SIZE AND LOCATION OF AUSTRALIAN WOOL SELLING CENTRES — A NOTE

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INTRODUCTION

The preceding study by Ferguson and McCarthy suggests that growers' costs are minimized by the interstate sale of 75 per cent of N.S.W. wool and the consequent establishment of large wool selling complexes in Melbourne and Brisbane. This large leakage was generated by two factors; firstly, the relatively low rates that exist for interstate road transport; and secondly, the lower charges available in large selling complexes. As the publicity implications of a leakage of this magnitude are great, it is necessary to determine the proportion of this leakage which may be attributed to each of these factors.

This is done most simply by determining the interstate leakage in the wool flows from the solution of the transportation model. However, as these models are long run, the solution to the transportation problem is trivial as the demand centres (in this case, wool selling centres) are not capacitated. Thus, the least cost pattern is generated by growers marketing their clip at the selling centre with the least transport costs.

APPROACH

Supply areas for each of the five markets relevant to N.S.W. (Adelaide, Brisbane, Newcastle, Sydney[1], and Melbourne[2], were determined from transport freight maps for each of these centres. These maps were prepared using rail freight data and from quotations given by road hauliers in a survey of forty N.S.W. country centres. To ensure compatibility with Model 1 in the preceding study, a freight reduction of 65c per bale on all wool consigned to Sydney was assumed.

RESULTS

The throughput of Sydney established in this way is 448,467 bales, drawn from the Australian Wool Board Statistical Service areas 9, 13, 21, 22, 36 and partially from 14, 16, 17, 18, 19, 23, 24, 34 and 40. The Newcastle throughput is 92,266 bales drawn from W. S. S. areas 20 and partially from 3, 6, 16.

The throughputs for the major selling centres are summarised in table 1.

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[1] Including Goulburn.

[2] Including Albury and Geelong.

TABLE 1

Least Cost Throughputs of Selling Centres Assuming a 65c per Bale Freight Rebate to Sydney

	From N.S.W.	From Domestic Production	Total
Sydney	448,500	..	448,500
Newcastle	92,300	..	92,300
Adelaide	88,200	507,500	595,700
Melbourne	859,600	814,700	1,674,300
Brisbane	436,300	623,700	1,060,000

The suggested leakage in this study is 72 per cent and accords well with the previous analysis. The difference in throughputs between Sydney and Newcastle arises from the use of more accurate rail data. These rates tended to favour Sydney rather than Newcastle.

If the 65c per bale rebate is also extended to wools consigned to Newcastle, Newcastle's throughput increases to 144,500 bales, drawn from W.S.S. areas 6, 20 and partially from 5, 7, 8, and 16. Sydney's throughput in this case is unchanged, emphasising the fact that Newcastle competes with Brisbane rather than Sydney for wool.

A least cost pattern of movement of N.S.W. wool, assuming the existing freight structure, (i.e., no rebates to Sydney or Newcastle) suggests a 321,965 bale throughput for Sydney drawn from W.S.S. areas 9, 13, 17, 18, 21, 22 and partially from 19 and 23. Newcastle throughput is 92,266 bales. In this case, the interstate leakage is of the order of 78 per cent.

This result differs markedly from those of Dent[3], who, in a similar study, established that eastern Australian wool flows were very nearly optimal.

Two factors biased Dent's findings. Firstly, the capacity of Dent's "super centres" in the transport model were the 1963–64 throughputs of those "super centres". Consequently, the problem became one of supplying these throughputs to the "super centres" at least cost. For instance, Dent required 967,300 bales to be sold through Sydney thereby maintaining the *status quo* irrespective of the actual throughput necessary to achieve minimum cost. Secondly, the road transport rates used by Dent are unrealistically high. This error arises from Dent's failure to approach road hauliers directly, and his reliance on data provided by the N.S.W. Master Carriers' Association. Four examples illustrate this.

Road Rates from N.S.W. Wool Statistical Area	To	Dent's Rate c. per bale	Actual Rate c. per bale
3	Brisbane	329	200
12	Brisbane	471	250
14	Melbourne	585	325
26	Melbourne	355	220

[3] Dent W. "Optimal Wool Flows for Minimisation of Transport Costs", Australian Journal of Agricultural Economics Vol. 10, No. 2, December, 1966), p. 142.

CONCLUSION

The cost savings of the previous article arise from the establishment of an optimal transport pattern and from economies achieved by wool complexes. This note shows that the leakage of N.S.W. wool is generated almost entirely by the differential between interstate road transport rates and intrastate rail rates. It also emphasises the discrepancy that exists between least cost N.S.W. wool flows and existing wool flows, and indicates that N.S.W. growers could realise some of the savings outlined in the previous article by the use of road transport.