PATRICIA APEL
ARE 500-4 MASTERS DISSERTATION

THE IMPACT OF LABOUR MARKET REFORM IN THE MEAT PROCESSING INDUSTRY ON THE CATTLE AND BEEF INDUSTRY

JULY 1996
Declaration

I certify that the substance of this dissertation has not already been submitted for any degree and is not currently being submitted for any other degree.

I certify that, to the best of my knowledge, any help received in preparing this dissertation, and all sources used, have been acknowledged.
Abstract

The meat processing industry is one of Australia’s largest rural-based industries. The level of costs in the meat processing industry, especially labour costs, is an issue that has been of some concern to the cattle and beef industry in Australia. Aspects of industrial relations within the industry and the employment conditions embedded in industry awards have frequently been cited as having contributed to relatively low levels of labour productivity, which has in turn raised production costs in the processing industry.

The industrial relations system in Australia, which has traditionally been highly centralised, is gradually changing towards a more decentralised approach which is increasingly enterprise-oriented. However, the meat processing industry has lagged other industries in implementing workplace reforms that increase productivity. In particular, improvements to labour productivity have been inhibited by the complexity and multiplicity of awards that apply to the industry and the tally remuneration system that operates under these awards. A high level of industrial disputation and under-utilisation of industry capacity are other problems facing the industry.

A number of recent studies have found considerable scope for improvements in labour productivity that will in turn reduce production costs in the processing industry. Using information available from this previous research, this dissertation examines how labour market reform in the meat processing industry affects the welfare of industry participants. It finds that a 10 per cent reduction in processing costs increases the economic welfare of all industry participants, including livestock producers, the feedlot industry, the processing industry and beef consumers. Consumers receive by far the largest share of the increase in economic surplus resulting from lower processing costs.
Contents

CHAPTER 1 INTRODUCTION 7
1.1 Background 7
1.2 Research problem 9
1.3 Objectives and hypotheses 10
1.4 Outline of the study 11

CHAPTER 2 THE AUSTRALIAN MEAT PROCESSING INDUSTRY 13
2.1 Introduction 13
2.2 The meat processing industry 13
2.3 Summary 23

CHAPTER 3 LABOUR MARKETS AND INDUSTRIAL RELATIONS IN THE MEAT PROCESSING INDUSTRY 24
3.1 Introduction 24
3.2 The industrial relations system in Australia 24
3.3 The case for labour market reform 35
3.4 Industrial relations and labour market in the meat processing industry 41
3.5 Estimates of productivity improvement: from labour market reforms 56
3.6 Summary 68

CHAPTER 4 THE ECONOMIC FRAMEWORK 70
4.1 Introduction 70
4.2 Marketing margins in a diagrammatic framework 70
4.3 Marketing margins in an algebraic framework 85
4.4 Summary 91

CHAPTER 5 THE MODELLING FRAMEWORK 92
5.1 Background 92
5.2 Explanation of the model 92
5.3 Summary 104

CHAPTER 6 RESULTS AND DISCUSSION 105
6.1 Introduction 105
6.2 Summary of processing cost reduction estimates 105
6.3 Results for EDM simulation of 10 per cent reduction in processing costs 107
6.4 Implications and limitations of results 118
6.5 Summary 124

CHAPTER 7 SUMMARY AND CONCLUSIONS 125
7.1 Summary 125
7.2 Conclusions 127
7.3 Areas for future study 128

APPENDIX A EDM RESULTS FOR A RANGE OF COST REDUCTION ESTIMATES 130
A.1 Results for 5 per cent processing cost reduction 130
A.2 Results for 20 per cent processing cost reduction 131

REFERENCES 132
List of Tables

TABLE 2.1 STATISTICAL PROFILE OF THE MEAT PROCESSING INDUSTRY, 1992-93 14
TABLE 2.2 CONCENTRATION OF OWNERSHIP IN THE MEAT PROCESSING INDUSTRY (PER CENT) 17
TABLE 2.3 INDICATORS OF OPERATING EFFICIENCY IN MEAT PROCESSING, 1992-93 18
TABLE 2.4 COSTS IN THE MEAT PROCESSING AND MARKETING CHAIN (PER CENT) 21
TABLE 3.1 WORKING DAYS LOST PER 1000 EMPLOYEES, 1982 - 1991 45
TABLE 3.2 DIRECT COST OF Slaughtering AND CHILLING CATTLE\A 58
(INDEX: TOTAL COST EQUALS 1.00) 58
TABLE 3.3 LABOUR INPUT CHARACTERISTICS OF COMPARISON PARTNERS 60
TABLE 3.4 TOTAL LABOUR COST DIFFERENCE WITH AUSTRALIA (AC/KG FW) 65
TABLE 5.1 DEFINITION OF SYMBOLS 100
TABLE 5.2 DEFINITION OF SYMBOLS IN ELASTICITY-FORM EDM EQUATIONS 102
TABLE 5.3 PARAMETER VALUES FOR BASE RUN OF EDM 103
TABLE 6.1 ESTIMATES OF PROCESSING COST REDUCTIONS DUE TO LABOUR MARKET REFORM 106
TABLE 6.2 EXPLANATION OF TERMS 109
TABLE 6.3 PERCENTAGE PRICE AND QUANTITY CHANGES FOR 10 PER CENT REDUCTION IN COSTS OF SUPPLYING 'OTHER PROCESSING INPUTS' 110
TABLE 6.4 PERCENTAGE AND ABSOLUTE CHANGES IN PRODUCER AND CONSUMER SURPLUS 112
TABLE 6.5 SHARES OF CHANGES IN TOTAL SURPLUS (PER CENT) 114
TABLE A1.1 PERCENTAGE PRICE AND QUANTITY CHANGES FOR 5 PER CENT REDUCTION IN ET\P 130
TABLE A1.2 PERCENTAGE AND ABSOLUTE CHANGES IN PRODUCER AND CONSUMER SURPLUS FOR 5 PER CENT CHANGE IN ET\P 130
TABLE A1.3 SHARES OF CHANGES IN TOTAL SURPLUS FOR 5 PER CENT CHANGE IN ET\P 130
TABLE A2.1 PRICE AND QUANTITY CHANGES FOR 20 PER CENT CHANGE IN ET\P 131
TABLE A2.2 PERCENTAGE AND ABSOLUTE CHANGES IN PRODUCER AND CONSUMER SURPLUS FOR 20 PER CENT CHANGE IN ET\P 131
TABLE A2.3 SHARES OF CHANGES IN TOTAL SURPLUS FOR 20 PER CENT CHANGE IN ET\P 131
List of Figures

FIGURE 2.1 IMPORTANCE OF THE MEAT PROCESSING INDUSTRY RELATIVE TO FOOD, BEVERAGE AND TOBACCO AND TO`AL MANUFACTURING, 1992-93 15

FIGURE 2.2 NUMBER OF EMPLOYEES IN THE MEAT PROCESSING INDUSTRY, 1979-80 - 1992-93 19

FIGURE 2.3 BREAKDOWN OF MEAT PROCESSING COSTS (EXCLUDING LIVESTOCK PURCHASES), 1992-93, PER CENT 22

FIGURE 3.1 COST SAVINGS FOR AN ABAT`OIR RESULTING FROM NEGOTIATED WORK CONDITIONS AND THE ADOPTION OF BEST PRACTICE LABOUR PRODUCTIVITY (PER CENT OF DIRECT SLAUGHTER COSTS) 61

FIGURE 3.2 TOTAL DELIVERED COST/UNIT (A$/KG FW) 63

FIGURE 3.3 PROCESSING COSTS/UNIT (A$/KG FW) 64

FIGURE 4.1 PRIMARY AND DERIVED FUNCTIONS AND MARKETING MARGINS 73

FIGURE 4.2 IMPACT OF LOWER PROCESSING COSTS ON FARM AND RETAIL PRICES 77

FIGURE 4.3 THE DISTRIBUTION OF LOWER PROCESSING COSTS UNDER DIFFERENT ELASTICITIES OF DEMAND. 80

(A) ELASTIC DEMAND 80

(B) INELASTIC DEMAND 80

FIGURE 4.4 THE DISTRIBUTION OF LOWER PROCESSING COSTS UNDER DIFFERENT ELASTICITIES OF SUPPLY 83

(A) ELASTIC SUPPLY 83

(B) INELASTIC SUPPLY 83

FIGURE 4.5 THE DISTRIBUTION OF LOWER PROCESSING COSTS WHERE THE SUPPLY OF MARKETING SERVICES IS NOT PERFECTLY ELASTIC 84

FIGURE 5.1 THE EDM 94
I wish to thank my supervisor, Garry Griffith, for his guidance and assistance throughout the researching and drafting of this dissertation. I would also like to thank my husband, Neville Worland, for his support and help during my studies.