be the appropriate mode of transport for estimating a 'freight equivalent' because rail is generally more economical than road haulage over distances greater than 150 kilometres.

Costs associated with bulk sea freight

An itemised breakdown of the relevant costs associated with the bulk sea freight option is given in Appendix B. These estimates were obtained from a telephone survey of shippers, freight forwarders, and the major shipping line responsible for bulk wheat freight to Tasmania.

The items are grouped into two components:

- costs associated with the movement of wheat on the mainland from a country receival terminal to the wharf; and
- costs associated with shipping wheat from the mainland wharf to the terminal at Devonport.





3.3 A basis for establishing the size of cost disadvantage associated with sea freight relative to land freight

The terminal to wharf (TW) component is the cost of transporting wheat 400 kilometres by rail from a major Victorian country grain terminal to Geelong export terminal. This cost is estimated to be \$29.50 per tonne. The wharf to terminal (WT) component includes the sea freight (or blue water costs) and handling costs associated with loading and unloading the ship at Geelong and Devonport wharves respectively. This component of the journey is estimated to cost \$40.10 per tonne.

The cost of storing wheat at Devonport cancels out of the analysis because it is not a cost that is specific for Tasmanian users. It is contended that the necessity to ship wheat to Tasmania by sea does not (or should not) impose additional storage costs on Tasmanian firms relative to mainland users. That is, mainland customers also incur storage costs. Those customers who are located on a rail siding generally obtain wheat in bulk and store it on their premises, at cost to their operation. Other firms who are located at a distance from the rail network obtain wheat in smaller quantities by road freight from a centralised grain terminal. These firms relegate the storage function to the operators of the grain terminal.

Another way of looking at this is that the cost of storage at Devonport, for most Tasmanian customers, would be the same whether wheat is shipped or transported by rail via a conceptual land bridge. That is, the storage cost at Devonport cancels out when differences in transport costs are assessed.

Costs associated with container sea freight

Appendix B contains a summary of the costs involved in container freight. The total cost of the terminal to wharf (TW) component is \$50.50 per tonne. This figure is based on wheat being transported 400 kilometres from a major Victorian country receival centre to a domestic terminal, where the containers are packed before being freighted by road to a Melbourne container wharf. The cost of the WT component is \$41.70 per tonne, which is similar to that of bulk shipping. The total cost of the whole freight task is \$92.20 per tonne.

It is concluded that, in most cases, container freight is a more expensive method of transport than bulk as it involves extra handling on the mainland and higher quarantine inspection fees. However, in discussions with shippers it became evident that some shippers are able to reduce the size of these costs by up to \$15 per tonne by sourcing container wheat directly from country sidings. While it is acknowledged that this practice does take place, the majority of containers pass through the 'normal' channels set out in chart 3.1.

An estimate of the cost disadvantage

The size of cost disadvantage suffered by Tasmanian firms is measured by the difference between the cost of the sea freight option (bulk or container) and the cost of the land bridge option. The cost disadvantage (CD), or appropriate level of assistance, is given by the following formula:

CD = (TW + WT) - RFE

The cost of the land bridge option represents the RFE. The land bridge option involves an 820 kilometre direct journey by rail from the mainland grain terminal to Devonport terminal (chart 3.3). This is a single terminal-to-terminal journey and no intermediate costs are involved. Based on these assumptions, the RFE is estimated to be \$57.70 per tonne (Appendix B).

The size of cost disadvantage for container and bulk shipments is calculated by substituting this estimate of RFE into the formula together with the estimates for TW and WT cost components calculated for each shipping task. Thus, the CD for wheat shipments sourced from Victoria is:

 $CD_{bulk} = (29.50 + 40.10) - 57.70 = \11.90

 $CD_{cont.} = (50.50 + 41.70) - 57.70 = 34.50

It is proposed that the CD estimate for bulk freight is the appropriate rate of assistance payable to shippers of wheat to Tasmania. In keeping with the principle of only subsidising freight costs for the least-cost route, wheat sourced from ports other than Melbourne or Geelong should not receive additional assistance. As it happens, this qualification has negligible impact on assistance payable because the per kilometre rail and sea freight costs associated with other routes do not vary significantly with distance. This finding is at least true for wheat sourced from Eastern Australia.

The CD estimates demonstrate that there is a non-zero disadvantage associated with shipping wheat in bulk. A similar finding is expected to apply to other grains. This finding is important because it undermines the rationale for excluding bulk shipments of other grains as an eligible commodity in the TFES scheme. In discussions with shipping lines it was revealed that the 'mini-bulk' loads of grain shipped to Tasmania (less than 10 000 tonnes) do not achieve the same efficiencies of scale that apply to 'true' bulk freight in excess of 50 000 tonnes.

4

Existing assistance arrangements for grain freight

THIS CHAPTER CONTAINS AN OVERVIEW of the current arrangements for delivering freight assistance to grains. Firstly, the operational details of the TWFS and TFES are summarised. In the second part of the chapter, the rates of assistance provided by each scheme are examined to determine whether the schemes over or under compensate for the freight disadvantages reported in chapter 3.

Operational aspects of the TWFS

The TWFS scheme resides within the portfolio of the Commonwealth Department of Agriculture, Fisheries and Forestry–Australia (AFFA). The Tasmanian DPIWE is responsible for the management and administration of funds provided under the scheme. The procedure for administering the assistance is outlined in box 4.1.

The TGEB plays a central role in managing the process of payments to claimants as the TGEB holds funds in a trust account. Claimants lodge their claims to the DPIWE, which, in turn, instructs the TGEB to pay the claimant. The claimants constitute shippers (for example, Pivot Ltd, AWB Ltd and Inghams Pty Ltd) and the TGEB itself, which is eligible for assistance to offset its costs of discharging grain from the bulk ship.

The TGEB is a business enterprise wholly owned by the Tasmanian government, so all dividends and taxes associated with the business are paid to the Tasmanian government. Whilst the TGEB is not considered core business of government, it is understood that a review of the TGEB in 1996 recommended against privatisation as this would result in the formation of a private monopoly.

4.1 Procedure for administering the TWFS

- 1. AFFA makes assistance payments to the Tasmanian Department of Treasury and Finance (DOTF) in four instalments per year.
- 2. DPIWE advises claimants of the assistance rate applying to the current financial year based on forecasts of total grain imports.
- 3. The TGEB requests funds from the DOTF.
- 4. The DOTF pays the funds to the TGEB who hold the funds in a trust account.
- 5. Claimants lodge a claim with DPIWE who, in turn, instructs the TGEB to pay the claim.

Level of assistance

The terms and conditions of the scheme allow the freight and handling costs associated with both bulk and containerised shipments of wheat to be eligible for assistance. Assistance is available for any sea route from the mainland to Tasmania. Specifically, the eligible cost items are:

- inward and outward wharfage
- sea freight costs
- stevedoring
- bulk wheat discharge costs incurred by the TGEB.

Costs not covered by the Scheme include ship loading charges and storage costs incurred at mainland and Tasmanian ports. Furthermore, administration costs associated with the Scheme can not be recovered from the TWFS fund.

The amount of assistance delivered by the TWFS has declined since 1989-90 (chart 4.2). Over the first five years of the revised Scheme, the amount of assistance was phased down by 25 per cent from \$3.6 million in 1989-90 to \$2.7 million in 1993-94. Further reductions were made in subsequent years. In 1996-97 the level of assistance was set to \$1.2 million, and it has remained at this level to the present day. Forward budget estimates allow for this level of assistance to continue (in nominal terms) subject to this review.

Because the amount of assistance is a fixed sum, the per tonne rate of support varies from year to year depending on the quantity of wheat imported. That is, the per tonne level of assistance declines in years when imports are high. For example, the assistance rate for bulk shipments has varied by \$23.00 to \$27.00 per tonne over the last four years (chart 4.3). In most years approximately 100 per cent of eligible costs of bulk freight are

covered by the Scheme. In 1999-2000 when Tasmania experienced a dry season, the proportion dropped to 80 per cent.

The assistance rate for containers has historically been higher than that for bulk freight, and the proportion of eligible costs lower, because container freight is a more expensive method of shipping. However, in 1999-2000 the assistance rate for the two shipping methods converged to a single rate of \$23.00 per tonne.



4.2 Annual assistance provided by the TWFS over the last 10 years

Data source: AFFA, pers. comm., February 2001.





Data source: Tasmanian DPIWE (1997-2000).

Operational aspects of the TFES

The TFES has recently undergone a major review that recommended changes to the way assistance is determined. On 1 July 1999 these recommendations were incorporated into a new TFES structure, and assistance is now calculated on the basis of a 'cost disadvantage' formula (TFES Review Authority 1999). The size of disadvantage, and hence the level of assistance, is determined by the difference between the cost of sea freight and the cost of road freight over a conceptual land bridge. Only the disadvantage associated with the least-cost route between the mainland and Tasmania is compensated. The notional entitlement (NE) for a claimant is given by:

NE = (WW + FC) - RFE

where:

- WW is the wharf to wharf freight rate paid by the claimant;
- FC is the fixed costs associated with handling grain at either end of the sea journey that are not included in the WW freight rate. Set to a notional \$100 per FCL (full container load); and
- RFE is the road freight equivalent, set at \$281 per FCL.

The current WW rate for shipping grain in containers from Melbourne to Devonport is \$959 per FCL. Thus, the assistance available to shippers under the TFES for container freight is \$778 per FCL (that is, 959 + 100 - 281). Assuming that the capacity of a FCL is 23.00 tonnes, the assistance rate is \$34 per tonne.

Is the cost disadvantage off set by the existing assistance schemes?

The TWFS

Under the TWFS firms currently receive \$23.00 per tonne, while the cost disadvantage is estimated to be just \$11.90. Therefore Tasmania is being overcompensated by \$11.10. In other words, assistance is at a level whereby Tasmanian firms are paying less freight than mainland firms for freighting wheat, in bulk, over an equivalent distance. Chart 4.4 illustrates this point. The effective freight rate for bulk wheat lies below the RFE.

In the case of container wheat, the TWFS does not fully compensate for the cost disadvantage. The disadvantage associated with container freight is estimated to be \$34.50 per tonne, while assistance under the TWFS is

\$23.00, which leaves a gap of \$11.50. The third bar in chart 4.4 illustrates this situation.

The TFES

In contrast to the TWFS, the TFES fully compensates for the freight disdvantage associated with container shipments of non-wheat grains (chart 4.4). This finding comes as no surprise as TFES assistance is determined on the basis of cost disadvantage. The amount of TFES assistance currently payable for containerised grains is currently \$34 per tonne. This rate is approximately equal to the cost disadvantage calculated for container wheat freight using the land bridge principle discussed in chapter 3.

Under the TFES, bulk shipments of grain are ineligible for assistance. This provides a perverse incentive for firms to use container freight, which is estimated to be 30 per cent more expensive than bulk freight before assistance. The incentive is created because, after assistance, container freight is 16 per cent less expensive than bulk freight (chart 4.4). The existing arrangements therefore promote an inefficient method of grain transport.



4.4 Current freight rates and levels of assistance for grain

Data source: CIE estimates.

Key points

- Tasmanian firms are being overcompensated by \$11.10 per tonne for bulk shipments of wheat under the TWFS.
- The TFES rate of assistance completely off-sets the freight disadvantage associated with container shipments.
- The existing arrangements promote an inefficient method of grain transport because, with the exception of wheat, assistance is not available for bulk transport of grains.

5

Evaluation of alternative policy options

FOUR POLICY OPTIONS are considered by this review. In this chapter each of the options are described, and the pros and cons are evaluated. One of the options is put forward as a preferred model for freight assistance. The costs and benefits of this alternative are examined in detail in the second half of the chapter.

What are the options?

The four options considered by the review are to:

- 1. retain the status quo;
- 2. discontinue the TWFS and do not provide any assistance to shipments of wheat to Tasmania;
- discontinue the TWFS but include container shipments of wheat as an eligible commodity under the TFES;
- 4. establish a new scheme for grains freight assistance which brings all grains under a single, common framework.

The first three options are self-explanatory but the fourth option requires some elaboration. With this option it is proposed that a new assistance scheme for grains be established to replace existing arrangements for wheat and other grains under the TWFS and TFES. This would involve:

- abolishing the TWFS;
- removing grains from the TFES;
- establishing a new, consolidated scheme that would provide freight assistance to all grains on the basis of the cost disadvantage principle; and
- providing a single, flat rate of assistance to grains that is determined on the basis of the cost disadvantage associated with the least cost option (that is, bulk freight).

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A variation on this option of a consolidated scheme would be a policy that maintains the TWFS and TFES intact but applies the cost disadvantage principle for determining wheat freight assistance, such that wheat is treated similarly to other grains that are shipped under the TFES. The main drawback of this option is that bulk shipments of 'other grains' would continue to be ineligible for assistance, thereby perpetuating the inefficiencies associated with shipping grain in containers (see chapter 4).

Evaluation of the options

Option 1: The status quo

A continuation of existing arrangements would perpetuate the inconsistencies and inefficiencies referred to in previous chapters of this report. These are:

- over-compensation to Tasmania for bulk shipments of wheat under the TWFS;
- perverse incentives to shippers to import non-wheat grains in containers, as bulk does not receive assistance under the TFES. This is a costly policy because container freight is an inefficient method of transport relative to bulk freight; and
- uncertainty associated with the continuation of the TWFS which undermines the investment confidence of businesses in Tasmania.

Option 2: Discontinue assistance to wheat

Significant distortions would be introduced if the TWFS was abolished and no alternative assistance provided to wheat. If this option was adopted, it is expected that the tonnages of other grains imported to Tasmania with assistance from the TFES would increase considerably as a result of animal industries replacing their wheat requirements with other feed grains. A doubling of the current tonnages to 31 000 tonnes would cost the Commonwealth government an additional \$0.5 million per annum in TFES assistance. Similarly, the quantities of processed stockfeed and flour imported from the mainland are likely to increase if wheat freight assistance is discontinued.

In addition to these distortions, it would be illogical to single out wheat whilst other grains continue to receive TFES assistance. Such a policy would be ill-conceived because it would ignore the reality that wheat freight is not dissimilar to other grains in that it does incur a cost disadvantage. For these reasons, the review concludes that the removal of wheat freight assistance altogether is a non-viable option.

Option 3: Discontinue assistance for bulk wheat freight but retain container assistance

This option is rejected on the grounds that there is no logical basis for exempting bulk wheat freight from assistance, as grain shipments transported using the 'mini bulk' method described in this report do incur a cost disadvantage. Furthermore, if container shipments of wheat became eligible for assistance under the TFES, it is likely that this would cause an influx in the amount of wheat being imported in containers. If all the wheat currently being imported in bulk was shipped in containers, the added cost to the TFES scheme would be \$1.4 million per annum.

Option 4: The proposed Tasmanian Grains Freight Scheme

With this option, it is proposed that a single scheme be established for delivering freight assistance to grain, referred to henceforth as the Tasmanian Grains Freight Scheme (TGFS). Under this scheme, assistance would be available for both container and bulk shipments of grain. However, the level of assistance would be determined on the basis of the cost disadvantage associated with the *least-cost option* for freighting grain to Tasmania. Therefore, to the extent that bulk freight continues to be the least-cost option, the level of assistance would be a flat rate, set equal to the difference between the bulk freight rate and the RFE.

Chart 5.1 illustrates the standard rate of assistance that would apply to container and bulk shipments of wheat and other grains under this policy. With reference to chapter 3, the assistance rate is set to the cost disadvantage associated with bulk freight, which is \$11.90 per tonne. This rate is calculated based on wheat freight. For other grains a 10 to 15 per cent upward adjustment would be required to allow for the fact that other grains have a higher stowage factor than wheat.

The proposed TGFS has a number of advantages over the other options. These are:

- the policy would encourage Tasmanian shippers of grain to use the more efficient method of bulk freight instead of container shipments;
- assistance would be calculated using a uniform and defensible method for all grains, thereby removing the arbitrary nature by which assistance is currently determined for wheat under the TWFS. This would

provide Tasmanian users with a predictable and transparent mechanism for determining their entitlements; and

 the policy would bring wheat assistance into line with the principle of cost disadvantage that underpins the TFES. Given the commonalties between the proposed scheme and the TFES, there could be future prospects for merging the administration of the two schemes.



5.1 Assistance under the proposed TGFS

Data source: CIE estimates.

Does the proposal set a precedent for bulk freight assistance?

Bulk shipments of commodities are excluded from the TFES on the grounds that bulk freight is cost competitive with land freight. Therefore, even if a land bridge existed between the mainland and Tasmania, it is reasoned that these commodities would be transported by bulk sea freight. It has been suggested to the review that the provision of freight assistance to bulk shipments of 'other grains' could set a precedent for other bulk commodities such as fertiliser and alumina to be considered for freight assistance. The gap in this argument is that the vessels used to ship these goods are up to 10 times larger than the bulk ship used to transport grain into Tasmania. Thus, the efficiencies associated with bulk shipments of fertiliser and alumina are significantly greater than grain shipments, and there would be no case for extending bulk freight assistance to these commodities.

Would the proposal place additional demands on the Commonwealth assistance budget?

One of the implications of the proposed TGFS is that total assistance for wheat freight would no longer be capped at a predetermined amount, as is the case under the TWFS. Instead, it would fluctuate with Tasmania's demand for wheat from the mainland. This is not considered to constitute a budgetary risk for the Commonwealth government because, given most of Tasmania's wheat-using industries produce goods for the Tasmanian market, it is unlikely that wheat demand will grow significantly in the foreseeable future.

With respect to 'other grains', the introduction of assistance to bulk shipments of this commodity is not expected to induce an increase in grain imports, or subsequent increase in assistance payments. Rather, it is expected that the scheme would only induce a shift out of containers and into bulk freight, as the effective rate for bulk would be lower than the effective container rate. Furthermore, the 'new' rate for bulk would be equal to the effective rate that currently exists for shipping containers under the TFES, so there would be no incentive to for Tasmania to increase grain imports from the mainland.

Implementation of the TGFS

Benchmark parameters

The proposed TGFS would be relatively straightforward to implement. It would involve estimating benchmark estimates of freight rates for bulk and container shipments of grain and a rail equivalent rate using the land bridge concept. The benchmark estimates would require updating annually. In order to minimise implementation costs, this task could be underaken in conjunction with the updates that are currently conducted for the TFES.

Whilst information on the differential between bulk and container rates is not essential for implementing the scheme, it would be desirable to monitor the costs of these shipping methods so as to allow for the possible situation where container rates become less expensive than bulk. While this scenario is unlikely, a submission received from Holyman Shipping Pty Ltd states that substantial economies of scale could be achieved if large parcels of grains were moved in containers.

Assistance payments

Under the proposed TGFS assistance payments would be made to claimants on the basis of tonnages of grain imported from the mainland. As the proposed scheme delivers a flat rate of assistance, claimants would only be required to submit records of the tonnages of grain transported to Tasmania, by grain type. Where the cost of different components of the freight task are incurred by multiple parties, it would be necessary to consolidate these costs and arrange for one party to submit a claim for the entire freight task. Payments could be administered by Centrelink.

It would be desirable to build in a mechanism that provides an incentive to shippers to seek out the least cost options for transporting and handling grain. For instance, the TFES delivers assistance according to a sliding scale where assistance is reduced at the margin for claimants whose claim exceeds a median freight rate. It would be difficult to implement this system for the TGFS because at present there is only one shipping line that handles bulk grains and only three shippers.

A possible compromise would be to review the scheme at five-year intervals and examine whether the efficiencies achieved in the shipping and handling of grain are comparable with other commodities. If a divergence was observed between the cost of grain freight and other commodities, steps could be taken to peg down the assistance rate. The freight rates and cost disadvantage applying to other commodities could be used as a guide to this adjustment.

Stakeholder feed back on the proposed TGFS

The basic principle of the proposed TGFS scheme has widespread support among stakeholders. The review team consulted extensively with interested parties and there was unanimous support for an amalgamated scheme for grains, with assistance for cost disadvantage being underpinned by the principle of a land bridge. A submission received from Grains Council of Australia recommends a similar approach.

However, there are some differences in view about the operational details of a consolidated scheme for grains. The main point of contention is whether a differential rate of assistance should be applied to container and bulk freight, corresponding to the different size of cost disadvantage associated with these transport methods. A joint submission representing the views of seven Tasmanian industry parties proposes a policy that is fundamentally the same as the TGFS, with the exception that a differential rate of assistance be delivered to container and bulk freight. In brief, the submission proposes that:

- the TWFS scheme be dismantled and, in its place, a scheme be devised which provides assistance to bulk shipments of wheat and other grains. Assistance under this scheme would be determined on the basis of the bulk freight cost disadvantage (relative to a RFE); and
- assistance for containerised grains, including wheat, continue to be provided under the TFES. It is proposed that Section 10.1(f) of the Directions for the Operation of the TFES be amended to remove the exemption of wheat.

The proponents of the submission believe that container shipments of grains should remain as eligible commodities within the TFES, as this would support those specialist users who require small quantities of a particular type or quality. It is argued that these firms do not have access to these grain types within the bulk system and, therefore, would be disadvantaged if assistance for grain was determined on the basis of a bulk freight cost disadvantage.

The review rejects this line of reasoning on two counts. Firstly, it departs from the logic that Tasmanian firms should only be compensated by an amount equal to the difference between the RFE and the *least-cost option* for transporting grain. Secondly, the TGEB has indicated that there is sufficient flexibility in the shipping and storage system to deliver small parcels of grain, of specific quality, to customers.

Costs and benefits of the proposed TGFS

Cost to Tasmanian industries

The introduction of the proposed TGFS would impact on wheat-using industries via an increase in the price of wheat. Under the TGFS, price would increase by \$11.10 per tonne, equivalent to a 4 to 5 per cent increase on the current delivered price of wheat. The price of other grains would remain unaffected because shippers would be able to ship these grains in bulk at an effective freight rate that is equivalent to today's rate for container shipments. The proposed changes to grains freight assistance are assumed to have no effect on the rates of TFES assistance currently available for imports of competing products such as flour and stock feed. The economic impost to Tasmanian wheat users caused by an increase in wheat price is equal to the sum of losses in value added across all affected industries. Value added is defined as the gross value of production less all production costs. In this study, a value chain analysis was undertaken to estimate the losses experienced by each industry. Impacts can also be measured in terms of losses in employment. Approximately 370 persons are directly employed by industries that rely heavily on wheat as an input to production. These industries include the flour mill, stockfeed mills and the poultry industry.

The value chain analysis involved categorising industries into two groups: Primary users and secondary users (table 5.2). Primary users include those firms that undertake first-stage processing of wheat, for example the flour and feed mills. Secondary users are 'higher up' in the value chain. These firms use the outputs of primary users as inputs to production. For example, the poultry industry is a secondary user of wheat because it uses wheat-based feed rations produced by the feed mills.

Some industries listed as secondary users in table 5.2 use both processed wheat and whole grain. The dairy industry falls into this 'grey category' as cows are fed both wheat grain and a processed ration containing wheat. Other producers, such as pig farmers, either mill and mix their own rations on-farm or purchase premixed rations from a feed mill. Table 5.3 summarises, by industry, the proportion of total wheat inputs that are used in the form of whole grain versus processed feed.

Industry	Total quantity of wheat used	Wheat purchased as whole grain	Wheat purchased as part of a ration	Wheat as a per cent of total production cost	Estimated value added	Direct employment
	t	%	%	%	\$m	No.
Primary users						
Flour mill	20 000	100	0	70	0.8	21
Animal feed mills	26 000	100	0	20-40	3.0	50
Aquafeed mill	4 000	100	0	20.10	15.0	30 45
Beef feedlot	4 680	100	0	10	1.5	
Secondary users						
Grazing industries	5 000	70	30	4	00.0	
Poultry meat industry	15 200	7	03	14	30.8	na
Egg industry	10 000	70		14	10.7	200
Aquaculture industry	4 000	,2	20	24	1.8	100
Dainy industry	13 000	0	100	< 1	10.0	560
Pig inductor	12 000	30	70	2	18.9	2000
	3 500	60		8	1.6	400

5.2 Estimated value added of Tasmanian wheat using industries and the significance of wheat as an input to production

Source: OIE estimates


Primary wheat users are the most sensitive to a change in wheat price. For an industry at this stage of the value chain, the size of impact is governed by:

- the proportion of the industry's total production costs that are attributable to wheat inputs;
- the industry's dependence on wheat as an input, which is a function of whether or not the industry can substitute wheat for other inputs primarily other grains and protein supplements; and
- the industry's ability to pass on higher input costs to customers, which is determined by the level of competition in the market place for the industry's product(s).

Secondary users are generally less affected by higher wheat prices because these firms have access to a wider array of substitutes and wheat typically constitutes a smaller proportion of total production costs.

Impacts assuming no adjustment

The worst-case scenario is the situation whereby industries have no capacity to adjust to higher wheat prices and therefore must absorb completely the extra cost. These circumstances apply to firms who cannot use wheat substitutes or pass on costs up the value chain. Under this scenario, the reduction in value added is estimated to be \$0.8 million per annum (table 5.3). These estimates are based on the following assumptions:

- the price of imported and local wheat increases by \$11.10 per tonne;
- users do not change their current level of wheat inputs; and
- the cost to secondary users (that is, animal industries) is limited to the extra cost associated with purchasing wheat grain at a higher price. The purchase price of processed stockfeed does not change as the feed mills absorb the price increase.

The losses under this scenario represent an upper-bound cost of the TGFS policy to Tasmanian industry. No employment losses are modelled because it is assumed that the industries absorb the additional cost without changing the level of inputs. The critical question is whether the loss in value added would cause individual industries to become non-viable. In the case of the flour mill, the increase in wheat price is estimated to reduce annual profits by 30 per cent to \$570 000. The continued viability of the mill at this level of surplus would depend on the mill's equity position.

The ongoing viability of the stockfeed mills is less at risk because losses in value added are estimated to be about 10 per cent. However, the full implications of this reduction would require a detailed analysis of the financial position of two stockfeed firms. The aquafeed mill and the beef feedlot are each expected to suffer an annual loss of approximately \$50 000. A loss of this magnitude is not expected to jeopardise the operations of these businesses.

Impacts assuming adjustment

A more realistic scenario is the situation whereby industries adjust to increases in wheat price by substituting wheat for other inputs, by passing on the price increase to second-stage processors, or reducing the amount of labour inputs. Indeed, Tasmanian businesses are already accustomed to seasonal fluctuations in the price of wheat that far exceed the 5 per cent change estimated to occur under the proposed TGFS. When these adjustments are allowed for, it is estimated that the total impact of the TGFS to Tasmanian industries would be significantly less than \$0.8 million per annum.

The flour mill has the least capacity to make adjustments. An \$11.10 per tonne increase in the price of wheat would add \$14.20 to the cost of producing a tonne of flour. There may be scope for this cost to be passed on to bakeries by increasing the price of bulk flour as there are no competing

Industry	Wheat purchased as whole grain	Loss in value added	
	t	\$ per annum	
Primary users			
Flour mill	20 000	222 000	
Animal feed mills	26 000	288 600	
Aquafeed mill	4 000	44 400	
Beef feedlot	4 680	51 948	
Sub total	54 680	606 948	
Secondary users			
Grazing industries	3 500	38 850	
Poultry meat industry	1 064	11 810	
Egg industry	7 250	80 475	
Aquaculture industry	0	0	
Dairy industry	2 100	39 960	
Pig industry	3 600	23 310	
Sub total	17 514	194 405	
Total	72 194	801 353	
Source: CIE calculations.			

5.3 Upper bound estimates of losses in value added assuming no adjustment to the wheat price increase

REVIEW OF THE TASMANIAN WHEAT FREIGHT SCHEME

suppliers of bulk flour in Tasmania. However, if the costs cannot be passed on, the flour mill would incur a cost of \$222 000 (table 5.3).

The stockfeed mills have more freedom to adjust to an increase in wheat price. With adjustments to production and pricing of outputs, it is estimated that the cost of the TGFS to this industry would be less than \$288 600 (table 5.3). Two adjustment strategies are possible. Firstly, there is some scope for substituting wheat with other grains. For instance, barley currently constitutes 3.5 per cent of the feed rations produced by the Pivot mill. It is understood that, if necessary, this proportion can be increased to 15 per cent using current formulations, or higher if other ingredients are added to supplement the ration.

Secondly, the mills could pass on a proportion of the cost increase by increasing the price of their feed products. If all of the wheat price increase was passed on, the price of poultry and dairy rations would increase by \$7.50 and \$3.30 per tonne respectively. To put this in perspective, the price change equates to less than a 2 per cent rise in the price of rations. According to Inghams, the scope for increasing the price of poultry rations is limited because ready mixed feed is currently being imported from New South Wales and landed in Tasmania at a price that is competitive with the local product.

The various animal industries that comprise the second-stage users also have some capacity to adjust. Most of these industries can substitute wheat for other grains and/or import processed stockfeed from the mainland. A third option would be to increase output prices, but this is unlikely to be feasible for the dairy, egg, poultry, and pig industries whose products compete for market share with competitively priced imports from the mainland. Given that a range of adjustment options exist, it is estimated that the cost of the TGFS to second-stage users would be less than \$0.2 million.

Benefits to Tasmanian wheat growers

The reduction in wheat freight assistance proposed under the TGFS is expected to increase the price of local wheat by \$11.10 per tonne and therefore yield a benefit to Tasmanian wheat growers. Based on the 20 000 tonnes of wheat grown in Tasmania last season, the local industry would stand to gain \$222 000 from the proposed scheme.

In a joint submission by interested parties it is stated that a reduction in freight assistance to wheat would undermine the viability of wheatprocessing industries and therefore lead to a reduction in the demand for

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wheat. The results of the value chain analysis indicate that the proposal to reduce wheat freight assistance by \$11.10 per tonne would not lead to a large reduction in the demand for feed wheat. Even if the stockfeed mills closed as a consequence of higher wheat prices, 17 500 tonnes of unprocessed wheat would continue to be demanded by Tasmania's animal industries (table 5.3).

Impacts to mainland growers and processors of wheat

Mainland wheat growers would not be adversely affected by the proposed TGFS because any consequent reduction in Tasmania's demand for wheat would be offset by a subsequent increase in the demand for wheat by mainland firms supplying processed products to Tasmania. The AWB Ltd and the Grains Council of Australia support this view. In any case, the quantities of wheat exported to Tasmania from the mainland are insignificant relative to the total export market for wheat.

Wheat processing firms on the mainland would benefit from a possible increase in Tasmania's demand for stockfeed. However, the scale of the Tasmanian market is small relative to the mainland market. Furthermore, the firms that mill wheat in Tasmania (Pivot and Inghams) also operate on the mainland. So the net effect would simply be a transfer of some value added from Tasmania to the mainland.

Benefits to the Commonwealth government

Assistance on wheat and other grains

Assuming the current tonnages of wheat and other grains remain intact (that is, the no adjustment scenario), the proposed TGFS would yield a net reduction in Commonwealth government assistance to grains freight. The cost saving arises because the differential rates of assistance that currently apply to wheat and other grains would be replaced with a uniform, flat rate of assistance of \$11.90 per tonne. This policy has the following implications:

- a halving of the assistance rate for wheat freight;
- a 65 per cent decrease in the assistance rate for container shipments of other grains; and
- the introduction of assistance payments to bulk shipments of other grains which are currently ineligible for assistance.

The net effect of these changes is a cost-saving of \$0.65 million. Of this total, \$0.58 million is due to reduced assistance payments to wheat and \$72 400 is an 'efficiency saving' that is gained by including bulk shipments of other grains as an eligible commodity for assistance (table 5.4). The 'efficiency saving' comes about because Tasmanian grain users are provided with an incentive to use bulk freight which is cheaper than container freight.

The cost saving of \$0.65 million is a lower-bound estimate because it is does not account for a possible reduction in the demand for wheat in response to lower assistance (that is, the adjustment scenario). If tonnages of wheat were to decline by 25 per cent under the TGFS the savings would increase to \$0.80 million. The demand for other grains should not change because Tasmanian firms would be able to bring bulk shipments of grain into the state at an effective freight rate that is equal to the effective rate on containers that presently exists under the TFES (see charts 4.4 and 5.1).

	Tonnages	Status Quo option		TGFS option		
Commodity		Assistance rate	Total assistance	Assistance rate	Total assistance	Net change
	t	\$/t	\$m	\$/t	\$m	\$m
Wheat						
Containers	10 621	23	0.24	11.90	0.13	-0.11
Bulk	41 653	23	0.96	11.90	0.50	-0.46
Total	52 274		1.20		0.62	-0.58
Other grains						
Containers	15 660	34	0.53	11.90	0.19	-0.35
Buik	23 000	0	0.00	11.90	0.27	+0.27
Total	38 660		0.53		0.46	-0.07
Total	90 934		1.73		1.08	-0.65

5.4 Changes in Commonwealth assistance payable under the TGFS relative to the status quo Assuming no change to 1999-2000 tonnages

Source: CIE calculations.

Assistance to other commodities

In a joint-industry submission to the review it is reasoned that if freight assistance to wheat is reduced, the Commonwealth government would not stand to make a saving. The proponents put forward the view that a reduction in wheat freight assistance would cause Tasmanian wheat processing industries to close, thereby increasing the state's demand for imports of processed products such as flour and stockfeed, which would subsequently cause the level of TFES assistance to increase. The value chain analysis undertaken in this study suggests that the adjustments made by Tasmania's wheat processors in response to the proposed TGFS would be marginal ones rather than a total shutdown of operation. Tasmania currently produces 54 000 tonnes of stockfeed and 16 000 tonnes of flour. If production of these goods was to decrease by 15 per cent as a result of the TGFS, and replaced with imports from the mainland, the consequent increase in TFES assistance would be \$315 000.

In summary

In the absence of any industry-adjustment, it is estimated that the proposed TGFS would have the following impacts:

- a loss to Tasmania's primary wheat users of \$0.6 million;
- a loss to Tasmania's secondary wheat users of \$0.2 million;
- no employment losses;
- a gain to Tasmania's wheat growers of \$0.2 million;
- no impact on mainland wheat processors or growers; and
- a cost-saving to the Commonwealth government of \$0.65 million in reduced assistance payments.

In reality, primary and secondary users of wheat in Tasmania would make adjustments to their operations in order to minimise the impact of a 5 per cent increase in wheat price. These adjustments include marginal changes to output levels, output pricing, labour inputs, and the substitution of wheat for other grains. Some animal industries could adjust by importing processed stockfeed from the mainland. When adjustment is allowed for, the profile of impacts is as follows:

- a loss to wheat using businesses of significantly less than \$0.8 million;
- a gain to Tasmania's wheat growers of less than \$0.2 million; and
- cost-savings to the Commonwealth government of \$0.5 million. This
 estimate assumes that Tasmania reduces its demand for mainland
 wheat by 25 per cent and replaces 15 per cent of its flour and stockfeed
 production with imports from the mainland. These shifts in demand
 are not 'hard and fast' results, but are based on an informed assessment
 of the adjustment capacity of Tasmanian industries.

Conclusions

This report has demonstrated that there are significant anomalies and inefficiencies associated with the existing arrangements for freight assistance to Tasmanian imports of grains from the mainland. Several alternative options for addressing these issues are canvassed by the review. The option that stands out as a clear way forward for resolving the inconsistencies that currently prevail between the TWFS and TFES is to establish a consolidated freight assistance scheme for all grains, referred to in this report as the Tasmanian Grains Freight Scheme (TGFS).

The review team has consulted extensively with interested parties and there is unanimous support for an amalgamated scheme for grains, with assistance for cost disadvantage being underpinned by the principle of a land bridge. However, the operational details of the TGFS would need to be developed in further consultation with stakeholders. In particular, it will be necessary to take into account the implications that the scheme might have for the Commonwealth Department of Transport and Regional Services, and to work around the issues that are involved in implementing the scheme.



Appendix

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Submissions received

Four submissions were received by the review.

- 1. Joint submission by:
 - AWB Limited
 - JP Shipping Pty Ltd
 - Pivot Ltd
 - Pivot Nutrition
 - Tasmania Feedlot Pty Ltd
 - Tasmanian Farmers and Graziers Association
 - Tasmanian Grain Elevators Board
- 2. Grains Council of Australia
- 3. Holyman Shipping Pty Ltd
- 4. Tasmanian DPIWE

B

Itemised shipping costs

The content of this appendix contains commercial in confidence information. Consequently, the data has been omitted from this public document.

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WORLD MARITIME DAY

Friday 30 September, 2005

Australian Shipping Policy. Not

David Sterrett - Chairman, Australian Shipowners Association

Good morning ladies & gentlemen,

I would like to welcome you all to this ASA function.

In keeping with ASA's general approach these breakfast sessions are intended to be focussed, time-efficient, practical, informed and informing. They are also meant to be enjoyable.

In particular I would like to welcome Ivan Backman, Chair of the Australian Logistics Council and a very influential figure in the Australian transport logistics sector.

If you ask him, Ivan will tell you that the transport logistics sector contributes 9% of Australia's GDP and sea transport is a key part of that sector.

We also welcome Ted Anson, Chair of the Australian Maritime Safety Authority, whose career has been involved in and around the shipping industry in this country.

We welcome a number of ASA member companies' representatives including Adsteam Australasia, CSR Shipping, BlueScope Steel, Patrick Shipping, Teekay Shipping, Dorchester Maritime and ASP Ship Management.

We also have with us a range of experts in the maritime industry including insurers, lawyers, consultants, publishers, the Melbourne Harbour-Master, Capt Tim Muir and interests from the seafarers' welfare community.

World Maritime Day is gaining momentum in Australia and I am pleased to inform you of an initiative that ASA is to pursue.

We will be convening an Australian Shipping Summit early in 2006. The purpose of the summit will be to gather influential interests in the Australian sea transport sector.

The interests that will be gathered will address sea transport opportunities that currently exist, as well as sea transport opportunities that could be developed if Australia had a market environment for sea transport service providers based on conventional market competition principles. It is interesting that in Australia, it seems to be necessary to capture the attention of decision makers over things that in other nations are just taken for granted. Having a shipping policy for Australia is one such matter.

For example, ASA recently wrote a letter to the editor of LLDCN, pointing out the things you do not do if you want to be Australian and be a ship operator.

We reiterated these `don't do's' at Freight Week 2005 which was held in Melbourne recently. What we did was to describe the example of an <u>Australian entity</u> which wants to enter the <u>Australian</u> sea transport industry in <u>Australian</u>.

We described how they would expect to be covered by Australian law.

What the Australian entity would be faced with is the preposterous reality that, because of Australian law, it would be desirable for them to:

- not own the ship in Australia, and
- not register the ship in Australia, and
- not operate the ship from Australia, and
- not employ Australian-residents as the majority of the crew, and
- not obtain a licence under the Navigation Act, and
- not remain permanently in Australian waters.

These are six things an Australian should not do if he or she wants to compete on roughly equal terms with foreign ships that are facilitated in operating under permits - but outside Australia's legal framework - in Australia's sea transport industry.

Peter Couchman, the former ABC television reporter and journalist who was moderating the Freight Week discussion, was so taken aback by our description of what Australians ought not do that he cited our example to highlight what he perceived to be a divide between commercial practice and reality on the one hand and the regulatory environment in Australia on the other.

Australians are encouraged to be lots of things but to be ship operators is not one of them. It's a bit early in the morning to take you through turgid detail but consider this:

If you are Australian it is best not to own the ship in Australia because if you do, you will be obliged by the Shipping Registration Act to register the ship in Australia.

No matter who you are it is best not to register the ship in Australia because Australia offers no registration-linked incentives for investment in shipping whereas most other OECD countries, and certainly all the G8 countries, do offer incentives to shipping interests.

In fact an Australian Treasury official once said to us that Australians should register their ships in nations that are stupid - his word not ours - stupid enough to offer incentives to ship operators.

Would that we could!

If you are Australian it is best not to operate the ship from Australia because if you do, the ship will be deemed to be an Australian ship under the Navigation Act and will fall under Australia's Seafarers' Rehabilitation and Compensation legislation as well as Australia's OH&S legislation, both of which impose costs that are not imposed on the foreign ship operator with whom you compete.

If you are Australian it would be best not to employ Australian-residents as the majority of the crew because if you do, that too will turn your ship into an Australian ship under the Navigation Act with consequent cost impositions that are not applied to your competition.

If you are an Australian it would be best not to obtain a licence under the Navigation Act lest your ship be deemed to be "engaged in the coasting trade" which again turns it into an Australian ship as opposed to it "operating in the coastal trade" which is what a foreign ship is said to do. The foreign ship thereby escapes Australian law.

If you are an Australian it would certainly be preferable not to have your ship remain permanently in Australian waters because if you do your ship will be imported under the Customs Act and all the other cost-imposing dominoes will be set in motion for the Australian but not his foreign competitor.

There is a wafer-thin administrative distinction between foreign and Australian vessels which can create a cavern between them in terms of their relative competitive positions.

There is also a broader inconsistency in policy application.

I have already mentioned the Shipping Registration Act. The Shipping Registration Act is crucial because it raises a fundamental question that is central to the future of Australian sea transport, and it is this:

If an entity has to own a ship in a place outside Australia to be able to optimise its registration arrangements and if it has to be operated outside Australia to avoid Part II of the Navigation Act, why have any part of that entity in Australia? The unmistakeable incentive is to locate the entity outside Australia altogether.

The logic of that seems unmistakeable which makes another proposition even more ridiculous: it is possible that the Shipping Registration Act remains unaltered due to a concern that non-Australian registered ships are rust-buckets.

There is a maxim in shipping which says that behind every sub-standard ship stands a substandard operator. That maxim would be good for the trucking, rail and the airline industry as well.

The challenge is to convince our legislators that if a ship operated by an Australian were to transfer its registry to some other jurisdiction, it would not change the standards of its operator one bit.

Besides, all the foreign vessels that are provided by the Australian government with permits to trade in Australia's domestic transport industry are foreign-registered and they're not rust-buckets.

Australian operators are among the best in the world and their registration arrangements have nothing to do with their operational standards.

And there's another issue that goes to another crucial question - maritime skills and careers for young Australians.

The tax treatment of Australians who work in shipping can be different to that of other Australians. Not the same treatment - less favourable treatment.

Here's an example: two Australians are employed outside Australia in a foreign country in circumstances that are identical except one's workplace is ashore.

The Australian who works outside Australia but on a ship is said not to be working in a foreign country because, according to the Federal Court, the high seas are the only waters in the world that aren't considered a foreign country.

This accident of wording is relied upon by the Treasurer to apply the taxation act differentially. Don't worry that it is an accident of wording, don't worry that it is discriminatory application of law, don't worry that it is denying young Australians careers in the maritime sector, don't worry that it is contributing to a growing maritime skills shortage in Australia.

Another curiosity about the policy treatment of shipping is that the barriers to participation by Australians in Australia's shipping business flies in the face of the government's own competition policy.

As a result, users of shipping services in Australia are denied choice of shipping services because Australians are severely circumscribed from participation in shipping.

Let me put this to you:

Imagine if the government were to say to Toll, Patrick, Linfox or Pacific National that they must compete with - but not be able to access the same cost structures as foreign road and rail transport operators operating in Australia who are not required to pay tax, who are excused from observing Australia's OH&S regulations, workers' compensation regulations and who are facilitated in employing foreign workers in Australia at a fraction of the labour cost applicable to Toll, Patrick and Pacific National.

We would be surprised if Paul Little, Chris Corrigan or Lindsay Fox copped that if it seriously jeopardised their shareholders' interests. And it would.

Most people would say that would never happen but in shipping in Australia it does.

Don't be under any misapprehension, Australian laws are waived for foreign operators trading in Australia while those same laws are applied to Australians and impose a much higher cost structure on them.

National Competition Policy

The Australian Government National Competition Policy Annual Report for the period 1 April 2003 to 30 June, 2004 describes the importance of competition policy for Australia.

Competition policy talks about the impetus for pursuit of productivity improvements, reductions in market transaction costs, increases in information available to consumers to make informed choices and encouragement of innovation in product design.

The anti-competitive nature of regulation which seriously inhibits the ability of Australians to compete in Australia's own domestic sea transport sector quells the incentive to pursue those objectives which the National Competition Policy is supposed to inspire in the Australian economy.

The National Competition Policy framework speaks of the review of, and where necessary reform of, legislation that is anti-competitive. To give you an idea of how that does not apply to shipping regulation, we have a letter on file which says, in part:

"I can confirm....my intention to progress the recommendations as quickly as possible, including removal of the obligation on Australian shipowners to register vessels in Australia."

That letter was from the then Minister for Transport and Regional Services, The Hon John Anderson. It gave us great comfort and confidence in the Australian government's responsiveness to collisions between poor policy and commercial practicality.

The letter is dated 14 April, 2000: seventy months have elapsed since then and still, despite continuing lobbying by ASA on that and other key issues, nothing has happened.

National Competition Policy is said to be part of a broader reform programme aimed at, amongst other things, providing lower prices and greater choices for consumers.

Well, let's test that proposition.

Not including cargo moving between Tasmania and Melbourne, around a million tonnes of general cargo was carried by foreign ships between Australian ports in 2002/03.

That cargo was moved almost exclusively in vessels operating under continuing voyage permits issued under the Navigation Act. We are the first to say that we see the efficacy of the permit system, but we also say that the permit system creates an extraordinarily anticompetitive marketplace that flies in the face of the Australian government's own competition policy.

The permit system is anti-competitive because it allows foreign vessels, operating with foreign labour to enter the Australian shipping market and offer to carry freight on a cost base that is not available to Australians operating in the same market.

The key point here is that the differential between the cost-base of the foreign operator and the cost-base of the Australian operator comes about because of the application of, or exemption from (in the case of the foreign vessels) applicable Australian law.

What has happened is that the legislation that determines the importation status of a ship and the immigration status of its foreign crew have been aligned in such a way that - and this is the cutest bit of all - a foreign ship can operate between Australian ports for months at a time and still be said to be on an international voyage.

The semantics go further. A foreign ship which operates for months at a time in Australia is said to be "operating in the coastal trade".

An Australian ship which operates for months or years at a time is said to be "engaged in the coasting trade".

This apparently inconsequential distinction in phraseology is crucial for the Australian government to allow the foreign ship to avoid coverage by Australian laws that are applicable to and impose additional costs on, the Australian ship.

Whilst the Australian government apparently has no position on shipping other than to subject Australians to a flagrantly anti-competitive regulatory regime, it is rapidly emerging that the private sector has a different view.

On Tuesday 14 September there was a Freight Networks Day as part of Freight Week 2005. The Freight Networks Day consisted of representatives of industry transport logistics specialists and leaders from a wide range of sectors.

The Networks Day, after an exhaustive scrutiny of issues and objectives, produced a communique. The communique identified a series of issues under the Australian Logistics Industry Strategy headings of Leadership, Infrastructure and Planning, People, Innovation and Sustainability and Freight Transport Security.

One of the key priorities identified for immediate action under the heading of Innovation and Sustainability was policy and infrastructure support for rail and coastal shipping as sustainable modes.

That's not surprising when you consider that sea transport performs 28% of the nonurban freight task but consumes only 9.6% of total energy in the freight transport sector and contributes only 2% of total transport emissions.

The significance of that initiative - an initiative not just of the shipping sector but of the transport logistics industry as a whole - is that industry recognises sea transport as a core transport logistics mode.

The transport logistics sector seems to be mobilising to embrace sea transport as part of Australia's domestic transport structure. Government can no longer turn a blind eye to shipping.

The government should be moving to remove the anti-competitive barriers to investment in Australian domestic shipping by Australian enterprises.

The government should be moving to recognise that, unlike the road and rail sectors which are having \$12.5 billion spent on their infrastructure over the next five years, the sea transport industry pays for its own infrastructure - in fact more than pays for most of it by way of dividends returned by port authorities to their state government owners.

Ladies and gentlemen, if you care about Australia being prevented from having a burgeoning sea transport sector then tell someone you care about it - starting with us.