

THE INTEGRATED LOGISTICS NETWORK

Market Power and Logistics Chains

An Integrated Logistics Network Discussion Paper

September 2004

Prepared by:



Strategic design + Development

Strategic design + Development Pty Ltd

ABN 51 103 363 257

www.strategicdesign.com.au

Funded by the Governments of the Northern Territory, Western Australia, South Australia and Queensland, and private interests.

Enquiries should be directed to Mark Brownell (Manager, Marine Policy, WA Department for Planning and Infrastructure, 08 9216-8817)

CONTENTS

ABSTRACT	1
EXECUTIVE SUMMARY	2
1 INTRODUCTION	6
1.1 Background	6
1.2 Approach	6
2 THE AUSTRALIAN LOGISTICS MARKET	8
2.1 Defining the Market for Logistics Services.....	8
2.2 The Value of the Australian Logistics Market	9
a) <i>Total Freight Transport Costs</i>	9
b) <i>The Realised Market for Logistics Services</i>	10
c) <i>Interpreting the Estimates</i>	10
2.3 Logistics Sub-Markets	12
2.4 Case Study – The East-West Rail Corridor	13
a) <i>Overview of the East-West Freight Task</i>	13
b) <i>Overview of Rail Stakeholders</i>	15
c) <i>The Supply of Rail Services</i>	17
d) <i>Summary</i>	18
3 AN OVERVIEW OF THE SUPPLY OF LOGISTICS SERVICES	20
3.1 A Recent History of the Supply of Logistics Services in Australia.....	20
a) <i>Pre-1987</i>	20
b) <i>1987 - 1993</i>	21
c) <i>Post 1993</i>	21
3.2 An Overview of Current Logistics Service Providers.....	22
3.3 The New Market Leaders: Toll and Patrick	24
3.4 The Development of Integrated Logistics Services	25
4 CHANGES IN THE DEMAND FOR LOGISTICS SERVICES	30
4.1 Introduction	30
a) <i>Outsourcing logistics activities</i>	30
b) <i>Taking greater control of the logistics chain</i>	30
c) <i>Rationalisation of distribution systems</i>	31
4.2 A National Australian Distribution Network	31
4.3 The Trend of Retailer Control of the Primary Freight Task.....	32
a) <i>Supply versus Demand Control</i>	33
b) <i>Potential Benefits of Retailer Control of the Primary Freight Task</i>	34
4.4 Case Study: The Australian Grocery Industry and Retailer Control.....	35
a) <i>The Australian Grocery Industry</i>	35
b) <i>Woolworths and Coles Myer Primary Freight Strategies</i>	36
c) <i>Potential Impact on the Retail Suppliers</i>	38
d) <i>Summary of Primary Freight Case Study</i>	39
5 POWER IN LOGISTICS CHAINS	41
5.1 Understanding Firm and Market Behaviour	41
5.2 What is Logistics Chain Power?	41
5.3 Sources of Market Power	42
a) <i>Resource Importance</i>	42
b) <i>Resource Scarcity</i>	42
c) <i>Information Asymmetry</i>	43
5.4 Enhancing and Mitigating Market Power	43
5.5 The Importance of Motivation	44
5.6 Measuring Power	45
5.7 A Qualitative Framework for Demonstrating the Potential for Market Power	45
a) <i>Australian Logistics Market Characteristics</i>	46
b) <i>Motivation Driving Firm Behaviour</i>	46
c) <i>Sources of Information Asymmetry</i>	46
d) <i>Potential Critical Assets</i>	47
<i>At present there are a number of barriers to establishing nationally integrated logistics services, such as:</i>	48
5.8 Case Study: The Wheat Export Chain	49
a) <i>Introduction</i>	49
b) <i>Historical Overview</i>	49
c) <i>Current Market Dynamics</i>	53
d) <i>Implications of the New Market Dynamics</i>	55

e) Summary	56
6 CONCLUSIONS	57
REFERENCES	59
APPENDIX A: INDUSTRY EVENTS	61

FIGURES

Figure 1 - East-West Corridor Modal Shares, Non-Bulk Freight	15
Figure 2 - The Freight Forwarder's Commercial Relationships	16
Figure 3 - Changing Transactional Relationships in East-West Rail Services.....	16
Figure 4 - Melbourne to Perth Rate Movements	17
Figure 5 - Timeline of Events: East-West Transport Corridor	19
Figure 6 - Retailer Control of Primary Freight	33
Figure 7 - Different Motivations of Buyers and Sellers of Inter-Modal Services.....	45
Figure 8 - The Historical Coordinating Powers of the AWB	50
Figure 9 - Major Historical Power Relationships in the Export Wheat Chain.....	51
Figure 10 - Current Power Relationships in the Export Wheat Chain	54
Figure 11 - Time Line of Key Events: Mayne Nickless	70
Figure 12 - Time Line of Key Events: Brambles	71
Figure 13 - Time Line of Key Events: TNT	72
Figure 14 - Time Line of Key Events: Toll Holdings.....	73
Figure 15 - Time Line of Key Events: Patrick Corporation.....	74
Figure 16 - Time Line of Key Events: Linfox	75
Figure 17 - Time Line of Key Events: Rail	76

TABLES

Table 1 - Australian Logistics Costs	11
Table 2 - Western Australia Land Transport Inter-State Freight Task, 2000-01	13
Table 3 - The Inter-Capital Non-Bulk Freight Task, 2001 (thousand tonnes).....	14
Table 4 - Non-Bulk Inter-Capital Freight Growth, Various Periods	14
Table 5 - Selected Logistics Service Providers, Revenue in \$million	22
Table 6 - Mayne, TNT and Brambles Assets Acquired by Toll and Patrick.....	24
Table 7 - Coles Myer Supply Chain Reform Objectives	37
Table 8 - Retail Grocery Sales Through Major Chains, Selected Commodities	39
Table 9 - Historical Power Relationships in the Wheat Export Chain.....	52

ABSTRACT

This study is an initial analysis of the concept of market power in the context of recent developments in the supply and demand for logistics services in Australia. Its primary objective is to foster debate and stimulate further research, and has been funded by the Integrated Logistics Network and the private sector.

The Australian market for logistics services is significant; logistics service providers compete for revenues estimated to be worth approximately \$41 billion. An additional \$125 billion worth of logistics activities are conducted in-house by Australian businesses, creating a potential market equivalent to 22 per cent of Australia's GDP¹.

As a vital component of the Australian economy, it is important that Australian governments keep abreast of changes in the market for logistics services and how these changes may affect the performance of our economy.

The study concludes that the combination of government transport reforms and greater awareness by Australian businesses of the importance of logistics has resulted in a more dynamic and responsive logistics market. However there have been significant shifts in the competitive dynamics in the supply and demand of logistics services:

- The transfer of ownership of scarce rail assets - particularly train paths - from governments to private interests, and the high barriers to entry for providing rail services has resulted in a fundamental shift in market power for the supply of national, vertically integrated and bulk logistics services.
- Australia's two major grocery retailers are implementing supply chain reforms that reinforce the shift in power towards the few logistics service providers capable of providing 'national' solutions.
- Government attempts to facilitate greater use of rail transport to manage the expected growth in the freight task also contribute to the shift in power towards vertically integrated service providers.

The study concludes that while industry consolidation is likely to continue, long-term competitive forces can be achieved even with greater industry consolidation if governments focus on increasing competition in the supply of rail, container and air cargo handling services.

The study concludes that there are sufficient concerns relating to the market power derived from the control of scarce logistics assets that further investigation is warranted.

¹ The Bureau of Transport and Regional Economics estimates that logistics activities contribute 9 per cent towards Australia's GDP. This is a measure of value-added and does not represent the amount spent on logistics activities.

EXECUTIVE SUMMARY

This study, commissioned by the Integrated Logistics Network in partnership with private sector interests, has been undertaken to explore changes in the competitive dynamics of the Australian logistics market² and to identify trends and possibilities for further research.

The continuing consolidation of the logistics industry and the accumulation of strategic assets in the hands of a few firms are particular changes in the supply of logistics services that are of interest.

There is also interest in the strategies of major retailers to take control of the primary freight task (from the supplier to the customer's warehouse), and the effect this might have on suppliers of retail products and the demand for logistics services.

Given the importance of logistics to Australia's economic performance, there is a need to understand: how market power is accumulated; the extent power may be exerted to influence competition; and relationship between competitive dynamics and the performance of our logistics chains.

Power in Logistics Chains

Logistics chains are the DNA of our economy - a series of connected transactions that allow the exchange of resources and the distribution of value between buyers and sellers.

During the supplier-customer transaction process firms compete for a share of the value generated by the logistics chain; the outcome reflecting their relative market powers. Firms achieve market power by securing market assets such as infrastructure, information and property rights. The degree of power derived from these assets is directly related to their scarcity and importance to the market.

While governments may seek to influence the efficiency of our logistics chains, their ultimate character and performance is determined by the accumulation and exertion of market power by each chain participant.

A Fundamental Power Shift in the Supply of Logistics Services

The past ten years has seen significant changes in the logistics industry. Governments have withdrawn from operating services in the market and new market leaders have emerged to drive an intensely competitive race for developing and delivering a range of logistics services never before offered by individual service providers.

At the same time there have been casualties of the recent industry churn; most notably the previous industry leaders (TNT, Mayne Nickless and Brambles) as well as many smaller companies that have been either acquired by the industry leaders or forced to exit the industry due to prevailing competitive forces. However, the study concludes that industry consolidation has not resulted in less competition generally than when the industry was dominated by TNT, Mayne Nickless and government operators.

However, the study does conclude that the most significant development in the supply of logistics services, the acquisition of scarce rail assets by a few private interests, has resulted in a fundamental power shift in the supply of logistics services.

² This report uses the Australian Logistics Industry Strategy definition of logistics: all activities relating to the handling, movement and storage of freight. National logistics services are those services satisfying the national needs of a customer. Integrated logistics services are those services incorporating more than one logistics service offered as an integrated package. National and integrated logistics services can be mutually inclusive.

Although rail reform in Australia has delivered improved rail services, the withdrawal of governments from the provision of rail freight services and the resulting transfer of rail assets to the private sector has delivered a fundamental power shift in the supply of logistics services in the container, bulk and inter-state freight tasks.

Through private ownership, rail services have been vertically integrated into sophisticated logistics services, providing just a few firms with the capability to deliver national and seamless door-to-door services. In doing so, rail reform has had a flow-on effect of changing the competitive dynamics of non-rail segments of the logistics industry.

The extent competition has diminished in nationally significant freight markets has not been fully understood because of the misconception that the internally competitive road transport sector offers sufficient countervailing power to the control and vertical integration of scarce rail assets.

The study has also identified a number of other concerns relating to the control of scarce logistics assets that are likely to diminish competition within the logistics industry, now and into the future:

- **Container Stevedoring:** While the container stevedoring duopoly has resulted in competitive outcomes between the operators in the past, increased congestion will weaken the motivation to achieve economies of scale through vigorous competition. Control of container stevedoring terminals provides a key focal point in the vertical integration of land-based logistics services for international containers, providing the incumbent operators significant market power.
- **Air Freight:** The collapse of Ansett and its associated air freight operations has significantly diminished the competitive forces in the air freight market by providing Qantas with a dominant position in the supply domestic air freight capacity; capacity that Qantas integrates with its land-based freight services.
- **Industry Intelligence:** The Australian logistics industry operates in an environment of uncertainty due to the lack of available market information upon which to make informed business decisions. Information asymmetry provides larger companies, particularly those that control information focal points such as inter-modal terminals, with a significant source of market power. It also acts as barrier to the efficient and effective functioning of the industry as a whole.

The study finds that the current market leaders are driving the type of changes required within the industry to continue to deliver the range of services demanded by customers. However, the acquisition and vertical integration of scarce logistics assets has significant implications for the underlying competitive dynamics of the industry in the medium to long term.

A Fundamental Power Shift in the Demand for Logistics Services

Responsibility for the movement of freight is a significant negotiating point in the transaction process between suppliers and customers. In the Australian retail sector, the primary freight task (from the supplier's factory or warehouse to the customer's distribution centres) has historically been managed by suppliers of retail products. However, the major grocery retailers have commenced strategies to take control of the primary freight task.

While control of the primary freight task by retail chains has been taking place in Europe for over a decade, some Australia retail suppliers are not necessarily convinced that similar strategies here will deliver benefits to suppliers of retail products due to some of the unique characteristics of the Australian retail market. For example, in the case of manufactured dry food products, sales through Woolworths and Coles Myer represent approximately 70 per cent of the market.

Understanding the effect of retail control of the primary freight task is important because of the key position food manufacturers have in the farm-to-retail supply chain and their historical influence on the character of the Australian distribution network, particularly in terms of their buying power for logistics services.

This study finds that there is sufficient overseas evidence to conclude that there are significant benefits to customers and retailers as a result of the latter's control of the primary task. However, there is insufficient information to determine whether any net benefit will be realised by suppliers relying on the major retailers for the majority of their sales. Whether this constitutes market failure in terms of the flow-on effects to the performance of our retail logistics chains, and as a consequence cause for government action, is open to debate.

The study finds that:

- It is possible that by taking control of the primary freight task, retailers will push chain inefficiencies and costs back to suppliers without any compensatory benefits.
- Retailers will seek to simplify the management of logistics systems, potentially creating a lowest common denominator effect. This may reduce the supplier's ability to increase sales of their product, or reduce costs, through innovative logistics systems.
- Suppliers will experience a reduction in their buying power for logistics services; in some cases a substantial reduction. Suppliers will still need logistics services to deliver nationally to retailers that have not taken control of the primary freight task.
- The size of the retailers' primary freight contracts are likely to be highly prized by the logistics industry due to the value and volume on offer, and will significantly influence the character of the Australian distribution network.

The Impact of Changes in Demand for Logistics Services on the Logistics Industry

In addition to the structural change in demand caused by the control of the primary freight task by retailers, the study finds that there is increased interest by shippers to move away from a collection of regional logistics solutions to one national solution. This rationalisation of logistics needs is a result of improvements in inter-state transport and higher urban distribution centre costs. National logistics solutions are likely to involve fewer but larger distribution centres and potentially fewer (and again larger) logistics contracts.

However, in seeking national logistics solutions, major retailers and shippers will also find that they have only a few logistics service providers from which to choose. Consequently, the study concludes that the more viable national logistics solutions become the stronger the competitive position of those service providers capable of delivering a national service.

The scarcity of key logistics assets may limit the Australian business community's access to efficient logistics services in the near future, resulting in possible first mover advantages for major shippers and lessening Australia's overall competitive performance.

Greater demand for national logistics solutions combined with the rationalisation of distribution networks will have a significant impact on the demand for transport infrastructure, testing the effectiveness of current government planning and investment decisions that are based primarily on existing distribution patterns.

Fewer, much larger warehouses will also result in the concentration of road transport activity at key distribution points in the network. This will result in increased congestion and loss of social amenity in the local area, and strain the effectiveness of the connections between the inter-state network and points of freight consumption (eg, retail centres).

Key Policy Questions

As an initial analysis of the concept of market power in the context of recent developments in the supply and demand of logistics services in Australia, this study makes a number of observations and conclusions that would benefit from further debate and research. The

Integrated Logistics Network welcomes comment on the study, particularly in terms of answering the following key policy questions:

1. Can Australian governments use logistics policy, including transport infrastructure investment decisions, as the basis for driving further productivity growth in the future? If so, is our understanding of the contribution logistics activities make towards the generation economic wealth sufficient in detail and sophistication, and how can we improve this if it is not the case?
2. Should non-transport portfolios be more involved in the development of logistics policy and, if so, how might that be achieved?
3. Are conclusions of this report regarding the extent of industry concentration in the container, bulk and inter-state logistics sectors, with its implications for the accumulation and potential exertion of market power, consistent with industry and government perceptions?
4. While the report concludes that the current logistics industry structure has been the result of intense competition for market leadership and the drive to meet share market expectations, what are the likely market outcomes in the foreseeable future if left to market forces alone to determine?
5. Will the developments in the supply and demand for logistics services likely to be positive or negative for the Australian economy overall?
6. How can Government policies encourage the continued responsiveness of the logistics industry to customer needs, while at the same time identifying and addressing potential limitations in the contribution of the logistics industry to Australia's economic performance?
7. As the trends identified in this report are not unique to Australia, what is the most effective way we learn from overseas developments, including industry and government responses to the changing market environment?

1 INTRODUCTION

1.1 Background

This study, commissioned by the Integrated Logistics Network in partnership with private sector interests, has been undertaken to explore the changes in the competitive dynamics of the Australian logistics market and to identify trends and possibilities for further research.

The continuing consolidation of the logistics industry³, the accumulation by a few firms of strategic assets, particularly those that were formerly government owned, and the potential for a reduction in competition are specific changes in the supply of logistics services that are of interest.

There is also interest in the strategies of the major retailers to take control of the primary freight task (the movement of product from supplier to customer), and the effect this might have on the suppliers of retail products and the demand for logistics services.

As a vital component of the Australian economy, it is important that Australian governments keep abreast of changes in the market for logistics services and how these changes may affect the performance of our economy.

A key feature of Australian logistics policy is the articulation by governments of the importance of strong chain leadership. This is supported by international management literature, which demonstrates that success in the global marketplace is directly related to efficient and responsive logistics chains.

Facilitating the development of benevolent chain leaders is a worthy and realistic goal for governments, particularly when the failure to achieve globally competitive chains will result in the loss of Australian export dollars. But chain leadership implies an ability to influence others along the chain. So a key question is when does influence become market power?

It is the purpose of this study to develop an understanding of:

- How market power is achieved within a logistics chain setting;
- The impact market power may have on competition;
- The implications for government policy; and
- Priority areas for further research.

1.2 Approach

The investigation and regulation of market power is not new. However, understanding market power in the logistics chain context is a more recent development, reflecting increasing government and academic awareness of the importance of logistics and supply chain management to national economic performance.

Our approach here derives principally from the work of Professor Andrew Cox and his colleagues at the Centre for Business Strategy and Procurement at the Birmingham Business School. Cox, et al, address the inadequacies of existing approaches to the measurement of market power by developing a model based on the relative power derived from the accumulation of critical assets by customers and suppliers. By understanding the relative value and scarcity of market assets held by those along the logistics chain it is possible to identify sources of potential power.

However, regardless of the approach used to identify and determine the extent of market power, a fundamental starting point is the clear definition of industry parameters. Chapter

³ The logistics industry is defined as those firms engaged in the supply of services relating to the movement, storage and handling of freight. The term logistics chain is also used to reflect the combination of logistics and supply chain management techniques. These definitions are consistent with the approach used in the Australian Logistics Industry Strategy.

2 discusses the difficulty in defining the market for logistics services, but does provide estimates of the value of the Australian logistics market and its components. A case study of the east-west rail corridor is provided to demonstrate the difficulty in using national market value estimates as the basis for determining market concentration and potential market power.

Chapter 3 identifies changes in the supply of logistics services through the presentation of a summary of relevant *Australian Financial Review* articles over the last 20 years. This provides a historical perspective of the present characteristics of the industry.

Chapter 4 identifies changes in the demand for logistics services focusing on the latest trend towards retailer control of the primary freight task. A case study of the primary freight strategies of Woolworths and Coles Myer, and the potential impact on suppliers and logistics services is provided.

Chapter 5 considers a qualitative framework for assessing potential market power that might be used as the basis for the initial identification of issues requiring further investigation. A case study on the export grain logistics chain is presented to illustrate the dynamic interaction between supply and demand powers.

In Chapter 6 a number of conclusions are drawn and issues requiring further investigation are identified.

The issues covered in this study are broad ranging and many faceted. Consequently, it has not been possible within the resources provided for the study to deliver a comprehensive quantitative approach to the issue. Instead the study attempts to accelerate consideration of power in logistics chains by focusing on priority concerns as expressed by policy officers and industry sources. The results presented here would benefit from input from key stakeholders such as logistics, retail and manufacturing industry leaders.

The results of the study are sufficient to suggest that the Integrated Logistics Network has again identified an important strategic issue in the drive for developing world class logistics services in Australia.

2 THE AUSTRALIAN LOGISTICS MARKET

2.1 Defining the Market for Logistics Services

The fundamental starting point of an investigation of potential market power is the definition of market parameters. This can be relatively simple where the product is easily defined and has few substitutes; where producers and consumers of the product are easily identified; and where the spatial and temporal characteristics are clear. But in the case of service industries such as logistics, where it is difficult to even reach agreement on the definition of logistics and supply chain services, defining market parameters presents a significant first hurdle.

This report adopts the Australian Logistics Industry Strategy (ALIS) definition of logistics, i.e., any activity involved in the movement, storage and handling of freight, including through points of production, transformation and to the point of consumption or disposal (ALIS 2002).

These activities are broad-ranging, complex, and often inter-dependent; many can be undertaken either in-house as critical elements of a firm's business case, or they can be out-sourced to competing service providers.

Furthermore, not all logistics suppliers offer the same range of services. As well; customers in the same industry can have multiple logistics service requirements per product, but at the same time products from different customers and industries can utilise similar logistics services. The range of logistics activities performed in Australia reflects the diversity of our economy and the complex needs of the business community.

Even often used terms such as multi-modal, inter-modal, integrated and national are poorly defined. For the purposes of this study we use the following conceptual definitions:

- National logistics services are those satisfying the national needs of a customer. It is possible to deliver national logistics services using only one mode of transport. It is also feasible to consider the provision of ICT logistics services to a customer on a national basis as a national logistics service.
- Integrated logistics services are those services incorporating more than one logistics service in an integrated fashion. It is possible to provide integrated services on a regional or even local basis. Vertically integrated logistics services refer to the integration of inter-modal services and usually imply the integration of non-transport services such as ICT and storage.
- Inter-modal logistics services refer to the transfer of freight from one type of transport to another form of transport, for example, from a truck to a train. Inter-modal can also refer to the transfer of freight between different trucks via cross-docking facilities.
- Multi-modal logistics services are where a firm can offer alternative forms of transportation for the same freight task, or where a firm operates in more than one transport sector. Multi-modal services need not be integrated and it can be difficult to determine to what degree a firm has truly integrated multiple transport services.

It is possible for a large logistics company to provide national inter-modal services to one client, regional multi-modal services to another client and locally integrated services for a third client all at the same time. This demonstrates the difficulty in determining the market power a particular logistics company might possess, particularly if one relies on the standard measure of relative market share.

Given the diversity of logistics services that can be offered it is almost meaningless to analyse market conditions based a single 'national' logistics market view point.

Instead, it is more useful to consider the national market as a spectrum of logistics sub-markets that are based primarily on the physical product characteristics, overlaid with spatial and temporal origin-destination dimensions. Ideally, such an analysis could then be

used to further explore how these sub-markets intersect along individual supply chains and affect the performance of the chain.

Unfortunately, data on logistics activities, either at the national level or in a disaggregated sub-markets form, are not readily available to conduct market analyses. This situation is not unique to Australia as governments and academic institutions through out the world have only recently come to understand the importance of logistics (rather than freight transport) as an economic activity.

Nevertheless, it is important to establish an estimate of the value of the Australian logistics market in aggregate; at the very least to gain some context for future assessment of the relative importance of the sub-markets. It also puts into perspective the relative value of those logistics services currently out-sourced to the market compared to the value of those logistics activities performed in-house.

2.2 The Value of the Australian Logistics Market

A reasonable approximation of the value of the Australian logistics market can be made by estimating the Australian business community's spend on outsourced logistics services and the value of resources used to perform logistics operations in-house.

For example, EFT Global Research estimates that the total European logistics spend is approximately equivalent to 18 per cent of the gross domestic product of the European Union, or \$US150 billion (EFT 2003), with out-sourced and in-house activities representing 25% and 75% respectively.

There are no estimates of the value of the Australian logistics market similar to the EFT estimates. However, the Bureau of Transport and Regional Economics (BTRE) has estimated that the value-added contribution of logistics activities to Australian gross domestic product (GDP) is about 9%. This estimate does not represent the total value of the Australian market, since value-added is only a proportion of operating revenue, as per the BTRE observation in its port impact studies that revenues may be 1.6 times value-added (BTRE 2001, ch. 4).

To estimate the value of the Australian logistics market we can build on various international sources that suggest that in terms of costs, four key categories of logistics activities stand out. These categories and their relative contribution to total logistics costs (as used in the ALIS) are provided below:

Transport	40%	Inventory	20%
Storage	25%	Administration	15%

By estimating total freight transport costs for Australia, these relativities can be used to provide an estimate of total logistics costs.

a) Total Freight Transport Costs

Based on a variety of sources, Australian suppliers freight transport services received operating revenues of approximately \$33 billion in 2000, split across modes as follows⁴:

- Road transport: \$16.5 billion (BTRE 2003a)
- Rail transport: \$3 billion (ARA website)
- Maritime transport: \$1 billion (Sd+D estimate)
- Air transport: \$0.5 billion (Sd+D estimate)
- Transport services: \$12 billion (Sd+D estimate)

⁴ Our estimates are based on a variety of assumptions representing our informed view until accurate and broad-ranging data and analyses are available. As indicative estimates they serve the purpose of this study.

However, 3rd party freight transport costs are only a proportion of total transport costs and estimates of the cost of in-house transport activities must also be made.

- The NRTC has estimated that in-house road transport operations are roughly equal to out-sourced transport operations, on a kilometre basis (cited in BTRE 2003a). We therefore assume that in-house road transport costs are equal to the outsourced road transport revenues (\$16.5 billion).
- Some transport service functions are conducted in-house, for example freight forwarding, consolidation, packing and unpacking. To estimate the resource cost of these in-house functions, we assume that the scale of the in-house component is half that of the out-sourced component (\$6 billion).
- We assume that no rail, air or maritime operations are conducted in house⁵. The cost of the in-house management of these contracted services is assumed to be captured in the estimate for in-house transport services.

Adding together the revenues received by the 3rd party transport logistics sector (\$33 billion), and the resource costs of conducting road transport and transport activities in-house (\$16.5 billion and \$6 billion), we estimate the total transport logistics cost in Australia was in the order of \$56 billion in 1999-2000.

Applying the logistics cost relativities from earlier in this Section, this represents 40 per cent of Australia's total logistics costs and therefore the total Australian logistics cost would have been approximately \$139 billion in 1999-2000. This figure is equivalent to 22 per cent of Australia's GDP in 1999-2000⁶.

If the estimate of 22 per cent of Australian GDP for 1999-2000 holds true today, total Australian logistics costs in 2002-03 were approximately \$166 billion. This represents the *potential market* for Australian logistics services, i.e., the market possible if all logistics activities were out-sourced.

b) The Realised Market for Logistics Services

The estimated expenditure on out-sourced *transport*-related logistics services was \$33 billion in 2000, as outlined above. In order to determine the value of the contested logistics market, an estimate of expenditure on out-sourced *non-transport* logistics services is required.

The only data available on out-sourced non-transport activities is the ABS estimate of the contribution of storage to Australia's GDP, which was \$1.2 billion in 1999-2000. Using a revenue multiple of 1.2, we estimate that outsourced storage activities were valued at \$1.4 billion; therefore the value of the contested outsourced logistics market was approximately \$34 billion in 2000.

Table 1 provides a summary of our estimates. We have maintained the relativities derived from the 1999-2000 data to extrapolate 2002-03 data.

c) Interpreting the Estimates

Europe and Australia are modern economies with similar logistics industry structures and characteristics. The only significant differences are, perhaps, the vastly greater volumes in Europe and the more mature European 3PL market. It can be assumed that these differences would drive European logistics costs lower than they would be in Australia, relative to the size of the economy. That is, all things being equal, we might have expected total logistics costs in Australia to be higher than 18 per cent of GDP and our estimates suggest this is so.

⁵ The in-house rail operations of Western Australian mining companies and some in-house shipping services are not accounted for in this analysis.

⁶ This is not the contribution to GDP (estimated by the BTRE to be 9 per cent). GDP is used here to measure the scale of total logistics costs relative to the size of the Australian economy, and is a useful measure to compare the size of the logistics market (a derived economic activity) relative to the size of the economy.

Given the relative maturity of the European 3PL market, we might also have expected the proportion of out-sourced logistics costs to total costs for Australia to be less than Europe's 25 per cent. However, our estimates suggest a similar sized realised market relative to the potential market.

Table 1 - Australian Logistics Costs

Component	\$ billion	
	1999-00	2002-03
Outsourced Transport	33	39
Road Transport	17	20
Transport Services	12	14
Rail Transport	3	4
Maritime Transport	1	1
Air Transport	1	1
In-house Transport	23	27
In-house Road Transport	17	20
In-house Transport Services	6	7
Total Transport Costs	56	66
Total Logistics Costs	139	166
Transport (40%)	56	66
Storage (25%)	35	41
Inventory (20%)	28	33
Administration (15%)	21	25
Realised Logistics Market	34	41
Outsourced Transport	33	39
Outsourced Non-transport (storage)	1	2
Outsourced logistics services as a proportion of total logistics costs	25%	25%
GDP	629	754
Total logistics costs relative to GDP	22%	22%

Note: The estimates in this table are based on different data sources for the period 1998 to 2001, and various assumptions that are based on our informed view until more accurate data are available. The estimates are indicative only and totals may not be equal due to rounding.

Based on the EFT Global Research estimates, we conclude that our estimates of the size of the potential and realised Australian logistics markets are a reasonable approximation in the first instance. However, as discussed in Section 3.2(a) these estimates should not be used as the basis of determining market power, as they fail to reflect the characteristics of the spectrum of sub-markets that constitute the national market. To explain further, consider the following two examples:

- If we look at each component of logistics activity individually, a firm might not be seen as having market power if it controls only a small share of the market for each component. However, if that firm integrates each component into one logistics service, the type of service offered to the market is more suitable to certain types of logistics needs or sub-markets.
- A firm might have a small market share of one form of logistics activity but if that firm concentrates its services on one particular sub-market then its real market share will be

higher. Rail is a good practical example of this. In Section 3.2 we estimated that the value of rail transport services is less than 10 per cent of the currently contested Australian logistics market. However, rail provides a critical service in the transport of bulk commodities (in some cases it is the only method of transportation) and it is the dominant mode for movement of non-bulk freight on the east-west corridor. Control of rail services in these sub-markets present a far greater degree of market power than the market share of all logistics services might indicate.⁷

These examples demonstrate that the difficulties of determining the existence of market power in the supply of logistics services as each sub-market must be analysed in terms of its relationship with other logistics sub-markets in order to determine, among other things, the existence of substitute logistics services and potential market entrants.

2.3 Logistics Sub-Markets

Logistics sub-markets are best defined in terms of the logistics task, which is based on product characteristics and spatial/temporal dimensions. For example, a logistics sub-market can be defined by a combination of the following:

- The value, size, shape and weight of the product;
- The product's sensitivity to time and the frequency with which the product moves through the chain; and
- The relationship between the source and destination of the product in terms of location and ownership.

A number of different logistics solutions are possible for each logistics sub-market, including variations in the type and character of the transport to be used. As transport is one of the most 'visible' differentiating feature of sub-markets, the type of transport is commonly used to describe the sub-market, e.g. non-bulk road transport. However, defining logistics markets by broad modal class is inadequate and inappropriate as it lacks the sophistication required to analyse logistics chain characteristics and market dynamics.

Defining logistics markets on the basis of broad modal classes should be avoided because:

- Modal classification ignores the fundamental principle that logistics solutions are a balance between the movement and storage of freight, and as such the ownership and control of warehouse and storage infrastructure is equally important to transport considerations;
- A single modal class does not capture the variety of different types of modal configurations available and the range of different services they provide. For example, the CRT cargo sprinter provides a different kind of rail transport solution than the traditional inter-state container train configuration. Similarly, an econovan provides a different road transport solution than a B-Double;
- Different modes can be used in combination to provide an integrated logistics solution for a given logistics market. For example, the typical logistics solution for the supply of completed automobiles to the consumer market involves the combined use of road and rail transport, and sea transport in the case of vehicle imports and exports;
- Modal classification fails to allow for modal substitution or the use of different types and/or configurations of the same mode; and
- Logistics sub-markets often intersect at points such as terminals, air and sea ports. Other intersection points include the same right of way (train tracks, shipping channels, air space and roads) and participants in the chain (for example the customer, supplier or various 3rd parties). It is important to understand how the control of these intersection points affects various sub-markets.

⁷ The significance of rail will be even greater when the impact of an expected shortage in truck drivers is felt, particularly on the inter-state routes.

Being able to describe the Australian logistics market in terms of the relative importance of the various sub-markets would add significant value to the development of better national logistics policies. For example, while we know that Australian coal exports are greater than our wine exports in terms of export dollars, it does not necessarily follow that the value of the market for logistics services to the coal industry is greater than the value of the market for logistics services to wine industry.

The general lack of understanding of the relative values of the logistics sub-markets has important implications for determining the relative merits of various transport infrastructure investment options and for the focus of government logistics initiatives.

Given current data limitations, including the modal nature of existing data, this study is not in a position to improve our knowledge of Australian logistics sub-markets. Instead the study focuses on the provision of logistics services related to general, non-bulk and containerised freight, and where possible, analysis and observations are extended to other product types.

At this point, the key message is that if Australian governments desire to use logistics policy, including transport infrastructure investment decisions, as the basis of driving further productivity growth, then our understanding of the contribution logistics activities make towards generating economic wealth must improve in terms of detail and sophistication.

2.4 Case Study – The East-West Rail Corridor

This case study looks at the east-west rail corridor to demonstrate the misleading conclusions regarding market power one might draw from an analysis of national market shares. Due to resource and data limitations, a comprehensive analysis has not been possible. However, we believe the case study presented provides enough useful insights for further investigation of market power in a logistics context.

For the purposes of this study, the interest in the east-west corridor is limited to the movement of non-bulk freight, particularly by rail, across the Nullarbor Plain.

Table 2 - Western Australia Land Transport Inter-State Freight Task, 2000-01

Inter-State Task in Thousand Tonnes					
	WA Inter-State			Australia Inter-State	WA Share
Mode	Inwards	Outwards	Total	Total	Per cent
Road	821	804	1625	52197	3
Rail	1676	903	2579	11356	23
Total Land	2497	1707	4204	63553	7
Inter-State Task in Thousand Tonne-Kilometres					
	WA Inter-State			Australia Inter-State	WA Share
Mode	Inwards	Outwards	Total	Total	Per cent
Road	2256540	2300302	4556842	42759947	11
Rail	6107391	3340122	9447513	18665246	51
Total Land	8363931	5640424	14004355	61425193	23

Source: ABS Freight Movements, Summary, 9220.0, year ended 31 March 2001.

a) Overview of the East-West Freight Task

Rail reform has had an immediate and significant influence on the movement of freight between Australia's east and west coasts. The large distances involved are more suitable to the economics of rail and sea transport than to road, and also provide market opportunities for air freight services. This makes the east-west corridor the most modally diverse section of the Australian logistics network.

The ABS⁸ estimates that the Australian domestic transport task for the year ended 31 March 2001 was 320,108 million tonne-kilometres. Of this, Western Australia's inter-state freight task was 50,802 million tonne-kilometres. In terms of tonnes carried, the modal shares for Western Australia's inter-state freight task were: road 13.9%, rail 22.1%, sea 63.6% and air 0.4%. The significant market share for sea transport reflects coastal movements of bulk freight.

Table 3 - The Inter-Capital Non-Bulk Freight Task, 2001 (thousand tonnes)

Mode	Total Inter-Capital	Perth-Eastern Capitals	Per cent
Road	22625	911	4
Rail	6008	2192	36
Sea	817	694	85
Total	29450	3797	12

Source: BTRE 2003b

Western Australia's land transport inter-state task, almost all of which crosses the Nullarbor Plain, is nationally significant – particularly in terms of the national rail task (see Table 2).

Table 3 illustrates that the Perth-eastern capitals rail task is also nationally significant in the non-bulk freight sector.

The BTRE data indicates that the growth of total non-bulk freight on the Perth-eastern capitals corridor for the period 1974 to 2001 has been similar to the growth of other inter-capital corridors during the same period (see Table 4). However, the rail task for the east-west corridor has grown at rates faster than the other corridors over the short and long terms.

Table 4 - Non-Bulk Inter-Capital Freight Growth, Various Periods

Mode	Change (%)					
	1972-2001		1992-2001		1997-2001	
	E-W	Other	E-W	Other	E-W	Other
Road	1722	421	-2	79	-14	30
Rail	522	61	79	-6	40	16
Sea	-3	-78	717	583	110	162
Total	240	261	70	58	29	28

E-W = City pairs of Perth and Melbourne/Sydney/Brisbane/Adelaide. Other = Melbourne-Sydney, Sydney-Brisbane, Sydney-Adelaide, Melbourne-Adelaide, and Sydney-Canberra. Source: Calculations based BTRE 2003b.

As a result of this growth, rail has captured then maintained a majority market share on the Perth-eastern capital city corridor (see Figure 1). Despite the resurgence in shipping on this corridor, rail has maintained a market share of over 55 per cent in recent years. However, in terms of the land transport component, rail's market share over road has risen to its highest levels (71 per cent in 2001) since the completion of the sealed Eyre Highway.

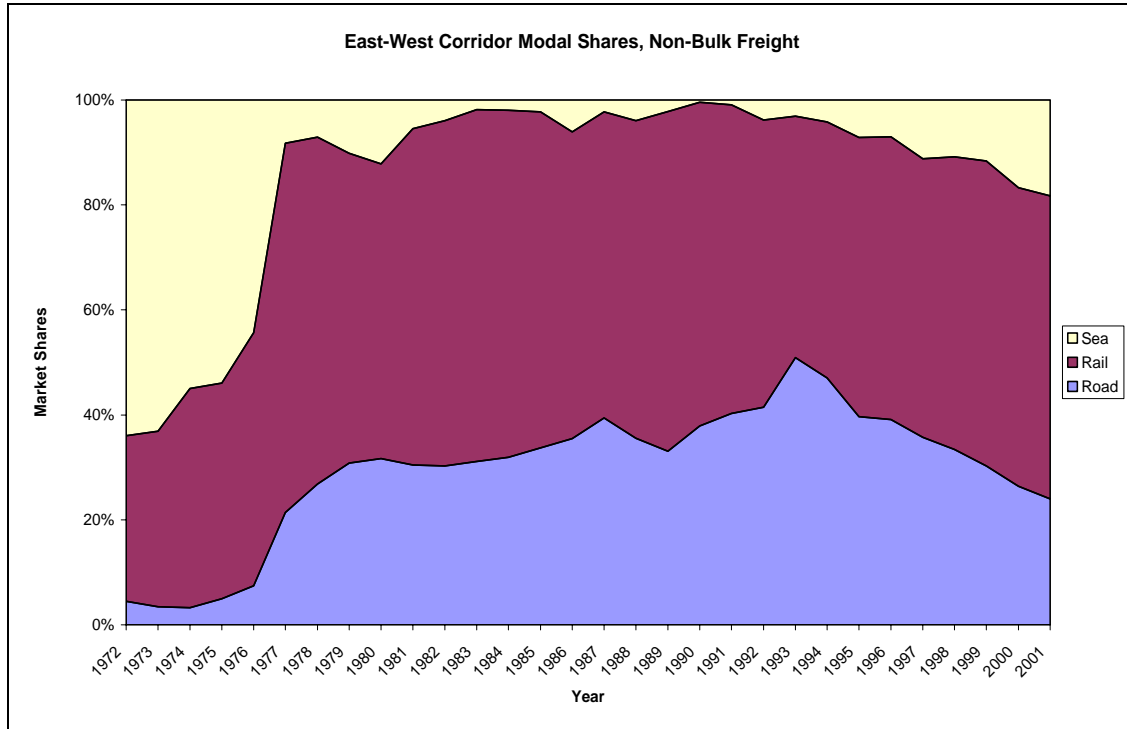
The simple average annual growth rate of 7.9 per cent for non-bulk rail freight on the Perth-eastern capital corridor represents much stronger growth than for the overall logistics network than what was forecast in AusLink (p. 13). That is, over the next 20 years:

- The total non-bulk, non-urban road freight task is expected to grow at 4.3 per cent per annum; and
- Urban freight growth is expected to grow at 3.1 per cent per annum.

⁸ Freight movement data ABS 9220.0.

The data above demonstrates that the east-west corridor is a significant section of the national Australian logistics network and that rail, in particular, plays a vital and dominant role for the movement of non-bulk freight over the corridor.

Figure 1 - East-West Corridor Modal Shares, Non-Bulk Freight



b) Overview of Rail Stakeholders

The three categories of rail transport services are:

- Train operators;
- Rail freight forwards; and
- Track owners.

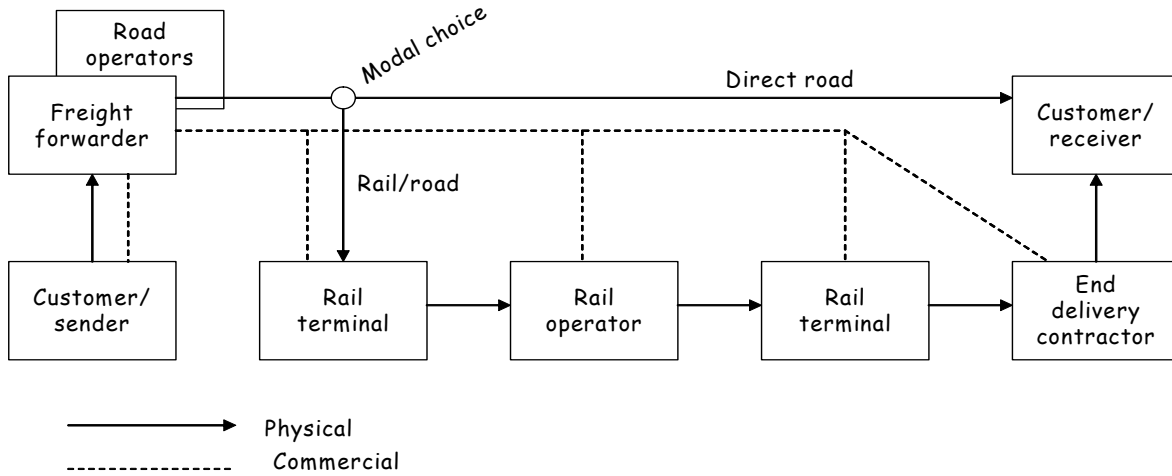
On the east-west corridor, **track ownership** is in the hands of government (WA for the line west of Kalgoorlie and the NRTC east of that point). It is the track owner – through its investment decisions – that determines the capacity of the rail corridor.

Rail capacity is described in terms of freight paths. However, not all train paths are necessarily commercially useful. In the case of the east-west corridor, demand is strongest for train paths that allow for the late afternoon/evening receipt of freight in Sydney and Melbourne with arrival in Perth in the early morning. Consequently, there are currently 12 useful train paths on the Melbourne to Perth sector and 8 on the Sydney to Perth sector (*pers. comms. industry sources*).

There are two **train operators** over the corridor, Pacific National (PN) and Specialised Container Transport (SCT)⁹. Of the available useful train paths, PN holds the rights to all but the 3 held by SCT on the Melbourne to Perth sector. That is, the incumbent train operators hold the rights to all currently available ‘useful’ train paths, with PN holding the property rights for the vast majority.

⁹ SCT trains were operated under a ‘hook and pull’ arrangement with Freight Australia. The latter have now been purchased by Pacific National.

Figure 2 - The Freight Forwarder's Commercial Relationships



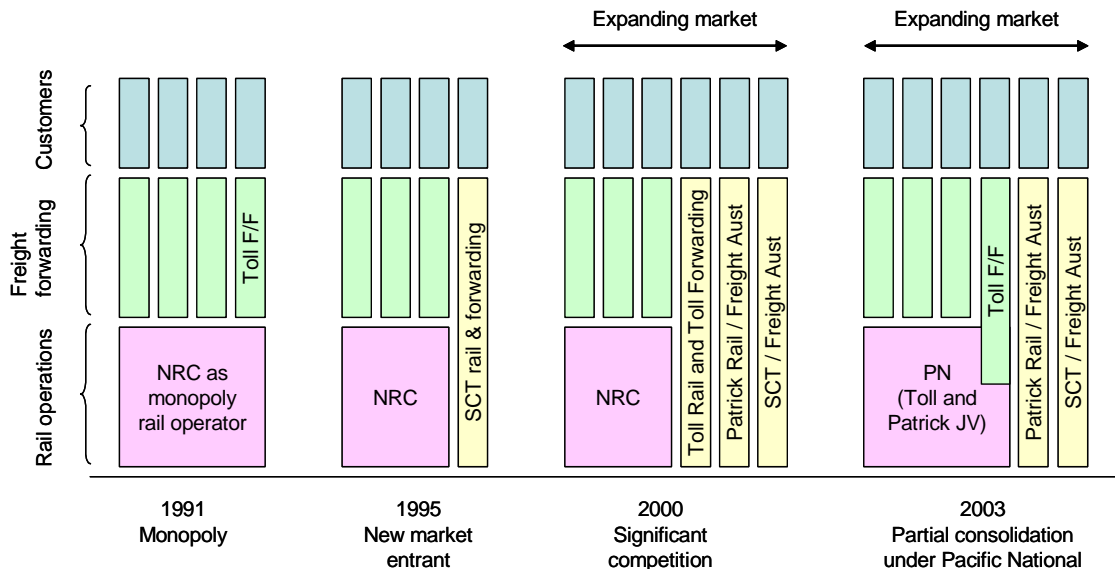
Freight for the services offered by train operators is organised by **rail freight forwarders** and consolidators. There are 6 major rail freight forwarders operating in the east-west non-bulk market:

- Patrick
- FCL
- Rand
- Toll
- Linfox
- K&S Corp

The rail freight forwarders compete with each other and with road forwarders for the business of the freight owners (customers or shippers). They must also compete for the purchase of space on trains to transport the freight across the Nullarbor.

The role of the freight forwarder is essentially focussed on the customer relationship (see Figure 2), consolidating many consignments into larger lots for movement by rail. However, greater vertical integration has blurred the distinction between rail operators and freight forwarders (see Figure 3).

Figure 3 - Changing Transactional Relationships in East-West Rail Services



c) The Supply of Rail Services

Since 1991, there have been three significant phases of change in the supply of rail services on the east-west corridor influencing the competitive behaviour of transport companies and freight forwarders. These are:

1991-1995	Government-owned rail entities consolidated into the National Rail Corporation (NRC), operating as a public monopoly rail provider on tracks owned by various governments.
1995-2001	<p>New entrants into the rail haulage market, led by SCT (1995) and TNT (1996, subsequently purchased by Toll Rail in 1997), primarily utilising equipment sourced from non-NRC (state-based) providers.</p> <p>Track ownership consolidates under ATRC, and access to the main east-west line is regulated at arms length from state governments.</p> <p>Patrick Rail and SCT operate rail services in various alliances with Freight Australia and WestRail (later the Australian Rail Group) for hook-and-pull services.</p> <p>Rail pricing declines by at least 25 per cent.</p>
Post 2001	Pacific National (a joint venture of Toll and Patrick) purchase and integrate NRC and FreightCorp (NSW). Patrick Rail continues to operate its Melbourne-Adelaide service. Key interstate rail terminals are excluded from ARTC ownership. Mixed reaction by freight forwarders to new ownership model.

The introduction of competition led to a dramatic decrease in rail freight rates (up to 30%). It is understood that rates have steadily increased since then, although they are presently around pre-competition rate levels in nominal terms. This movement in rates is illustrated in Figure 4.

Figure 4 - Melbourne to Perth Rate Movements

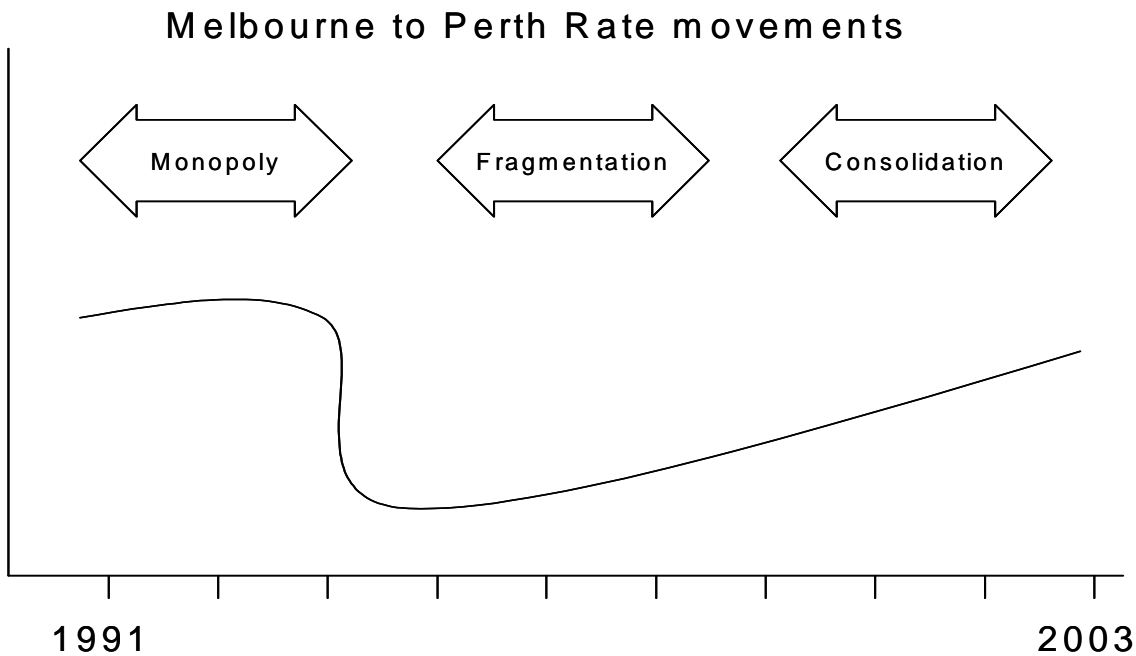


Figure 5 presents a time line, summarising the transition from monopoly rail services being provided by the National Rail Corporation, to the introduction of competition from SCT and Toll, to the current situation in which the vast majority of rail services are provided by Pacific National.

The east-west rail corridor story depicted in Figures 3 to 5 is about government intentions to achieve improved rail services through the introduction of competition. While at first this creates a period of industry transition and customer benefits, the transfer of scarce rail assets to private interests limits the potential entry into the market, allowing the new private duopoly the first mover advantage of locking in their competitive position through market closure.

As a government owned entity, National Rail was limited in its ability to exercise the considerable market power it held over more than half of the WA inter-state non-bulk freight movements. However, the reduction in National Rail's freight rates by at least 25 per cent as a direct result of the entry of SCT and then TNT/Toll as competitors demonstrates that National Rail was still capable of extracting super-normal profits.

Nevertheless, the story is not so much about the supply of rail services being a duopoly, because we have seen in the container stevedoring industry that duopolies can result in competitive market outcomes *when there is a need to capture scarce volumes that cover the significant capital costs incurred in providing the service*. The real issue is the imbalance in the supply of train services and the power the vertical integration of those services provides in the rail freight forwarding and door-to-door markets.

d) Summary

This case study demonstrates the following:

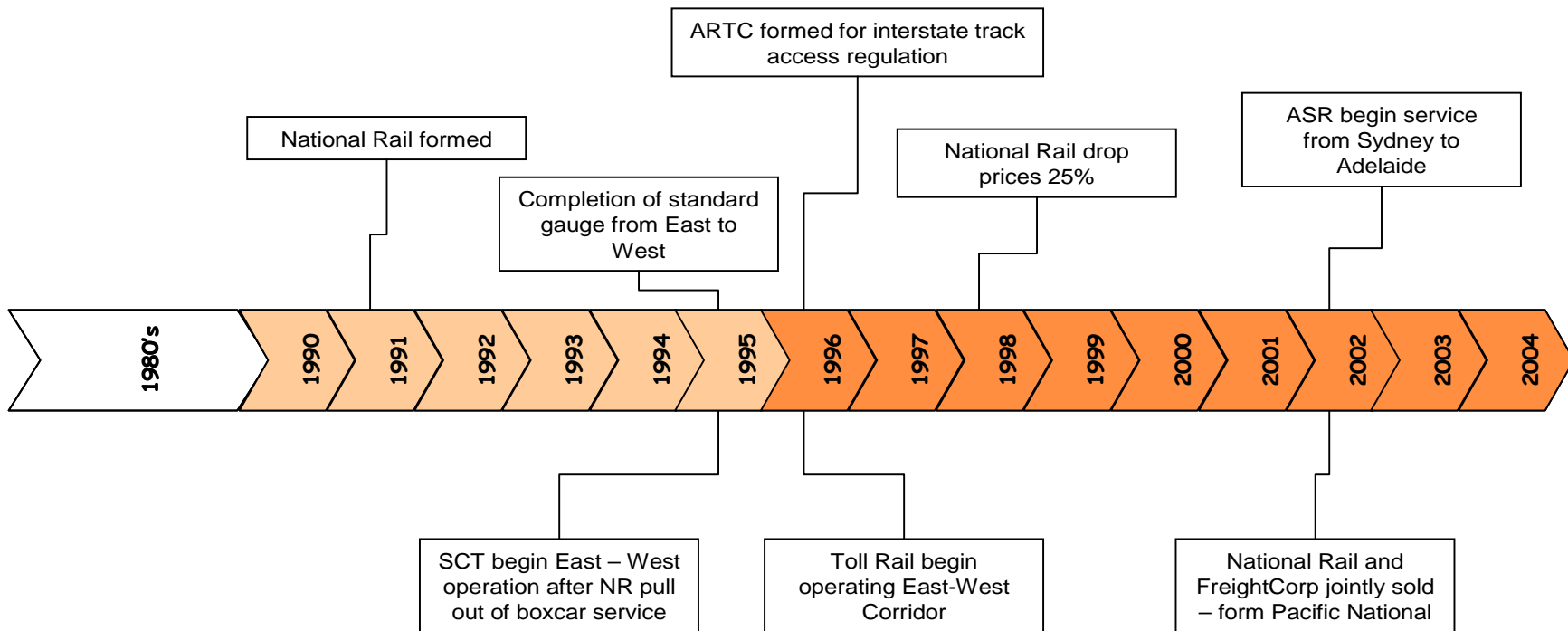
- The effect of market de-regulation, new entrants, price erosion for incumbent (monopoly) providers, and instability in inter-firm relationships between (a) rail operators and freight forwarders and (b) freight forwarders and their customers as a result of de-regulation;
- The importance of analysing logistics sub-markets as the basis of using market shares to determine market power; and
- The 'bipolarisation' in the supply of logistics services, with only two operators providing train capacity and a few rail forwarders purchasing and selling train space compared to the many road-based forwarders and operators either providing services along or at either end of the corridor.

The dominance of rail on this sector will be strengthened further by the impact of driver shortages on inter-state trucking.

It is also worth noting that:

- Toll had little if any rail experience prior to its purchase of the TNT rail services; the same can be said for Patrick when it entered the Adelaide-Melbourne rail sector. In hindsight, these initial forays into rail provided the opportunity to establish sufficient rail expertise to make it possible to bid competitively for future privatised government rail assets. As such, they demonstrate the lead-time required for logistics companies to build organically the capability to provide capital intensive logistics services, and the difficulty it poses for other companies to enter the market quickly.
- SCT is a privately owned company whose corporate history suggests it is more likely to take a risk and more willing to establish a national presence than other privately owned companies. However, SCT appears to favour an organic growth strategy and has not been an active acquirer of logistics businesses.

Figure 5 - Timeline of Events: East-West Transport Corridor



3 AN OVERVIEW OF THE SUPPLY OF LOGISTICS SERVICES

This Chapter provides a historical overview of the Australian logistics market based on a review of 20 years of *Australian Financial Review* articles on mergers and acquisitions in the logistics industry¹⁰. We also look at some of the more recent developments in the supply of logistics services.

Of particular interest is whether the Australian logistics industry is currently more or less competitive than in the past based on a quantitative assessment of existing industry dynamics. The analysis is not exhaustive but does provide insights into the historical context of the industry, with the industry having experienced effectively three phases of development in the past 20 or more years:

- Pre-1987: where the Australian logistics market was fragmented by public and private ownership of separated logistics services. During this time, Mayne Nickless, TNT and Brambles grew to dominate various market segments.
- 1987-1993: Initial government transport reforms created opportunities for an expansion of private sector delivered services while improving the commercial focus of government owned service providers. However, the overall industry structure remained generally intact with the market leaders taking advantage of strong domestic positions to seize opportunities overseas to create growth.
- Post-1993: Poor performances by the traditional market leaders and an acceleration in government transport reforms stimulated aggressive competition for market leadership. At first market positioning was more to do with market shares, but with the withdrawal of governments from aviation then rail services, the opportunity to obtain market leadership through the integration of previously fragmented services became possible.

3.1 A Recent History of the Supply of Logistics Services in Australia

a) Pre-1987

Twenty years ago Australian governments were heavily involved in the logistics market through their ownership of rail, aviation and maritime assets. Private sector operators (both in-house and 3rd party) were primarily engaged in road transport, warehouse and storage, and shipping services. Private and public interests competed to varying degrees in aviation, stevedoring and shipping. Competition between private operators was high in the road transport sector where there were low barriers to entry and many customers willing to accept below cost rates at the expense of service quality.

Domestically, the private sector industry leaders were Mayne Nickless, TNT and Brambles. These companies had established dominant positions in the non-bulk freight market. While their interests did overlap in some logistics sub-markets (eg, cash security, waste and express freight), competition between the three was not intense.

Beyond the market leaders, many privately owned companies competed for the remainder of the road transport and freight forwarding markets. Although most of these companies were small, there was a distinct group of larger companies with long histories in the industry and characteristically led by a pioneering founder (e.g., Scotts, FCL, Linfox and Finemores). These companies survived alongside the market leaders by establishing niche operations (such as FCL's oversized container services) and/or by growing symbiotically with long-term customers.

A contributing factor to the survival of these second tier companies was the lack of motivation among the industry leaders to adopt strategies of growth through acquisition *in Australia*. Instead, having established dominant positions at home, Mayne Nickless, TNT and Brambles adopted strategies to grow through acquisition of overseas assets, particularly in Europe and North America.

¹⁰ More detailed listings of important events over that time are provided at appendix A.

b) 1987 - 1993

Like many companies at the time, Mayne Nickless, TNT and Brambles shared an appetite for diversification and, during the eighties and early nineties, invested heavily in assets outside the freight transport industry. For example, Mayne moved into hospital management in 1991 and would later buy into the telecommunications industry through its stake in Optus. These investments were additional to the general strategy of becoming major logistics players in the express freight, general freight, warehousing and materials handling markets of Europe and North America.

While the market leaders were focusing on overseas acquisitions, second tier companies continued to grow, generally by securing new contracts from customers dissatisfied with the service they were receiving from the market leaders, rather than through acquisition. By 1991, Linfox had joined Mayne as the leader in contract freight.¹¹

The stock market crash of October 1987 created on-going difficulties for Mayne, TNT and Brambles, but was not a death blow. In 1992 Mayne and TNT were still the major providers of non-bulk freight transport and distribution services, with reported market shares of 35 per cent and 50 per cent, respectively. Also, TNT reputedly controlled 60 per cent of the general freight road transport market, with Mayne controlling 30 per cent. Mayne and TNT's combined share of the air express market was 90 per cent (50 per cent and 40 per cent, respectively) forcing Australian Airlines and Australia Post to respond with a joint venture called Australian Air Express¹².

However, the 1987 crash was the first in a series of events that would force all three companies to re-position, resulting in their loss of market leadership¹³. In particular, the crash resulted in an economic downturn that affected cash flows, a situation that became worse for Mayne and TNT when, in 1993, the Trade Practices Commission alleged they were acting as a cartel.

c) Post 1993

The global economic downturn combined with high interest rates weakened Mayne, Brambles and TNT financially. Their Boards were also more focussed on their global strategies than on maintaining their competitive positions in Australia. The Trade Practices Commission's successful action against Mayne and TNT reinforced customer dissatisfaction with the market leaders to the benefit of a large selection of second tier operators. The latter could easily adjust their operations to accommodate greater volumes, due to the relatively low capital requirements of road transport and warehousing operations.

As competition from growing second tier operators became more aggressive, and Mayne Nickless, TNT and Brambles could no longer use the Australian domestic market as a cash cow for overseas expansion, the market leaders had to develop new strategies to recover higher returns and placate the share market. At the same time, each company had its own pressing issues to contend with, i.e., Mayne's investment in Optus; Brambles' loss of pallets in Europe; and TNT's involvement in Ansett.

The post-1993 period is characterised by the leaders' confusing signals to the market, ranging from heralding a return to growth through new acquisitions to embracing consolidation strategies and the off-loading of assets to second tier operators that facilitated the rising strength of the latter.

¹¹ Toll Holdings history began with the 1986 acquisition of the Newcastle based Peko-Wallsend trucking operation. This company was floated on the Australian Stock Exchange 7 years later as Toll Holdings.

¹² Ironically, with the collapse of Ansett and Virgin Blue's focus on the tourist market, AAE is now itself in a dominant position as part of the Qantas integrated freight logistics service.

¹³ In the end, Mayne withdrew completely from the market while TNT and Brambles were taken over by European interests.

During this period Mayne, TNT and Brambles did not focus on the Australian market as the key to future growth, failing to capitalise on government transport reforms, particularly rail reform¹⁴ to diversify their operations and create integrated logistics solutions.

The market leaders' lack of strategic focus on the Australian market during this period allowed the second tier companies to grow and compete – often fiercely – for market leadership. Perhaps because of this, the second tier operators became fitter and more responsive than the industry leaders, and thus capable of making the most of the government transport reforms.

At the same time second tier operators were provided with the opportunity to grow faster through the acquisition of smaller companies struggling with increasing commercial pressures, particularly in terms of operating on a 24/7 basis in road transport. Those not acquired were left to withdraw from the industry.

3.2 An Overview of Current Logistics Service Providers

Table 5 presents revenue figures for a selection of logistics companies. The table illustrates the substantial restructure in the supply of logistics services over the 3-year period between 2000 and 2003.

Importantly, Table 5 should not be used to determine market shares - the list is insufficiently comprehensive and the companies listed do not necessarily compete against each other in the same logistics sub-markets¹⁵. For example, there is little competition between Queensland Rail and Pacific National since each company services what can be regarded as an isolated market.

Table 5 - Selected Logistics Service Providers, Revenue in \$million

Company	2000/2001	2002/2003
Toll Holdings	1360	2603
Queensland Rail ^b	1035	2227
P&O Transport		1495
Patrick Corporation	583	1132
Linfox	618	1065
Pacific National	na	1000
TNT Australia	814	742
AusBulk ^g	90	546
GrainCorp ^f	167	513
Owens Group	286	438
Mainfreight		417
Australian Air Express	268	385
ARG (Westrail Freight)	(257)	383
Scott Group related companies:		
K&S Corporation	256	293
Scott's Transport	233	
Heggies Bulkhaul	139	125
Adsteam		329
Co-operative Bulk Handling	214	216
Freight Australia	185	207
Freightway Express		196

¹⁴ TNT's operation of train services on the east-west corridor was quickly off-loaded to Toll Holdings as part of TNT's divestment strategy

¹⁵ See discussion in Chapter 2.

Company	2000/2001	2002/2003
1 st Fleet	80	175
Schenker		171
DHL Danzas		157
FCL		150
Specialised Container Transport	82	
Hills Group		118
P Cleland Enterprises	49	109
Allied Express	80	85
Darowa Corporation	76	
Westgate Logistics	71	
BHP Transport & Logistics ^a	1382	Dissolved
Mayne Logistics ^c	943	Sold to Linfox, Toll and DHL
Brambles Industries ^e	931	
Freight Corp	639	Sold to Patrick and Toll joint venture Pacific National
National Rail Corporation	460	
Finemore Holdings	376	Sold to Toll
Discount Freight Express	230	Became Star Track Express and sold to Australia Post and Qantas in 2004.
TDG Logistics	92	Sold to Patrick Corp
LP International Freight Services	73	Sold to Union Transport (Netherlands) Holdings
Wridgways Australia	68	Sold to Toll Holdings
ARN Logistics	67	Sold to Toll Holdings
Grainco Australia	66	Sold to GrainCorp
Cootes Holdings	66	
Chalmers	26	

Notes:

- a. Incorporates logistics activities for BHP's steel, minerals and petroleum groups and for external customers. Excludes logistics activities within BHP's other customer sector groups (eg. Rail activities for iron ore in Western Australia).
- b. Coal and mainline freight only. Excludes metropolitan and regional services, tourist and long-distance passenger services, and government community service payments.
- c. Mayne's Australian and Pacific logistics activities (Armaguard, MPG Logistics, Mayne Nickless Express). Does not include \$831 million in revenue from international logistics operations (Mayne Nickless Express Europe, Loomis Courier).
- e. As defined by Brambles Industries: transport and logistics activities cover specialised transport, security, shipping and towage in Australia; freight forwarding, security and wagon fleet in Europe; and security in other parts of the world. Does not include other Australian operations that are classified as logistics activities in this paper eg. Hire of pallets and crates (CHEP) and waste management (Cleanaway).
- f. Storage and handling activities only. Excludes marketing and other activities.
- g. Transport and related services only.

Sources: 2000-2001 figures from BTRE 2001, table 4.1.

The experience of Toll and Patrick demonstrates that small companies can grow quickly into market leaders given the right motivation and opportunity, and the results of the media review suggests acquisitive growth remains a key strategy in the industry. For example, the consistent message emphasised by managers and owners of logistics companies

interviewed in the *Australasian Transport News* and *Supply Chain Review* magazines is that to survive in the long-term you must either develop a national logistics capability or confine your activities to niche operations.

However, in the past year there has been a number in the industry that have noted that adopting an acquisition strategy may not be easy, since the opportunities for acquiring the right kinds of companies are becoming rare.

3.3 The New Market Leaders: Toll and Patrick

Toll Holdings listed on the Australian stock exchange in 1993 and quickly made an impression with its appetite for acquisitions. Toll bought discarded Mayne, TNT and Brambles assets (see Table 6) and by 1996 had emerged as National Rail's second biggest customer after BHP, spending \$60 million per year.

Table 6 - Mayne, TNT and Brambles Assets Acquired by Toll and Patrick

Toll Holdings	Patrick Corporation
From Brambles: Brambles Transport SPD Transport Edwards Transport Brambles Seacargo Bass Strait shipping operations From TNT east-west rail operations Wridgeways Komatsu Forklifts From Mayne Interlink Logistics assets Australian express operations	Mayne's port interests From Brambles: Project Management Services United Transport

Another entrant to the market around this time was the investment vehicle Jamison Equity, which became Lang Corporation and is now the Patrick Corporation. The involvement of Patrick's current Managing Director, Chris Corrigan, in the Australian stevedoring sector at that time was seen as courageous, given the sector's history of poor industrial relations and low returns.

The success of Mr Corrigan's reform efforts and the ability of the Patrick Corporation to become a market leader may be due to the fact that, for the first time, an individual's wealth was at stake *while at the same time* changes in government policy offered the opportunity to do something about it.

Unlike Brambles and Mayne (and to a lesser extent TNT), Toll Holdings and Patrick Corporation are run by individuals with significant personal investment in their companies. And unlike family-owned logistics companies – in which owners also have significant personal stakes – the value of the personal wealth of the managing directors is directly related to the share price of their companies.

In contrast to the past market leaders' diversified portfolios and international interests, Toll and Patrick are focused on acquisition within the logistics industry, particularly in Australia. Although their focus of operations are different¹⁶ the purchase of FreightCorp and National Rail through the Patrick-Toll joint venture, Pacific National, represents a confluence of their interests.

¹⁶ Patrick's focus is on developing an integrated logistics solution, primarily for the international container trade. Toll is more focussed on the domestic freight task, both here and in New Zealand.

Toll and Patrick have taken advantage of the sale of government assets to develop their business. However, the preparedness of private operators to sell their businesses has been another source of opportunity for Toll and Patrick. Increasing competitive pressure to extract higher levels of asset utilisation through 24-hour/7-day operations has put greater financial and personal stresses on smaller companies, forcing them to sell or leave the industry all together.

3.4 The Development of Integrated Logistics Services

Market leaders in the supply of logistics services here and overseas have become more concerned with developing the capability to provide a broader range of logistics solutions by expanding their offer of services to incorporate more types of transport, warehousing and storage, and management and control. Integrating these solutions allows firms to capture economies of scale and scope.

Generally, governments of developed nations around the world have facilitated these developments through the withdrawal from providing logistics services in the market, transferring government assets to the private sector. Combined with the opening of markets through reduced trade barriers multi-modal, inter-modal and integrated services have rapidly developed particularly within Europe.

The comprehensiveness of the logistics services now on offer are exemplified by the range of services offered by Toll and Patrick (see Boxes 1 to 3). Many other Australian service providers can also claim to offer a far greater suite of services than previous market leaders; however, beyond the marketing material it is difficult to determine the degree to which these services are integrated.

In Australia and Europe, the developments in the supply of logistics services have created a "hierarchical bipolarisation in the sector as a whole" (CNT 2004, p. 1). Put simply, while there remain many operators offering a vast range of road transport specific solutions, there are fewer operators who provide both transport and storage services, and fewer still who provide multi-modal solutions. Ultimately there are only a handful of operators providing fully integrated logistics services.

In Australia, this polarisation of services is most easily seen from the spatial dimension. Within each urban market there are many logistics service providers in the market for short haul, high frequency tasks ranging from courier services to the hauling of construction spoil. There are fewer, but still many, service providers offering services for region-city and region-region freight tasks. However, as the task becomes longer (inter-state and international), or more demanding (requiring integrated solutions or highly reliable systems), the number of logistics service providers diminishes to the point where very few companies are capable of providing increasingly sophisticated services.

The key reason for this polarisation effect is that as logistics service providers move beyond road transport services, the assets required to deliver more and more comprehensive services become increasingly scarce. For example, as seen in the case study in Chapter 2, there is a limited number of competitive train paths, while the scarcity of land within the urban environment also poses a barrier to an expansion of services such as developing warehousing and terminal infrastructure.

We look further at this issue of resource scarcity in Chapter 5. In the meantime, we consider changes that are occurring in the demand for logistics services in the next Chapter. As we will see, customers of logistics services can also be seen as being polarised between 'simple' and 'sophisticated' demands.

Box 1 - Toll Services by Market Segment**Road**

Automotive Vehicle and Component Transport
Bulk handling transport & specialist services to the mining industry (QLD & NSW)
Container services – Dry Reefer (FTL)
Courier Services – same day metropolitan
Courier Services for passport and visa advisory services to the travel industry
Fashion industry services
Full Truck Load (FTL) services
Less than Truck Load (LTL) economy & express services
Liquid Distribution
Mail Exchange
Mail Room Management
Multimodal transportation of full container loads (FCL)
Overnight Satchel Services
Parcel Express
Refrigerated Road Services
Relocation – Employees, Home, Workplace

Rail

Rail capability is through Pacific National, a 50/50 JV between Toll and Patrick Corporation. Also offer multimodal transportation of full container loads (FCL) between all capital cities and large regional locations via Toll SPD business.

Air

Interstate and intrastate Door-to-Door Satchel and parcel services.
International Freight Forwarding and Door-to-Door Import and Export services.

Sea

Bass Strait / Cargo Shipping & Door-to-Door Import and Export Services.
Toll Shipping offers shipping services between Tasmania and mainland Australia. Twin, purpose-built, roll on/roll off vessels, and terminals fully operated by Toll Shipping, facilitate the only two-way, seven days per week service on Bass Strait.

Warehousing and Distribution

Lead Logistics Provider (LLP) services, warehousing, distribution and industry specific solutions for the Automotive, Beverages, Food & Retail, Industrial, Ports, Relocation and Resources Sections.

Ambient & refrigerated transport, cross docking, grocery, route trade & bulk distribution, home deliveries, inbound & outbound logistics, lead logistics provider, supply chain consultancy and warehousing.

Stevedoring

Port Management / Bulk and Containerised Commodity, Wharf Related Services. Operating at Albany, Melbourne, Newcastle, Port Kembla, Geelong, Hastings, Portland, WesternPort and Whyalla in Australia, Tauranga, Napier and Lyttelton in New Zealand.

Project Management

Project Management and Relocation of employees, home and workplace.

Fleet Management

Fleet maintenance services.

Box 2 - Toll Divisions

Carpentaria International (Projects)
Edwards Transport
NOX Freight System (QLD)
Pacific National
QRX Transport
R&H Transport
Toll AutoLogistics
Toll Beverage
Toll Defence
Toll Express
Toll Fashion
Toll Fast
Toll Fleet Management
Toll Food & Retail
Toll Industrial
Toll International
Toll IPEC
Toll Linehaul
Toll Liquid Distribution
Toll MTS
Toll Parceline (NSW and VIC)
Toll Ports
Toll Priority – DX Mail
Toll Priority – Global Express
Toll Priority - Travcour
Toll Refrigerated
Toll Regional
Toll Resources
Toll Shipping
Toll Solutions
Toll SPD
Toll Specialised Logistics (Logistics)
Toll Specialised Services (Toll North – Dangerous Goods)
Toll Specialised Services (Toll North – Specialised warehouse & local dist serv)
Toll Specialised Services (Toll North)
Toll Specialised Services - W&M Meat Transport (Toll North)
Toll Tasmania
Toll Tasmania (Bass Strait)
Toll Transitions
Toll Vehicle Logistics
Toll West (WA)

Box 3 - Patrick Operations

Terminals

Patrick is Australia's largest operator of container terminals, with state-of-the-art facilities in all major ports. We lead the way in productivity, reliability, technology and work practices.

General Stevedoring

Patrick is Australia's largest stevedore, with origins dating back to 1919. Our mission is to provide the most reliable, technologically advanced and cost effective stevedoring service in the market.

Port Services

Patrick Port Services offers a complete range of land-based services to shipping lines, freight forwarding agents, customs brokers, importers and exporters.

Portlink

Formerly Patrick Rail, the Portlink division is the link between Patrick's road, rail and stevedoring services. Our function is to manage the movement of import and export consignments between the wharf, container parks and inland terminals.

Patrick Shipping

Patrick Shipping offers two dedicated cargo services, one between Tasmania and Melbourne and the other between Fremantle and Darwin, calling into remote ports of Western Australia.

Patrick Autocare

Patrick Autocare offers an integrated service of processing, storage and distribution of motor vehicles. We have on-wharf processing facilities in Sydney, Melbourne, Fremantle, Brisbane and Adelaide; no other company in Australia can match our scope of services and locations.

Patrick Intermodal

Patrick Intermodal leads the Australian market in providing a full range of logistic and supply chain solutions including integrated transport, warehousing and distribution to a number of different market segments. Patrick has invested and continues to invest in businesses that complement each other in an uninterrupted chain of total transport and storage logistics.

Defence Logistics

Patrick Defence Logistics provides logistics support services to the Defence sector as well as commercial and government organisations with specialist project management requirements.

International Freight

Patrick International Freight services Australian importers and exporters. Part of Patrick Corporation, we offer Export Freight Forwarding, Consolidation, Import Forwarding, Customs Clearance and tailored International Supply Chain Services. The Patrick International Freight global network extends to over 200 cities and ports across the world.

Air Services

Patrick Air Services is the international cargo handling business of Patrick Corporation. We are the only independent ground handling company in Australia that can offer a full range of services in all major transport hubs, with facilities in Sydney, Melbourne, Brisbane, Perth, Adelaide, Darwin and Cairns.

Tasmania

Patrick links Tasmania to Australia and the rest of the world through an extensive network of offices and agencies. We offer fast and reliable transport of any type of freight, from full container and trailer loads, hazardous cargo and refrigerated goods, to express and general services.

Technology and Systems

Patrick's consistent investment in technology has positioned the company as the world leader in container handling systems.

Project Services

Project Services specialises in project management and execution of moving difficult, oversize, overweight, dangerous and seemingly impossible cargo. Our main capabilities include turnkey logistics management, engineering consultancy, design assistance, equipment erection, ultra heavy haulage, skidding, ship and barge operation, ballast engineering and hazardous cargo.

4 CHANGES IN THE DEMAND FOR LOGISTICS SERVICES

4.1 Introduction

Since the beginning of the 'just-in-time revolution', much has been written about developments in logistics chain management. In the end, however, there are basically three broad logistics strategies that continue to be adapted in the effort to reduce costs and improve customer responsiveness:

- The outsourcing of logistics activities;
- Taking greater control of the logistics chain; and
- The rationalisation of distribution systems.

These strategic issues are not mutually exclusive and the approaches taken by Australian businesses influences the character of the Australian logistics industry, as the following overview explains.

a) Outsourcing logistics activities

For small and large businesses, the extremely competitive nature of basic road transport and warehousing services has provided an attractive outsourcing option. However, there are a significant proportion of Australian businesses that maintain these functions in-house, partly due to the advantages afforded by maintaining control of the distribution task.

The economies of scale required for other forms of transportation such as rail, aviation and shipping dictate the purchase of these services for most businesses. Entry barriers such as economies of network also provide logistics service providers with market opportunities that can not be undertaken in-house; for example, courier services.

Outsourcing of non-transport logistics activities, including the management of the customer's supply chain has been a more recent development, leading to the development of 3PL and 4PL logistics companies.

With 75 per cent worth of logistics activities still conducted in house, and with the expected growth in the Australian freight task, there is substantial potential for further organic growth in the supply of logistics services. However, this opportunity will only be realised if the suppliers of logistics services can demonstrate a benefit to Australian businesses and this may prove difficult when it comes to the in-house advantages of coordinating and integrating logistics activities with a firm's business practices.

Nevertheless, since logistics service providers already satisfy much of the demand for transportation, we can expect 'high growth' driven logistics firms to increase their focus on building and marketing non-transport capabilities in the future, driving greater competition in these activities relative to other logistics services.

b) Taking greater control of the logistics chain

Among other things, this strategy enables the firm to reduce internally held stocks of inventory by improving the coordination of input delivery and increasing demand visibility to improve customer responsiveness.

Taking greater control of the logistics chain can facilitate rather than limit the outsourcing of logistics activities because the firm can implement greater chain monitoring processes that can identify outsourcing benefits and support prescriptive service level agreements with logistics service providers.

Greater chain control also creates an opportunity to seek 'whole-of-chain' logistics solutions. However, even with greater control, the business reality of deciding on the merits of seeking 'whole-of-chain' or segment specific solutions, or the undertaking of the logistics activities in-house, must still be made specific to the circumstances of each chain. There is no 'one-size-fits-all' solution.

The benefits of chain leadership are articulated in the Australian Logistics Industry Strategy (ALIS 2003). Since the development of the Strategy, the major Australian grocery retailers have taken action to increase their control over their inbound freight task. This development is reviewed as a case study at the end of this Chapter.

c) Rationalisation of distribution systems

Whether firms retain or partially outsource their logistics functions, they are generally united in the rationalisation of their distribution systems to reduce costs. Rationalisation has been facilitated by improvements in information and communications technologies, allowing greater certainty and control over distribution networks and supply chains.

It is also arguable that the more consolidated logistics industry is yet to undergo a similar degree of rationalisation, particularly as a result of recent acquisitions. It is possible that this might occur more rapidly if customers demand more national logistics solutions.

One of the outcomes of the rationalisation of distribution systems is that there will be fewer but larger, centralised warehouses and greater use of cross-docking facilities. Even if freight flows were to remain constant, this trend would result in greater concentration of transport activity around points of storage and modal interchange.

Consequently, with the expected growth in freight flows, we can expect an increase in the number of pressure points in the distribution network where the freight task clashes with community amenity, through increased congestion and social costs at the local level.

In terms of market power, the three demand characteristics described above have particular significance in the further development of a national Australian distribution network.

4.2 A National Australian Distribution Network

Freight logistics services are a derived demand; a function of economic activity and the movement of product from points of production to points of consumption.

Historically, the Australian freight task has been dominated by the movement of mineral and farm exports from regional centres to the nearest port for overseas consumption. Australia's highly urbanised population has meant that imports have moved little further than the port of discharge as the cities represented the focus of domestic consumption.

A character of this distribution of economic activity was the development of local companies operating within separate regional markets.

With each city having its own port to generate wealth and provide consumable imports, and a localised business community, there was little demand for well established inter-city connections. This characteristic of Australian trade flows influenced the development of the fragmented, state-based railway system, which in turn reinforced the growth of intra-state, region-to-city freight corridors.

These corridors continue to dominate the Australian logistics network today. The Australian Bureau of Statistics estimates that the intra-state share of the total Australian freight task, in tonnes, is 92 per cent, while 86 per cent of the total Australian rail task, in tonne-kilometres, is carried on the intra-state network (ABS 9220.0, p. 6).

Over time, the broadening Australian economic base and the consolidation of Australian businesses, together with reductions in transport costs (including the development of the national highway system) stimulated increased transportation of freight along inter-city corridors. This process was accelerated by the introduction of containerisation and further business consolidation and the rationalisation of some forms of economic activity. Rail reform is likely to further stimulate increased inter-city movements as consumption is satisfied by production from points further afield.

Freight movements along region-city corridors and within the urban environment will continue to dominate the Australian freight task into the future. However, industry sources have confirmed that large Australian businesses are increasingly seeing benefit in

developing a holistic, national strategy for their logistics needs; rather than an amalgamation of separate state and regional based strategies. For example, Woolworths was the first to seek milk supply on a national basis (awarded to National Foods). As transport costs along Australia's inter-capital corridors continue to fall, and the cost of warehouse and storage within the capital cities increase, the potential for a national approach to the distribution of product increases.

The growth of freight movements along inter-city corridors demonstrates their rising importance to the national distribution system. The BTRE estimates that "between 1990 and 2000 inter-capital freight grew at 1.5 times the growth rate of the economy" with inter-capital non-bulk freight growing faster than the growth in total non-bulk freight (BTRE 2003b, p. 1). As a result, the performance of the inter-capital transport network will increasingly influence the number and location of future distribution centres¹⁷.

Importantly from the perspective of this study, in an environment where the resources required to provide national solutions are scarce, the greater the demand for national solutions the greater the competitive leverage and strategic advantage of those logistics companies already capable of providing such solutions.

At the same time, however, those customers who have 'national volume' will be able to extract a degree of power from the importance of their account to incumbent and aspiring national logistics service providers.¹⁸

While commercial pressures might make the move to national logistics services inevitable, the process is unlikely to be smooth. For example, industry sources have indicated that there are capability gaps in the industry's ability to satisfy customer demand for truly integrated national solutions, particularly for freight requiring higher level of service quality or specialised equipment.

It has also been suggested that due to small number of service providers capable of providing national solutions for even basic commodities, it is likely that these providers will be able to pick and choose service contracts. Consequently, from a buyer of logistics services perspective, there might be first-mover advantages in establishing national contracts in the short term.

4.3 The Trend of Retailer Control of the Primary Freight Task

As part of the transactional process, the supplier and customer negotiate responsibility for the freight task. In the retail sector, historically it has been the suppliers who retained control of this task, often delivering directly to the retailer's stores.

As retailers developed their own distribution centres, the movement of freight was split into the primary freight task (from the supplier to the retailer's warehouse) and the secondary freight task (from the retailer's warehouse to the store).

Although suppliers maintained control of the primary freight task, retailers firstly in the United Kingdom and more recently in Australia, have sought to take control of this task, either through direct control via the purchase of product on 'ex-factory pricing' terms or via new service level agreements.

The shift in primary freight control represents a significant development in the organisation of retail logistics chains including the distribution pattern of retail products and subsequent infrastructure demand. It also poses some difficulty for retail product manufacturers in terms of being potentially further removed from the final customer – the consumer – and in terms of a reduction in their buying power for the remainder of their logistics service needs.

¹⁷ A related outcome will be changes to the size and shape of port hinterlands.

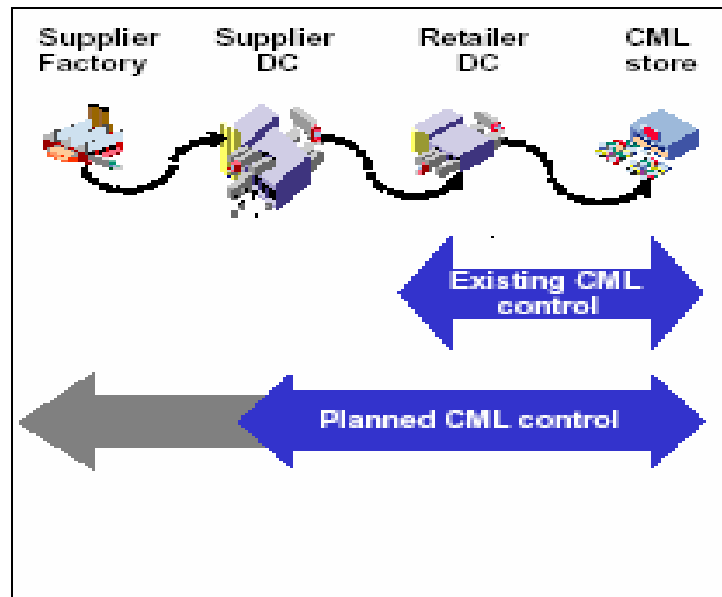
¹⁸ The development of national distribution strategies is a double edged sword for suppliers of logistics services. Although the successful logistics supplier will take the benefit of larger volumes and improved asset utilisation, the more customers consolidate their regional solutions into national solutions, the fewer the transactional opportunities. Consequently, the thinness of the Australian market is sustained.

a) Supply versus Demand Control

For the supplier, the benefit of controlling the primary freight task is that it maintains a close connection between production and the point of sale, and allows for simpler coordination of production and inventory levels. However, by negotiating responsibility of the freight task to suppliers, retailers are faced with the problem of receiving the delivery of multiple chains with little control over the coordination of those deliveries.

In the United Kingdom during the mid-eighties, a number of retailers gained commercial advantage by taking control of the primary freight task (Le Blanc et. al. 2004). Their success in decreasing inbound costs has led to the adoption of primary freight control strategies by Woolworths and Coles Myer in Australia; “[It] is about conversion of suppliers from “suppliers deliver stock to CML¹⁹” to “CML collects stock from suppliers” (CLM 2004, see Figure 6).

Figure 6 - Retailer Control of Primary Freight



Source: CLM 2004.

Ultimate control of the primary freight task is achieved through ‘factory gate pricing’; a trade term where the price of the product paid by the customer effectively represents the production value of the product. Factory gate pricing (FGP) “is the latest trend in retail logistics. Under FGP, the retailer takes over the orchestration of the primary distribution from the supplier. More specifically, this means that the cost of transportation is no longer included in the price that suppliers charge the retailer. Instead, the retailer buys the products ‘at the factory gate’ and takes care of the transport...” (Le Blanc et. al. 2004, pp.1-2).

Factory gate pricing should not be seen as synonymous with primary freight control; FGP is only one method of controlling the primary freight task and an alternative means is the negotiation of service level agreements providing the retailer with greater control over the management of the task while the supplier maintains responsibility for organising transportation.

Vendor Managed Inventory (VMI) “also places control of inventory and primary transportation ... in one hand [but] the supplier and not the retailer is in control....FGP and VMI can therefore be considered each other’s counterpart. VMI is typically implemented in situations in which a few large suppliers deliver a substantial volume to retailers, but it

¹⁹ Coles Myer Limited.

becomes unmanageable if hundreds of small suppliers frequently visit the retailer's warehouse..." (Le Blanc et. al. 2004, p.3).

This study has not been able to determine the extent to which retailer primary freight control and VMI have been considered as complementary strategies for reducing logistics chain costs and maximising net benefits to all chain participants.

There is a difference between seeking to reduce costs (or improve responsiveness) at the firm level and seeking to reduce costs at the chain level. Japanese car manufacturers were hailed as world leaders for reducing their costs through the introduction of just-in-time techniques, however, it later became clear that rather than eliminating costs, the manufacturers had merely transferred their inventory costs down the chain to their suppliers. Unilateral change imposed on the operation of logistics chains may lead to sub-optimal economic and social outcomes, even if consumers benefit from lower prices.

b) Potential Benefits of Retailer Control of the Primary Freight Task

As a relatively recent development, there are few publicly available sources that comprehensively investigate the benefits and costs of the shift in primary freight control to retailers (Le Blanc et. al. 2004, p.5). Of the many commercial reports available, most appear to be focused on the consumer or retailer benefits and not concerned with the holistic consequences on participants along the retail chain.

However, a Dutch study has attempted to mathematically model the supply chain effects of the introduction of factory gate pricing using data from SuperUnie²⁰ and three SuperUnie members. The study considered 355 slow moving dry grocery products, defined as a product with turnover in a distribution centre of less than 66 pallets per week (Le Blanc et. al. 2004, p.8).

The model was validated and "...we were able to conjecture that the model with its assumptions was representative [of the real system]" (Le Blanc et. al. 2004, p.14). The results of this study indicated that there were significant supply chain savings (22 per cent) to be made as a result of retailers taking control over the primary freight task via factory gate pricing.

"The cost savings with respect to the traditional situation are mainly due to three factors. Firstly, we optimized the frequencies of delivery based on supply chain costs. This is possible because FGP brings the coordination of inventory and transportation in the hands of the retailer. Secondly, there is the synchronisation of replenishment orders: the retailer can determine the timing of replenishment orders so that suppliers that are located close to each other can be combined in one route. Finally, the asymmetry in the network is exploited to create more efficiency" (Le Blanc et. al. 2004, pp.22-23).

"Since the supplier sites greatly outnumber the retailer distribution centres, the collection network of the retailers is denser than the delivery network of the suppliers. Therefore, retailers can construct route schemes that are more efficient than the suppliers can possibly create. Under FGP, the total number of kilometers [sic] driven exhibits a spectacular decrease of 21%.... These results are in line with the observations of an FGP study undertaken by Tesco in the UK where kilometer reduction of 25% for ambient products and 23% for fresh products was reported (Potter et. al. 2003)" (Le Blanc et. al. 2004, pp.15-16).

The supply chain savings as result of the modelling included:

- The optimisation of delivery, transportation, handling and order processing at the expense of slightly higher inventories resulted in net cost reductions of approximately 16 per cent.

²⁰ A Dutch purchasing organization for food retailers, whose members make up approximately 25 per cent of the Dutch food retail market,

- The use of consolidation hubs is drastically reduced and average vehicle load factors increased by 3 per cent and the number of empty kilometres per route decreased by 9.5 per cent.
- Shifting to Factory Gate Pricing decreases the supply chain costs for slow moving dry grocery goods by 7.5 per cent.
- By internally synchronising the flow of inbound freight the retailer can achieve a small decrease in total logistics costs (1.3%) and “can be easily attained without organizational changes” (Le Blanc et. al. 2004, p.16).
- Retailers acting together to synchronise inbound flows results in small benefits (1.2% cost reduction) but the significant organisational costs to achieve this outcome is likely to make this strategy unattractive.

The Dutch study also found that cooperation along the chain is profitable regardless of who controls the chain, although the savings were larger for the factory gate pricing model.

The results of the study also indicated that when a small subset of retailers engages in factory gate pricing, adverse cost effects to suppliers due to reduced network density are small. However, the study did not report on the cost effects on suppliers in the situation where a majority of retailers adopt factory gate pricing. It is therefore possible that where the major Australian retailers represent a significant proportion of a supplier’s sales, as is the case for dry grocery products, there are likely to be adverse cost effects, though the quantum remains unclear.

4.4 Case Study: The Australian Grocery Industry and Retailer Control

a) The Australian Grocery Industry

The Australian grocery industry spends approximately \$7.4 billion a year on packaging and moving products from factories to shop shelves (www.industrysearch.com.au). Although this study has not been able to determine the relative importance of this logistics spend compared to other logistics chains, the importance of the Australian food manufacturing sector as part of the Australian farm-to-retail chain should not be under-stated.

For example Kellogg Australia²¹ “is the largest single purchaser of rice in Australia for food manufacturing – more than 10,000 tonnes per year” (www.kellogg.com.au). The company is also the largest purchaser of Australian corn for food production (more than 30,000 tonnes of whole corn) and purchases in excess of 20k tonnes of wheat materials each year.

The Australian Food & Grocery Council (www.afgc.org.au) explains the importance of the food industry in the following terms:

- “The food and grocery products industry is Australia’s largest manufacturing sector.... It has an annual turnover in excess of \$50 billion.”
- “Food processing makes up more than 20 per cent of the manufacturing sector and is growing at a rate faster than the sector overall. This can be attributed to the development of more sophisticated processed foods, an increase in the value added to agricultural produce and growth in exports.”
- “The industry is located primary along Australia’s eastern seaboard. More than 80 per cent of production by turnover is located in Victoria, New South Wales or Queensland.”
- “Australia’s processed food industry is one of only two manufacturing sectors that are net exporters – a significant turn around since the 1980s. The value of processed food exports in 1999-2000 was \$19.86 billion while processed food imports totalled \$4.48 billion.”

²¹ In 2001 Kellogg had the largest share of the Australian ready-to-eat cereal market with approximately 45%. Competitors are Sanitarium and Uncle Toby’s had market shares of 23% and 17% respectively.

Consequently, it should be of interest how shifts in market power at the retail end of the grocery chain may impact on other chain stakeholders.

While the focus of this study is on the implications for the logistics service market, a report prepared for the Commonwealth Department of Agriculture, Fisheries and Forestry provides an excellent overview of some of the competitive dynamics of selected domestic retail supply chains in Australia (Spencer 2004).

b) Woolworths and Coles Myer Primary Freight Strategies

For retailers and suppliers alike, a key commercial objective is reducing the shelf price of products to increase sales. However since Australian "supermarket costs of doing business represent around 22 per cent whereas United States and European grocery retail leaders operate in the range of 16-20 per cent" (Spencer 2004, p.3) and there are competitive threats from overseas retailers, one would expect that Woolworths and Coles Myer would be implementing strategies to reduce costs as a priority.

However, while the producers face an increasingly global market and have access to technologies providing greater productivity, forcing real prices and costs down, at the consumer end of the chain retailers face increasing costs because the "services sector typically has relatively high labour and employment costs which usually rise in line with the general productivity growth of an economy, which in turn generally exceeds inflation" (Spencer 2004, p.2).

Another significant issue for retailers is maintaining growth to appease the share market and sustain company value. However, the Spencer report concluded that "overall grocery sales are growing slowly²² [with] intense competition for market share between the grocery retail majors, and between majors and independents and over 30,000 specialty food businesses. [Combined with] Australia's geography and urban demographics, relatively small consumer market and low population growth ... major chain retailers [face] significant challenges in offering ongoing growth in shareholder wealth" (Spencer 2004, p. 1).

Consequently Australian retailers "have followed trends in the European Union and the United States where retailers have sought to expand their retail offer into areas such as liquor, fuel, newsagency, pharmacy and other segments previously the domain of specialty businesses" (Spencer 2004, p. 114). Another trend has been the move to control the primary freight task.

It is also important to understand that "there is an opportunity to reduce product movement costs by an estimated 4 to 12% for manufacturers and 15-18% for retailers" (ECR 2003, p.1). The ECR study also suggests that manufacturers were lagging retailers in rolling out transport optimisation and efficient unit load systems. Therefore, since the major retailers are facing significant competitive pressures, have more to benefit from supply chain reform and are faced with suppliers who are generally lagging in supply chain reform, it is quite understandable the motivation of Woolworths and Coles Myer to take control of the primary freight task.

Woolworths' Primary Freight Strategy

Woolworths' Supermarket Division sales represent approximately 85% of total sales (\$27.9 billion in 2003/04), while food sales were approximately \$20 billion or 75% of total sales (Woolworths 2004a). Consequently, reducing costs in the supply of grocery products represents a significant performance objective for the company.

Woolworths' primary freight strategy is part of the much larger Project Refresh which has "delivered cost savings amounting to 3.28% of sales (\$1,574 million) over the past five years" (Corbet 2004, p.3).

²² Woolworths' food and liquor increased 2.7% on comparable store sales measure in 2003/04 (Woolworths 2004).

Having evaluated logistics features of leading global retailers, the Woolworths strategy addresses the following considerations (Woolworths 2004b):

- store supply chain costs (from the Supermarket back dock to the shelf);
- distribution centre (DC) location and numbers;
- DC function (cross-docking and flow-through);
- composite supply chain (integrating cold and ambient);
- transport management (primary and secondary freight);
- process improvements across the network; and
- common integrated systems

Project Refresh commenced with reforms to in-store (AutoStockR) and in-distribution centre (StockSmart) replenishment and inventory systems, and it is possible that Woolworths is performing better than some international comparisons in terms of days in stock as a result (Spencer 2004, note in figure 126, p. 120).

Project Refresh Level II is focused on improving the supply chain and reducing "costs by a minimum 20 basis points per annum for the foreseeable future" and in addition to the stock control systems, includes the development of regional distribution centres at Warnervale (NSW), Wodonga (VIC), Perth and Brisbane (Woolworths 2004, various).

In terms of primary freight, Woolworths is seeking to reduce the volume of direct store deliveries and taking control of inbound freight volumes into its distribution centres, utilising a transport management system (TMS) (Woolworths 2004c, p.7).

Woolworths has conducted workshops nationally involving approximately 1,100 of its vendors (Woolworths 2004b).

Coles Myer's Primary Freight Strategy

Coles Myer Limited is less exposed to the grocery industry than Woolworths with food and liquor sales representing only 55 per cent of total sales in the year ending 25 July 2004 (CLM 2004b). However, Coles Myer faces the same growth restrictions as Woolworths and has tried to encourage growth through the Coles Express (fuel) initiative and the Officeworks chain.

In comparison with Woolworths, Coles Myer has only recently commenced its major supply chain reform program. Announced on 25 September 2003 its five year *Better, Simpler, Cheaper* Supply Chain Strategy consisting of "five transformation projects" (CLM 2004):

- Supplier Centralisation
- Factory Gate Pricing/Primary Freight
- Handling Media
- On-Shelf Availability
- Supply Chain Collaboration.

Like Woolworths, Coles Myer is seeking to reduce direct-to-store deliveries "from 24% sales units (or 19% network cartons) to <5% network cartons [and] is currently on track to meet its first target of removing 10% of the DSD volume ... and moving them through our DCs" (CLM 2004, p.10). Coles Myer also sees significant benefits in order smoothing and optimising less-than-truck-load order quantities.

From the publicly available material published by Coles Myer, there is a strong emphasis on collaboration in the implementation of its supply chain reforms. Coles Myer is "working with the Australian Food & Grocery Council (AFGC), ECR (Efficient Consumer Response) Australasia and other industry groups to ensure the interests of their members are taken into account" (CLM 2004, p.6).

Table 7 - Coles Myer Supply Chain Reform Objectives

Projects within the Transformation Program	Project Goals by FY 08
1. Logistics network reconfiguration	<ul style="list-style-type: none"> ▪ A simpler network of national slow and regional fast facilities
2. Warehouse & Transport Management Systems	<ul style="list-style-type: none"> ▪ One Warehouse Management System across all DCs ▪ Integrated transport delivering lower costs per case delivered
3. Revised Channel Flow	<ul style="list-style-type: none"> ▪ Full customer service benefit from reduced Direct to Store Delivery (to <5%) ▪ Decreased inbound costs through primary freight control
4. Store processes and product handling	<ul style="list-style-type: none"> ▪ Simplified and safer store life through aisle-friendly deliveries on roll cages, merchandise units and shelf-friendly packaging contributing to a lower in-store inventory level value
5. Replenishment processes & systems	<ul style="list-style-type: none"> ▪ A single store replenishment system driven from POS data and sales forecasts ▪ Stores focused on customer service not replenishment orders
6. Sales & Operations Planning	<ul style="list-style-type: none"> ▪ Well-planned & executed seasonal peaks – eg. Christmas
7. Supplier Collaboration & B2B	<ul style="list-style-type: none"> ▪ Customers delighted at near 100% promotions product availability ▪ Collaborative, paper-free working with suppliers
8. On-shelf availability & KPIs	<ul style="list-style-type: none"> ▪ Customers delighted at average 98.5% on-shelf availability
9. Change Management & Communications	<ul style="list-style-type: none"> ▪ Staff motivated and empowered ▪ Suppliers and Contractors clear on roles and progress ▪ Positive reactions from external CML analysts and media

Coles Myer is developing an operating model and pilot, with rollout planned for early 2005:

“Supply Chain Collaboration with suppliers is enabled by Collaborative Planning, Forecasting & Replenishment (CPFR) – an Internet-enabled business process in which CML and suppliers collaboratively manage the planning, forecasting and replenishment of products, following a defined, mutually agreed and enforceable set of business rules.”

“Collaboration with Unilever and Procter & Gamble on promotions commenced in the hair care category in mid-2003.... Five more suppliers have now completed their initial preparation and are shortly due to commence collaboration and process adoption. This will be followed by further integration of their back-end systems, and the expansion into further categories” (CLM 2004, p.14).

c) Potential Impact on the Retail Suppliers

While the public material provided by Woolworths and Coles Myer highlights their consultative approach, there are concerns from suppliers on the effect these developments might have on their own operations. For example, Alan McKenzie (Chief Executive of the National Association of Retail Grocers of Australia) stated: “Whenever I see logistics breakthroughs and schemes, generally that’s code for pushing costs back onto suppliers” (AFR 2004).

The distribution of cost reductions by Woolworths as part of Project Refresh I indicates that the company’s primary focus is on reducing prices:

“These cost reductions and operating efficiencies have assisted Woolworths to lead the market in reducing prices by reinvesting approximately 88% (\$1,386 million) of these savings in lower selling prices. The balance of 12% has gone to shareholders through increased EBIT margins” (Corbet 2004, p.3).

While the Project Refresh I cost reductions are savings made by Woolworths, it is unclear how supply chain savings and the potential transfer of costs resulting from Project Refresh II. As discussed in Section 4.3(b) there maybe reasonable grounds for concerns by some suppliers because the Dutch study suggested that the costs to suppliers of implementing primary freight control was marginal only if a sub-set of retailers adopted such a strategy.

However, Woolworths and Coles Myer argue that their share of the retail grocery market is not significant:

“The Australian food, liquor and grocery (FLG) market continues to be very competitive by world standards. According to Dimasi Strategic Research the Australian FLG market is approximately \$70 billion. Of this market Woolworths has 28.4% market share with the smaller chains together with other independent grocers and specialty food stores holding 49.1%” (Woolworths 2004b, p.10).

While this might be a valid argument in general, for specific products lines the two majors represent a significant share of sales. Table 8 provides an overview of sales through the major retailers and provides a guide to determining those suppliers of grocery products that might adversely affected by retailer control over the primary freight task.

Table 8 - Retail Grocery Sales Through Major Chains, Selected Commodities

Commodity	Sales Through Major Retailers
Packaged milk	55%
Cheese	75%
Butter	40%
Pork	All retail sales account for only 40% of production
Processed Fruit and Vegetables	All retail sales account for only 40% of production
Juices	Sales dominated by the 2 & 3L pack sales in major supermarkets
Eggs	40%
Sugar	Majority of sales through majors
Rice	80-85% of production exported, major retailers sell 70% of retail product

Source: Spencer 2004

Industry sources also suggest that approximately 70 per cent of retail sales of manufactured dry food products are soled through Woolworths and Coles Myer. Consequently, while control of the primary freight task might not be such an issue for perishable product suppliers, the combined effect of Woolworths and Coles Myer adopting such a strategy is likely to be significant for other suppliers. However, the quantum of that impact has not been determined.

d) Summary of Primary Freight Case Study

While there is evidence that retailer control over the primary freight task does result in consumer benefits through supply chain savings for retailers and some suppliers, it remains likely that suppliers depending on the major retailers for the majority of their sales are likely to experience adverse effects. For example, some suppliers may have their buying power for logistics services reduced by 70 per cent of freight volume, while still demanding logistics solutions to service other customers nationwide.

However it can not be argued that suppliers are helpless: “while a large number of food manufacturers are small private businesses ... nearly half the total value of grocery sales in supermarkets is attributable to the top 20 companies [and] despite the context of a highly competitive domestic retail sector, ... the financial performance of Australian-based food

companies is not substantially out of step with the performance of international firms or comparable businesses in foreign markets" (Spencer 2004, p.3).

Nonetheless, the relative powers of major retailers and major suppliers, as expressed through the negotiation of responsibility for the control over the primary freight task, appears to favour the retailers when significant supply chain saving might also be achieved through improved vendor managed inventory systems.

Understanding the effect of retail control of the primary freight task is important because of the key position food manufacturers have in the farm-to-retail supply chain, and their historical influence on the character of the Australian distribution network, particularly in terms of their buying power for logistics services.

This study finds that while there is sufficient overseas evidence to conclude that there are significant benefits to customers and retailers as a result of the latter's control of the primary task, there is insufficient information to determine whether any benefits realised by suppliers relying on the major retailers for the majority of their sales. However, even if suppliers were to be disadvantaged by this development, it is questionable whether this would represent market failure and a cause for government intervention. Instead, the outcome might be one that we could expect from a properly functioning market.

Nevertheless, the study finds that:

- It is possible that by taking control of the primary freight task, retailers will push chain inefficiencies and costs back to suppliers without any compensatory benefits.
- Retailers will seek to simplify the management of logistics systems, potentially creating a lowest common denominator effect. This may reduce the supplier's ability to increase sales of their product, or reduce costs, through innovative logistics systems.
- Suppliers will experience a reduction in their buying power for logistics services; in some cases a substantial reduction. Major suppliers will still need logistics services to deliver nationally to retailers that have not taken control of the primary freight task.
- The size of the retailers' primary freight contracts are likely to highly prized by the logistics industry due to the value and volume on offer, and will significantly influence the character of the Australian distribution network.

5 POWER IN LOGISTICS CHAINS

5.1 Understanding Firm and Market Behaviour

The primary focus of microeconomics is the search for an ex-ante understanding of firm behaviour with the objective of predicting market outcomes and the efficient and effective use of scarce resources. The economic literature available on the subject of market power is extensive (e.g., see literature review and critique in the context of market power in the Australian food chain by Piggott, Griffith and Nightingale 2000).

However, a feature of neo-classical economic literature is the observation of firm and market behaviour in the context of mostly homogenous, singular and linear transactions. While this approach provides insights into the motivation and strategies that firms might adopt under certain conditions, it oversimplifies the network of interdependent and independent firm *and market* relationships that form logistics chains, as demonstrated in the preceding Chapters of this report. Consequently, traditional approaches fail to capture the complex reality of logistics chains, particularly in the context of predicting possible market outcomes as a result of competing buyer, seller and third party interests.

In recent times, economists have become increasingly interested in the dynamic nature of logistics chain as a means of furthering their understanding of how markets work. For example, Professor Andrew Cox and his colleagues at the Centre for Business Strategy and Procurement at the Birmingham Business School use the study of logistics chain and market power as an analytical approach to predicting market outcomes (Cox, et al, 2002). While this study relies heavily upon their concepts to develop a framework for understanding market power in Australian logistics chains, we only do so as a first step in fostering greater debate and analyses.

5.2 What is Logistics Chain Power?

Logistics chains consist of a series of transactions where by a product or service is exchanged for a price reflecting the customer's value of the commodity being exchanged. While the physical product flows from the initial producer to the final consumer, chain value flows in the reverse direction; starting with final consumer who expresses the value they derive from a product or service in terms of the purchase price.

The key to understanding power in a logistics chain context is to recognise that each transaction along the chain is a competition for a share of the final value of the product.

Consequently, it is not the flow or the physical characteristics of the product that determines the use of market resources and the distribution of chain value, but rather the nature of the relationships along the logistics chain (Cox, et al, 2002). It is the transaction process that determines in the movement of product from supplier to customer and the flow of value from customer to supplier.

Power is defined here as the ability to influence or control circumstances, other firms and consumers to derive benefit for the agent wielding power. The existence of power does not necessarily lead to a negative outcome. For example, a strong chain leader may use its power to create an efficient and customer-driven chain that maximises the total value of the chain to the benefit of all chain participants.

Fostering the development of 'benevolent' chain leaders is an implicit objective of the Australian Logistics Industry Strategy; that is, Australia's economic performance would improve through the coordination of chain resources by a chain leader whose objective is to appropriately share the value generated by the chain based on investment and risk. However, the Strategy rightly recognises that in the business world, self-interest is the primary motivation of firms (ALIS 2002, p. 34).

Because firms can be expected to pursue self-interest first, the transactional outcome will depend on the relative balance between the power of those supplying goods and services and the power of the customer.

Cox and his colleagues argue that since profits will tend to zero under perfect competition conditions, firms express their self interest by seeking to 'lock-in' value for the medium to long term to obtain above average returns. Cox refers to these 'locked-in' values as **rents**²³ and firms "focus on the acquisition and exploitation of supply chain and market power, and the pursuit of rents" (Cox, et al, 2002, p. 6). In other words, firms seek to make a bigger buck for as long as they can.

5.3 Sources of Market Power

Cox, et al, (2002, p. 4) argue that it is "the ability of a firm (or an entrepreneur) to own and control critical assets in markets and supply chains that allows it to sustain its ability to appropriate and accumulate value for itself by constantly leveraging its customers, competitors and suppliers."

Critical assets can be physical such as inter-modal terminals, and intangible such as knowledge. Put simply, they are resources that provide the firm with the ability to lock-in advantages that sustain above average returns or below average costs. To understand how critical assets are used in this way, one must understand the relative utility (importance) of these assets for the chain participants *and* their relative scarcity.

a) Resource Importance

Just as consumers derive utility (satisfaction) from the consumption of goods and services, firms place a value on chain resources in different ways. It is the relative importance that the buyer and seller place on a given resource that influences their relative power positions.

Take for example a logistics customer with a product that is notoriously difficult to deliver reliably and a logistics supplier motivated to establish a reputation for reliability. The customer is in a relatively stronger position due to the strategic importance the supplier places on succeeding with such a difficult contract. In this case, the customer's contract is the critical asset, providing the customer with leverage to negotiate a lower price.

However, if the supplier already has an established reputation for reliability and the customer values reliability above all else, the logistics supplier would be in a relatively stronger position during the transaction processes. In this case, by developing a reputation for reliability, the supplier has created a critical asset (reputation) that enables the firm to extract a price from the customer that is higher than the market average.

These examples demonstrate the temporal character of critical assets. While the customer's contract is a critical asset in the short term, the supplier – if successful – can lock-in the critical asset of reputation in future contract negotiations.

b) Resource Scarcity

Understanding how firms regard the importance of a given transaction can only partially explain their relative power relationships. Resource scarcity also plays a part.

If competing firms can readily imitate a critical asset, the power derived from that critical asset is quickly diminished. This is also the case if it is easy for the customer to find a substitute for the critical asset.

For example, if a customer has many reliable suppliers to choose from (or if competing suppliers can at least imitate the reliable supplier's reputation), the potential market power of the supplier is reduced.

²³ Cox et. al. use the term rents in the context of the supplier and defines it as the "earnings in excess of the firm's costs of production that are not eroded in the long run by new market entrants...rents persist in long-run equilibrium while profits tend towards zero." p. 6. We use rents here in a broader sense to also incorporate the value buyers retain by obtaining goods or services below average market costs.

Examples of Market Resources

Market resources that might be used as critical assets to derive power include:

- The volume and/or value of goods or services involved in the transaction, particularly relative to the total market and/or the size of the operations of the supplier and customer;
- The frequency of the delivery or task;
- The strategic significance of the contract;
- Special requirements of the task;
- Physical assets, ranging from large infrastructure such as terminals to small assets such as packaging;
- Right of way and/or capacity (eg, train paths, terminal slots);
- Technology;
- Existence of property or quasi-property rights;
- Economies of scale, scope, density and network; and
- Intangible assets such as reputation, management expertise and workforce skills.

Whether or not these market resources can be used as sources of power depends on the importance buyers and sellers place on them and whether or not alternatives are available. However, in an imperfect world buyers and sellers will sometimes lack sufficient information upon which to accurately determine the importance and scarcity of the market resource.

c) Information Asymmetry

The existence of perfect information is a precondition of a perfect market and the absence of market information has often been seen as distorting the efficient operation of the market and therefore justification for government intervention.

When information is a scarce resource, it is possible that transactions will be conducted in an asymmetric environment, in which the more informed firm can derive an advantage over the less informed firm. It is also possible for perceptions of resource scarcity *and* importance²⁴ to be influenced to the point where they run counter to existing facts.

While information is another market resource, we believe that given its importance to the transactional process and subsequent power relationship, it is fundamentally necessary to understand whether there is at least the potential for one firm to possess more knowledge than its competitors, suppliers and customers.

5.4 Enhancing and Mitigating Market Power

Power is not uniform through the chain - only a small number of participants in the chain are likely to have a degree of power at any one time. It is also possible for power not to exist at all (Cox 2002, p. 243). Power also shifts, disappearing and reappearing at different points along the logistics chain. Power can also shift quickly through, for example, innovation or changes in perception.

Firms can take action to defend or enhance the longevity of the power they derive from their critical assets by, among other things:

- Using marketing to enhance the utility with which other firms regard their resource ;
- Reducing the ability of competing firms to imitate their critical asset by securing property and quasi-property rights; and

²⁴ Cox, et al, appear to suggest that information asymmetry will only influence the firm's understanding of resource scarcity and not the value the firms places on a given resource. This ignores the reality that influencing perceptions of value is a key marketing objective!

- Positioning the firm in a particular segment of the market that reduces the number of competitors; making their custom valuable to suppliers or their product/services valuable to customers.

Firms can also reduce the power derived from critical assets by, among other things:

- Fostering competition by spreading contracts to ensure substitutes are available;
- Reducing their operational dependency on scarce resources; and
- Keeping up with market leaders to reduce the latter's ability to derive first-mover advantages.

Whether or not critical assets are used to exert market power and how firms seek to enhance or mitigate the power derived from such assets will depend on the motivation of the firm.

5.5 The Importance of Motivation

Cox, et al, acknowledge a limitation in their work in that its focus is on the structural context of the transactions that form logistics chains and it "avoids any discussion of the human dimension of buyer-seller interactions. ... Behavioural factors such as a refusal to negotiate or the use of delaying tactics, that are currently absent from our analysis, are clearly important for a proper understanding of value outcomes in buyer-supplier exchange" (Cox, et al, 2002, pp. 251-2).

The transaction process involves people. The motivation of those in control of the firm and/or involved in the transaction process is a significant determinant of potential and actual market power. It is motivation that determines whether or not power is sought and derived from critical assets, how derived power is exerted, and consequently, the distribution of value through the logistics chain.

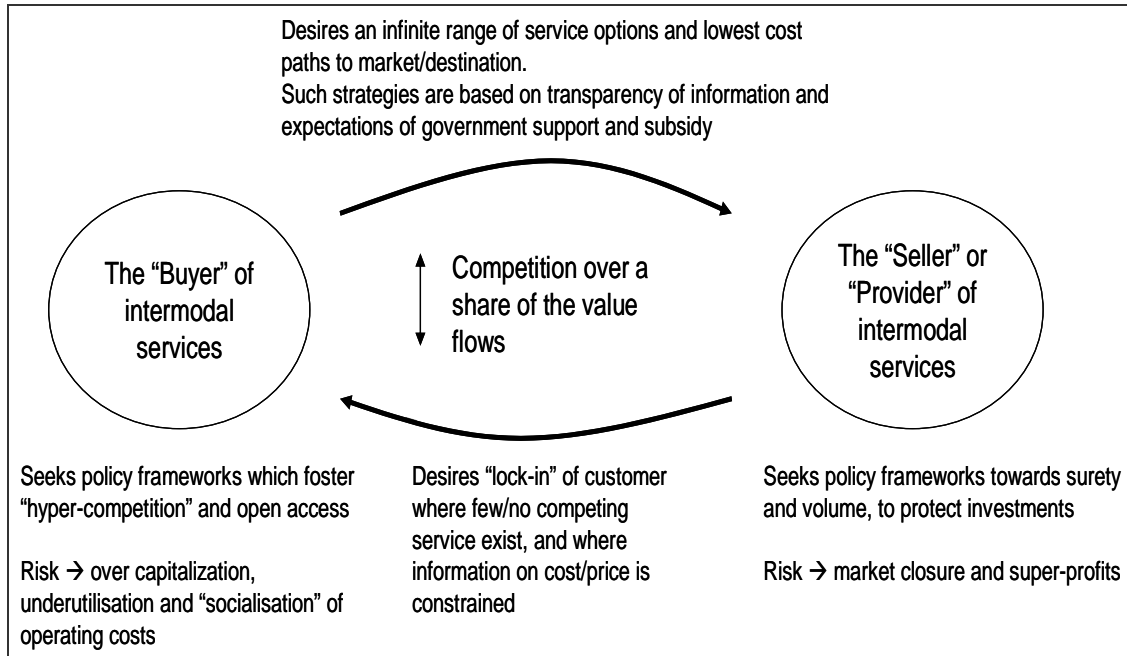
Firm ownership and the character and charisma of the company leaders are important strategic influences on the motivation of the firm's managers.

Understanding the motivation of company leadership assists in a more accurate analysis of potential market outcomes, and helps explain why similar firms may adopt different approaches to the use of critical assets as sources of power. For example, family owned companies often adopt different strategies to those of publicly listed companies.

Figure 7 illustrates the motivational drivers in relation to the purchase and provision of inter-modal terminal services and summarises some of the concepts discussed in this Chapter:

- Buyers compete with providers for a share of chain value;
- Buyers are motivated by cost reductions and multiple logistics service options (flexibility), and want transparent information on all service options, but the cost of securing this information allows the provider of the inter-modal service to use its size or vertically integrated operations to provide low 'search cost' market information to attract customers;
- The provider seeks a market opportunity to add value to the chain by reducing transport costs, but is motivated in the first instance to protect the financial viability of the terminal by securing sufficient throughput; and
- First-mover buyers may be able to extract lower charges as the provider seeks to achieve initial break-even volumes, but ideally the provider seeks market closure to capture greater throughput, reducing their unit costs and increasing their total revenue.

Figure 7 - Different Motivations of Buyers and Sellers of Inter-Modal Services



Source: SFC 2004, p. 36

5.6 Measuring Power

Two principal obstacles that stand in the way of meaningful measurement of power are:

- Current methods used for quantifying the existence of market power, e.g., market concentration ratios, are based on traditional theories of how markets operate and are inadequate for dealing with the complexities of logistics chains and sub-markets.
- The lack of meaningful quantitative data. It is notoriously difficult to obtain useful data on Australian and overseas logistics chains and markets, as evidenced by the frequent debate relating to the ability of the Australian Competition and Consumer Commission and its overseas counterparts to determine the existence of market power to the satisfaction of the courts.

Given these obstacles, a qualitative framework is considered the most practical and useful method for demonstrating the *potential* for power to exist in the supply of logistics services (market power) and within logistics chains (chain power) at this stage²⁵. At the very least, a qualitative framework allows the identification and prioritisation of further analyses required to quantify degrees of market power.

5.7 A Qualitative Framework for Demonstrating the Potential for Market Power

This study suggests that degree to which power may exist in the Australian market for logistics services can be determined using a four-stage framework for identifying:

- Market characteristics, for example size of the market and the number of participants, and other key features;
- Motivation driving firm behaviour;
- Sources of information asymmetry; and
- Resources that might be leveraged to derive power.

²⁵ If the data existed, one simple quantitative measure of potential market power would be to examine the differences in operational rates of returns for chain participants.

It is not our intention to apply this framework in detail here as the many of the issues have been discussed in previous Chapters. However, a summary of the key points are provided below.

a) Australian Logistics Market Characteristics

As discussed in Chapter 3, the number of suppliers of logistics services can be described in a general sense as being polarised; many suppliers of local and regional road transport services, less suppliers providing combinations of transport, storage and support services, and only a few suppliers capable of providing national or vertically integrated logistics solutions.

While this suggests that there are some market concentration issues relating to the provision of nationally significant logistics services, the existence of high levels of market concentration within specific logistics sub-markets requires further investigation.

In Chapter 4, a number of developments in the demand for logistics services were discussed, and it appears also likely that the type of services demanded by businesses will increasingly become polarised with the growing demand for very large, national contracts.

b) Motivation Driving Firm Behaviour

A description of the various firms supplying and demanding logistics services would be as broad as attempting to describe the Australian economy as a whole. However, the key message presented in this study is that publicly listed firms are driving industry consolidation and the development of vertically integrated services as a means of achieving sufficient growth to satisfy shareholder expectations.

This motivation is a power one and cannot be satisfied by relying on the organic growth expected as a result of the growing freight task. As opportunities for acquisition of logistics firms with transport assets diminish, it is likely that the market leaders will push further into the provision of logistics management services. It is also likely that they will seek additional growth opportunities outside Australia, particularly Asia.

Additionally, as the scarcity of particular assets reduces the threat of direct competition in the national and vertically integrated markets, the opportunity now exists for the market leaders to consolidate their market dominance through the rationalisation of recently acquired assets.

For suppliers of logistics services pursuing organic growth, the expected increase in freight flows provides significant opportunities at the local and regional levels, and on the shorter inter-state routes.

For manufacturers and retailers, the increasingly open domestic market and subsequent competition from global businesses is providing strong motivation for supply chain reform. Consequently, just as the major retailers have taken the lead in driving reform of their supply chains, we may expect other large businesses in positions of chain leadership to take similar action to control their supply chains. This may result in fewer, but larger logistics contracts if 'whole-of-chain' logistics solutions are adopted.

c) Sources of Information Asymmetry

The lack of public debate and analysis of the logistics industry has created an environment where information is a valuable industry resource.

The best sources of information on Australian logistics companies are the PSA publications *Australasian Transport News* and *SupplyChain Review*, although they do not provide much in the way of consistent quantitative data.

While *The Australian Financial Review* has been consistent in maintaining a focus on the market leaders for the past twenty years, the *Review's* analysis of developments in the logistics industry has been sketchy, and devoted primarily to government reforms, industrial relations issues and initiatives likely to interest the share market.

When information is scarce, the advantage rests with the larger companies. The larger the company, the greater its opportunity and ability to collect information is likely to be.

A company will also have an information advantage if it operates across a range of logistics sub-markets, or has a broad network of operations. Information can also be accumulated privately through the control or ownership of key operations in the logistics chain. Two particular operating conditions provide a source of potential market power:

- Inter-modal terminals are a key point in the chain where information can be collected by the asset operator. By their nature, inter-modal operations have the potential to provide the operator with information on commodity volume and value, origin and destination, supplier and customer, and the in-bound and out-bound transport task. If this information is collected, it might be a concern when the operator of the terminal is also a competitor in the supply of logistics services to and from the terminal. Examples of this situation occur at Pacific National terminals where both Toll and Patrick provide road transport services, and at the P&O and Patrick stevedoring terminals, where P&O and Patrick provide land transport services.
- In the inter-state rail and aviation networks, the majority of capacity is respectively supplied by Pacific National and Qantas. However, both Pacific National and Qantas have business interests²⁶ that compete with other forwarders for the rail space the carriers offer. In both cases, there is potential for the forwarding interests to have access to market information not available to their competitors.

As demonstrated in the case study in Chapter 2, the potential to use information as a critical asset in the transaction process does exist in the market for rail services on the east-west corridor. Pacific National and SCT, as rail providers, have access to the commercial information relating to freight forwarders purchasing space on their trains. This information includes volumes, frequencies and most importantly, the price Pacific National and SCT charge the freight forwarders for space on their trains.

If the freight forwarding interests of Pacific National and SCT had access to this information, they would be in a position to out-manoeuvre their freight forwarding competition.

Scarcity of public industry information also creates an environment where individuals depend on informal networks for news of industry developments. Informal networks are not necessarily bad, but are susceptible to turning hearsay and rumour into perceived reality.

d) Potential Critical Assets

Critical assets in the logistics industry that could be used to derive market power include:

- **Inter-modal terminals:** Ownership or control of an inter-modal terminal does not automatically make it a critical asset. For example, P&O and Patrick have been fiercely competitive in a duopoly situation because of their need to secure economies of scale in an environment of excess capacity – the loss of a shipping contract increases your unit operating costs while simultaneously decreasing the unit operating costs of your competitors.

However, when a firm controls an inter-modal terminal without any direct competition, the terminal may be used as a critical asset. For example, only one rail terminal can be financially justified for many of Australia's regions because of the limited potential throughput of the relevant hinterland. This gives the operator of the terminal 'first-mover' advantage through the opportunity to close the market to competition from other terminals.

- **Capacity:** When capacity is scarce and valued by customers and competitors, having control over the capacity offered to the market can be a very effective critical asset. In

²⁶ Toll and Patrick rail freight forwarding interests and Qantas' forwarding joint venture with Australia Post - Australian Air Express.

Australia, Qantas and Pacific National respectively control most of the belly-hold and train-path capacity available, providing very powerful resources in the logistics chains they serve.²⁷

If Australian governments wish to facilitate competitive market outcomes, regular collection and public dissemination of data on the availability and control of air and rail capacities, measured in terms of volumes and frequencies, is a priority.

- **National Capability:** With some major customers seeking to establish national logistics solutions, the ability to demonstrate a national presence can be used as a critical asset. Also, having an established national network allows the logistics service provider to offer a pan-Australian price that may be attractive to customers not willing to invest in the search for and management of multiple providers around Australia.

The power derived from a national network should not be under-estimated, given the significant capital and time required to establish such a network. For example, the P&O and Patrick stevedoring networks present a major barrier to entry for a third national stevedore – a barrier made stronger by the lack of coordinated attempts to expand national stevedoring capacity.

National capability also provides opportunities to utilise economies of scale, scope, density and network as critical assets.

- **Integrated Logistics Capability:** Similar to having a national capability, a logistics service provider with a whole-of-chain logistics capability can use that capability to derive power over customers who want a one-stop-shop service for their logistics needs.

Integrated logistics capability is neither size nor spatially dependent. That is, integrated logistics services can be provided locally or to a single logistics chain and still act as a critical asset.

At present there are a number of barriers to establishing nationally integrated logistics services, such as²⁸:

- Providing belly-hold capacity through the operation of *passenger* air services;
- Obtaining competitive train-paths that allow for late afternoon departures and early morning arrivals of non-bulk freight trains;
- Obtaining adequate rail and air capacity from train and aircraft operators, and that the capacity is securely booked against being displaced by other 'priority' cargo;
- Developing a network of stevedoring facilities as the focal point of international logistics chains; and
- Being capable of providing sustainable Bass Strait shipping services. Note that due to the current excess capacity in the Bass Strait trade, obtaining secure capacity on existing shipping services is not a problem. However, because of the lumpiness of shipping capacity, a problem could quickly arise should rationalisation of the trade take place.

Other than the significant exception of the Bass Strait sector, and a degree of international capacity operating under the permit system, coastal shipping is not a feature of Australia's integrated logistics solutions for non-bulk freight.

²⁷ Even though Australia has an open skies policy for the provision of air freight services, most air freight is carried in the belly-holds of passenger aircraft. Consequently, securing the rights to provide international air passenger services provides a simultaneous property right over the available freight capacity the passenger aircraft provides.

²⁸ At present only Patrick Corporation has overcome all of these barriers, though all of the offered services may not be regarded as fully integrated at this stage. Toll Holdings is yet to acquire an interest in passenger services although it does have freight only air freight services.

- **Customer Service:** The ability to provide a reliable, quality service can also be used as a critical asset. Interviews with customers constantly reinforce the messages that;
 - Being treated as a customer is a key determinant for entering into a transactional relationship; and
 - Delivering on service as well as providing that 'little extra' is worth a premium above the average market price and/or creates a disincentive to search elsewhere for a cheaper supplier.

Many second tier logistics companies have grown symbiotically with long-term customers because of service quality.

- **Workforce:** A motivated and skilled workforce often underpins the ability to deliver on customer service. However, the workforce should be viewed as a separate critical asset because of the aging demographic issue. As road transport will continue to be the vital transport link in most logistics chains – particularly over the 'last mile' and in terms of its countervailing power to rail services – a logistics service provider's ability to attract and retain quality drivers will be a key determinant of its ability to extract above-average rents in the long-term.

5.8 Case Study: The Wheat Export Chain

a) Introduction

Analysis of the Australian wheat export chain provides insights into changing institutional arrangements and subsequent power shifts along the logistics chain.

It is important to note that the domestic and export grain systems share common distribution assets. Consequently, action in one chain can have an impact upon other grain chains. This inseparability between critical physical assets and chain participants emphasises the need to clearly understand the inter-relational dynamics of supply chains, particularly when considering the impact of changes in government policy.

b) Historical Overview

Until relatively recently, Australian national and state governments provided the management, operation and regulation of bulk domestic and export grain chains.

For the wheat export chain, government involvement was expressed through:

- The **Australian Wheat Board (AWB)**, operating as a Commonwealth statutory marketing authority. As such, the AWB took responsibility for the pooling, marketing, trading, financing, risk management and logistics of Australian export wheat in what is referred to as a 'single-desk' arrangement. Similar state marketing authorities existed for the export of barley (the Australian Barley Board) and for the regulation of domestic grain markets.
- **Rail operators:** The vast majority of wheat export movements were and remain intra-state, being funnelled into the nearest port utilising rail services. Historically, these rail networks and services were state-owned and operated.
- **Bulk handlers:** At the 'up-country' rail heads and key locations along the rail network, grain elevator boards (or authorities) operated silos and storage facilities for the management of wheat stocks. At the port, they also operated terminals including ship loading facilities. In WA and SA, grower cooperatives filled these roles. All of these agencies were state regulated.

As bulk wheat exports are typically sold on a 'free-on-board' basis, the customers of the pre-port logistics services were ultimately the Australian wheat growers. However, through the centralised pooling system, the AWB acted on behalf of growers to secure rail and bulk handling services. The AWB's buying power was further strengthened by working with the

Australian Barley Board and state-based marketers, creating in effect a monopsony for the purchase of handling, storage and transport services²⁹.

The triangular relationship between the AWB and the state-based rail and storage service providers is shown in Figure 8. It is important to note there was no (financial) value transfer between the bulk handler and the rail operator, creating a commercial disconnect between the decision-making of these two entities. Instead, their activities were effectively command driven through co-ordinating power of the AWB and fellow marketing authorities.

The direct involvement of governments in a chain whose sole focus was the benefit of growers, combined with the grain industry's importance to local communities, provided growers with a powerful asset - political muscle. This complemented the growers' commercial power as expressed through the AWB. Consequently, decision making and the resolution of disputes were often based on political rather than commercial realities.

As a result, there was an emphasis on socialising the costs and rewards of the grain chain and some governments used subsidised freight rates and/or storage charges as hidden support to farming communities. More importantly in the long-run, the stable commercial and political position of wheat growers meant there was little need by them or the AWB to secure critical physical assets along the chain.

Figure 8 - The Historical Coordinating Powers of the AWB

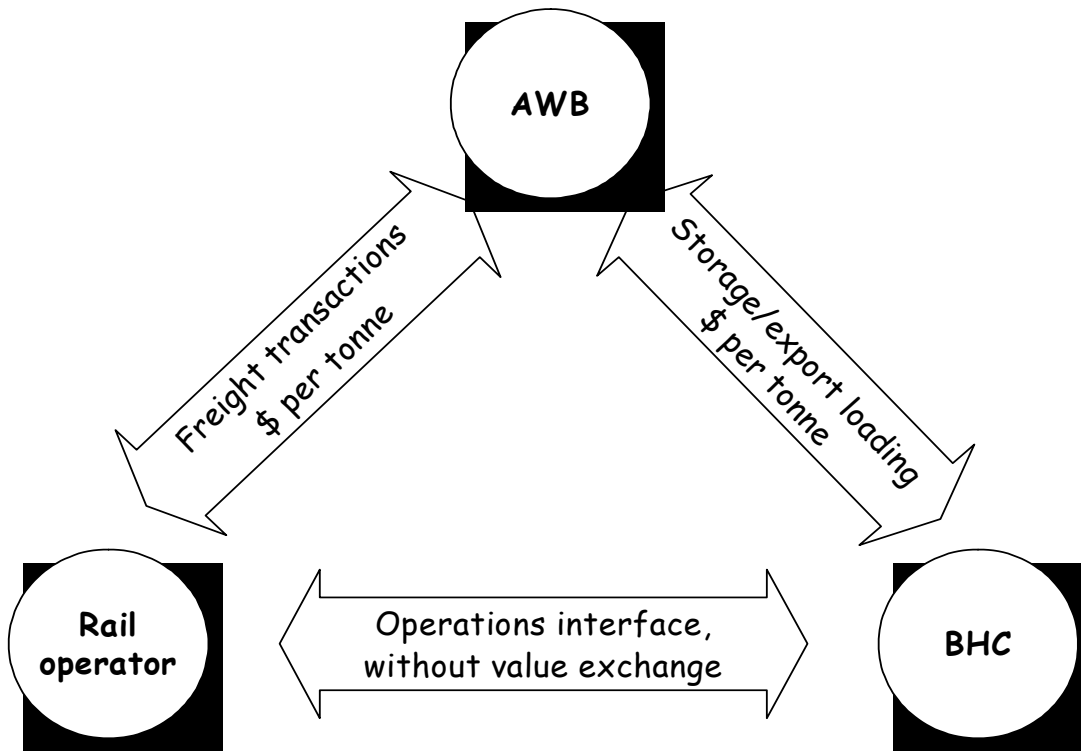


Figure 9 and Table 9 describe the major historical power relationships between participants in the wheat export chain, with the locus of power gravitating towards the grower.

²⁹ In terms of rail services, the grain marketers' position was not truly monopsonistic since the rail infrastructure could also be used to transport non-grain commodities. However, in most states, the vast proportion of the rail network was dedicated to the servicing of grain, while non-grain business opportunities were limited.

Figure 9 - Major Historical Power Relationships in the Export Wheat Chain

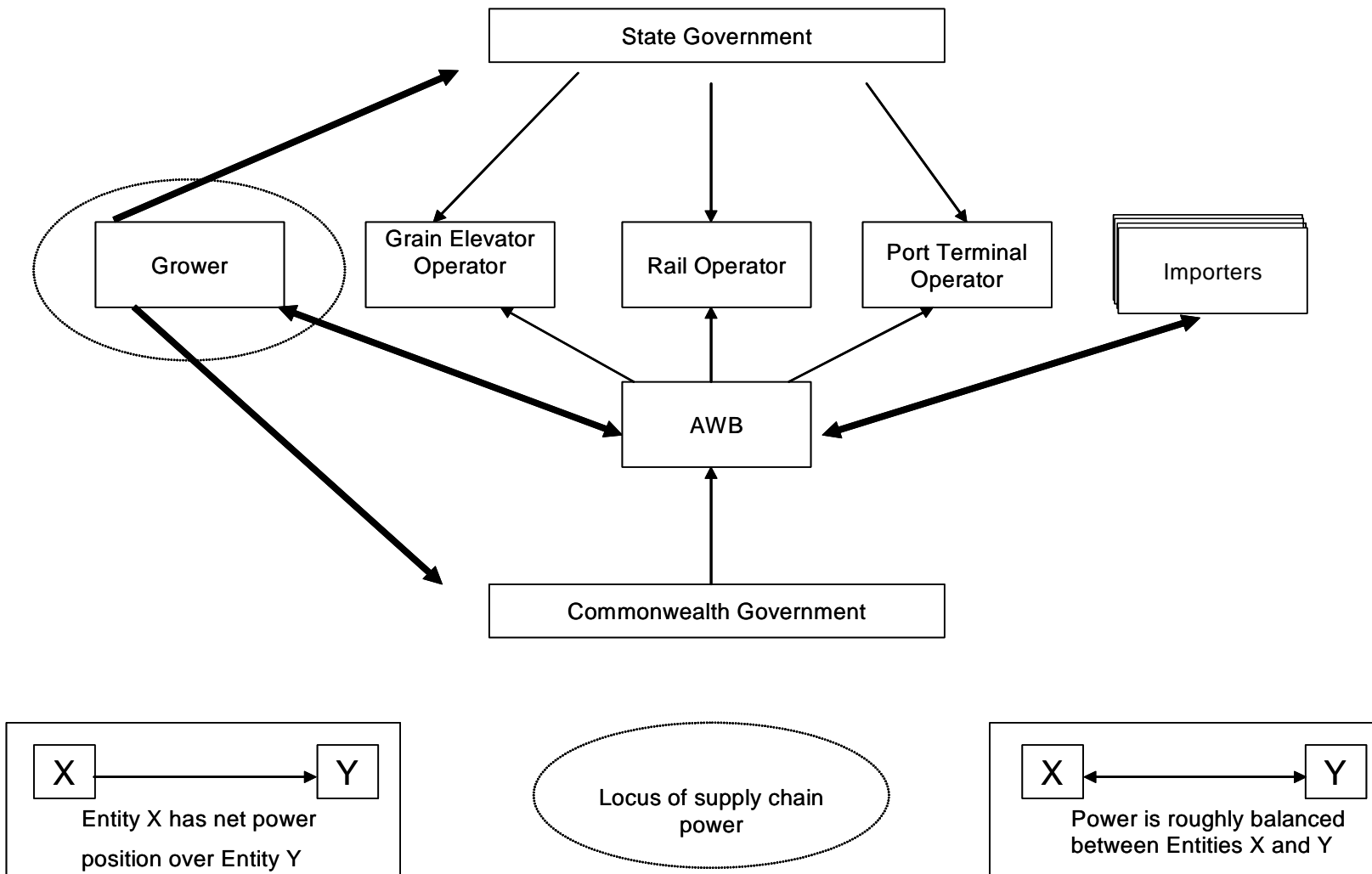


Table 9 - Historical Power Relationships in the Wheat Export Chain

Source of Power	Power Exerted Over					
	Grower	AWB	BHC	Rail Operator	Government	Comment
Grower		Power through the reporting of the pool's financial performance and policy development.	Marginal power through financial performance when BHC is a grower coop	None	Strong and direct political power	Growers' power through the chain is derived from political influence on government and AWB's representation on growers' behalf.
AWB	Statutory power		Strong and direct statutory power	Strong and direct statutory power	Strong if demonstrated grower benefit	AWB's power is derived from single desk status, weakened by control of data by BHC and rail operator.
BHC	Marginal power via operating requirements at the road/silo interface	Marginal power via the location and operating requirements of storage infrastructure. Monopoly power weakened by government intervention		Strong but limited to operating requirements at the rail/terminal interface. No commercial relationship.	Strong if demonstrated grower benefit	BHC power derived from control of scarce and critical storage assets. Dormant monopoly power exists due to the funnelling affect of the rail network.
Rail Operator	No commercial or operational relationship	Though a monopoly, power strictly limited by government intervention	No commercial relationship.		Limited power through control over reporting of financial and non-financial performance	Control over track asset provides rail operator with a dormant natural monopoly power.
Government	Weak	Strong and direct statutory and regulatory control	Strong and direct statutory and regulatory control	Strong and direct statutory and regulatory control		Government power based on direct legislative instruments and public ownership of assets and operations.
Comment	Grower 'ownership' of the chain weakened by lack of access to independent data.	AWB's power weakened by the statutory powers of other marketing authorities, and the control of performance data by rail operators and BHCs.	BHC's power weakened by AWB's national knowledge on comparative performance, and dependence on other chain participants.	Government focus on grain chain reduces the opportunity to avoid monopsonistic power by seeking alternative business.	Governments' involvement in the operation and performance of chain creates political exposure	

c) Current Market Dynamics

As part of the general micro-economic reform agenda of the late 1980s and 1990s, State governments commenced a withdrawal from direct participation in the supply of logistics services to the grain industry.

- **Rail operators:** State owned rail operators were initially corporatised, creating greater transparency in the distribution of costs and revenues through the rail network. This commercialisation process provided incentive and opportunity for the rail operators to change their behaviours; withdrawing from unprofitable services to focus on profitable ones as well as seeking new non-grain business. Without governmental counter-incentives such as community service obligation payments (CSOs), at most risk of losing rail services were those growers dependent on branch-lines.
- This process was accompanied by the introduction of competitive rail access regimes. While this generated welcome consumer power to customers, it weakened the negotiating power of the rail operators in the 'triangular' relationship illustrated at Figure 8.
- **Bulk handlers:** With the de-regulation of the domestic grain markets, privatised grain elevator boards (now bulk handling companies, or BHCs) were free to move horizontally in their chains. BHCs were able to pursue commercial opportunities through the development of trading arms, to capture value from the distribution of wheat and other grains. They were also free to seek transport contracts directly with rail operators for the movement of wheat from storage sites. Latter, the AWB also moved into storage provision through a subsidiary.
- **Marketing authorities** were also privatised. This provided the opportunity for smaller marketers to be acquired by, or merged with BHCs. During this time, the Australian Wheat Board went through the privatisation process to become AWB Ltd.

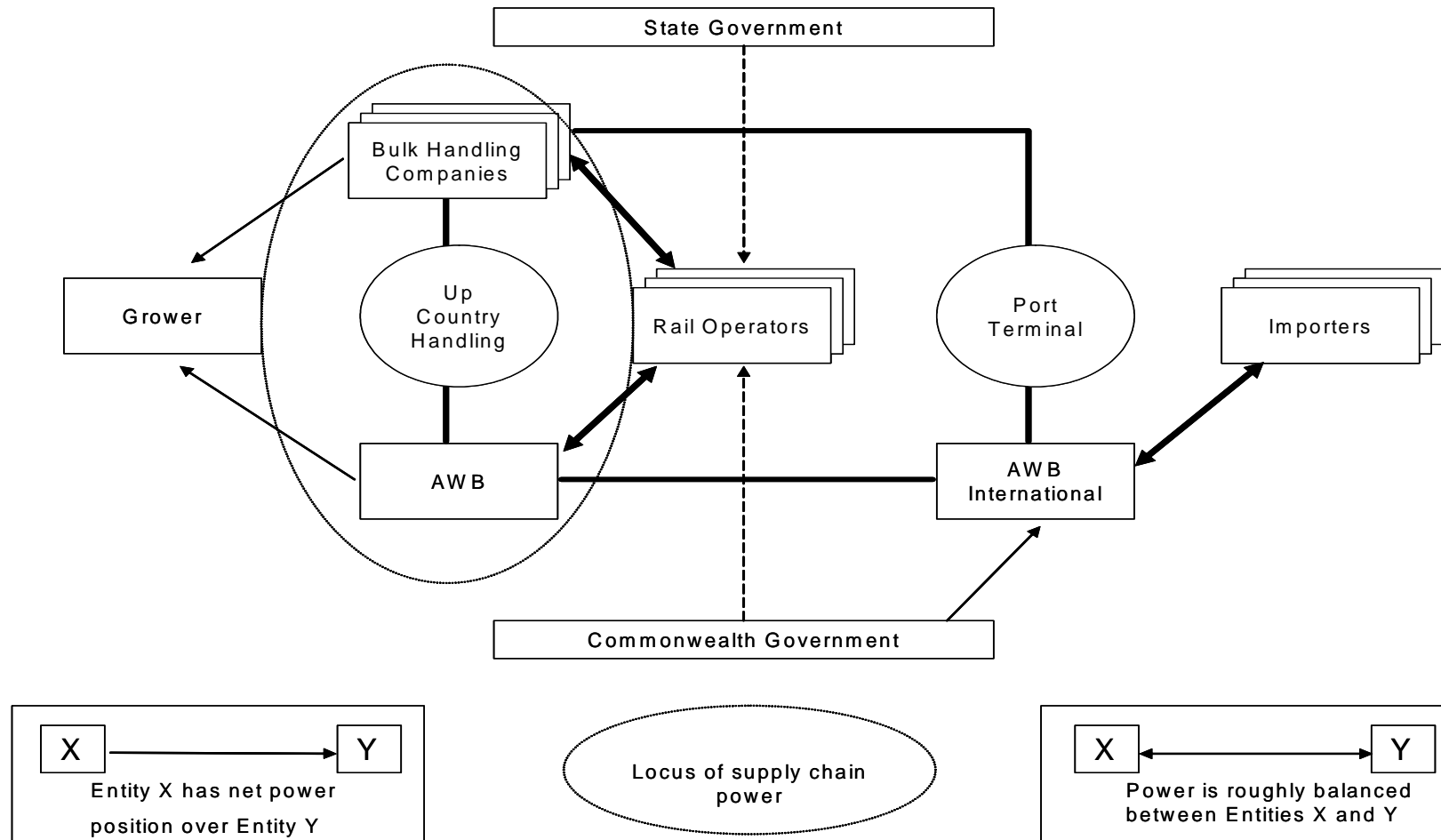
The privatisation of AWB and BHCs changed the means by which growers derived benefit from their service providers. While some wheat growers were able to obtain 'representation' through shareholdings, their new commercial relationship with service providers does not equate with the historical motivation of the AWB to act on behalf of growers *as a community*. For instance, AWB Ltd no longer represents growers in regard to key local issues such as maintenance of branch-line rail services, where their 'shareholders' interest is simply defined as the 'least cost path to port' rather than social concerns.

The move towards vertical integration creates a new tension in the design of the Australian wheat distribution system – the new entities are now focussed on tactical moves designed solely to maximise shareholder returns. That is, decisions are no longer being coordinated to optimise the grain distribution system as a whole (nor are the grain growers now positioned as customers of the system).

From the growers' relative power perspective, the privatisation process has not only changed the commercial dynamics, but it has also substantially removed the underlying political drivers. Now governments are able to distance themselves from investment and service decision-making. Consequently, the grain growers' key critical asset of political leverage has been diminished.

Also, there has been a separation in the grower/AWB relationship, forcing the wheat grower into a position of much less market power. AWB Ltd retains significant power over the supply chain so long as its single-desk marketing power remains.

Figure 10 - Current Power Relationships in the Export Wheat Chain



The movement of the locus of power away from growers is illustrated in Figure 10. The result of the deregulation process is that the power vacuum created by the withdrawal of direct government involvement in Australian grain chains is being filled by the new BHCs, whose geographical 'port-zone' monopolies remain more or less intact. This position of power will be further entrenched if the AWB single desk powers contract (through Federal government action) to the 'at-port' rather than 'up-country' position in the supply chain.

Comparing Figures 9 and 10 demonstrates that the historical flow of power from the grower has been replaced with a delicate balance between the power of the BHCs (derived from their control over physical assets) and the single-desk authority of AWB Ltd.

d) Implications of the New Market Dynamics

Cherry-Picking

In an open market, we can expect that competing wheat marketers (or chain leaders) will seek to capture that part of the wheat harvest that provides the highest returns for the lowest cost. This 'cherry-picking' strategy is likely to have a significant impact on the wheat export supply chain and ultimately lower returns for growers of lower value yielding product.

While competition in the marketing of wheat might raise returns for (some) growers, cherry-picking breaks down distribution advantages that are gained by the volumes created by the AWB wheat export pooling system, raising logistics costs to growers who remain in the pool.

Similarly, continuing to differentiate product by providing increasing varieties of grain grades will have an impact on the supply costs of delivering wheat to the domestic and international markets. These costs will be greatest when the number of grades of grain reduce 'packet' volumes to the extent that rail transport is no longer a viable option. In this extreme, farmers will turn to producing other commodities, and/or use road transport solutions with the consequential additional social costs.

Natural Network Monopolies?

The distance between Australian wheat export terminals, and the associated rail infrastructure that is 'designed' to funnel wheat through these terminals, reduces the opportunity for competition between wheat export terminals.

The design of the rail network also lends itself to regional rail monopolies, where freight volumes and financial returns on branch-lines are insufficient to sustain multiple rail service providers.

Consequently, terminals will remain highly valuable market resources, and those in control of these terminals will have significant chain power. This power will be magnified if the terminal owner also controls storage and silo assets 'up-country'.

The power derived from control of wheat export terminals could theoretically be reduced through improvements in rail infrastructure. However, two key conditions would need to be met for this countervailing power to be realised:

- The rail network facilitates switching between terminals that are separately owned; and
- The customers of the export terminal are capable of negotiating full-train-loads with the rail operator *and* capable of establishing the associated storage and train-loading facilities independently - or at least able to purchase such services from an alternative service provider.

Neither of these conditions is likely to be met to the extent that natural port-zone monopolies would be weakened in the foreseeable future.

However, while AWB Ltd retains its single desk international marketing powers and resists moves for these rights to contract to the 'at port' position, it provides wheat growers with a degree of countervailing power for Australian logistics services.

e) Summary

The recent developments in the Australian wheat export chain emphasise the following key points:

- The withdrawal of governments from ownership and/or control of services within the market create power vacuums which results in modification of power relationships along the chain. Government policy objectives of increased efficiency may not be achieved as an unintended consequence of the new market forces, and unintended outcomes may occur in related supply chains, particularly when those chains share scarce market resources such as distribution infrastructure.
- Increasing competition in one area of a supply chain does not necessarily improve the overall performance of the chain. It is more certain that there will be change in the distribution of value along the chain, with those in the weaker power position giving up part of their share of the value generated by the chain.
- Those responsible for coordinating the operation of the supply chain want stability and predictability to maximise utilisation of their assets and achieve lower costs. However, marketing bodies want flexibility and responsiveness to adjust to changing customer demand. When relative power is held by the system coordinator, we can expect more 'efficient' (lower unit cost) supply chains. When relative power is held by marketing bodies we can expect more 'effective', market-driven chains, but at higher unit costs.

For rail operators, the current market conditions in the Australian grain sector are difficult ones in which to make confident investment decisions. The changing dynamics that have produced a conflict of power between the new BHCs and AWB Ltd continues to represent an unstable marketplace. The threat and occasional realisation of competition for rail services, and large seasonal variations in demand, add to that uncertainty.

6 CONCLUSIONS

Logistics chains are the DNA of our economy - a series of connected transactions that determine the character of the national economy via the distribution of physical products and value between buyers and sellers.

Logistics activities add significantly to national wealth. The Bureau of Transport and Regional Economics estimates they contribute at least 9 per cent to Australia's gross domestic product.

The market for logistics services is also substantial, reflecting its vital importance in the production and consumption process. In this report, we have estimated that the potential Australian market for logistics services is approximately equivalent to 22 per cent of GDP, or \$166 billion in 2002-03, of which about 25 per cent is presently contested between suppliers of logistics services.

There has been significant change in the Australian market for logistics services in the past twenty years, partly driven by the withdrawal of governments from the supply of logistics services and partly by changes in demand as customers increasingly recognise the importance to their competitive position of logistics and supply chain management.

New industry leaders have driven change in the industry as they pursue the levels of growth that satisfy demanding shareholders. The source of this growth has primarily been through the acquisition of other logistics companies (or the 'poaching' of their customers³⁰), which has seen the industry become more concentrated. Taken as a whole, the increase in concentration has not resulted in a less competitive market than when it was dominated by TNT and Mayne Nickless (and to a lesser extent Brambles).

However, this study has identified that with the expansion of logistics services being offered by the industry, a polarisation of the industry is occurring whereby there are many operators providing basic logistics services (eg. road transport) but only a very few operators providing national and integrated services. Consequently, in terms of market concentration, there is more cause for concern in those markets that are nationally significant (eg. inter-state, container and bulk freight tasks) than local or regional markets.

Indeed, the acquisition of a number of scarce industry assets, such as train paths and inter-modal terminals, and the vertical integration of scarce assets such as air freight capacity with ground handling services, and container stevedoring with road and rail services, has the potential to undermine the medium to long-term competitive dynamic of the industry and limit Australia's overall economic performance.

The study also identifies that in an environment of scarce publicly available data and information, the existence of asymmetric information provides those few national and integrated service providers with an additional competitive advantage over their competitors.

We also find that changes in the demand for logistics services have the potential to underscore the competitive weaknesses in the structure of the logistics industry. In particular, the trend of seeking national solutions to reduce supply chain costs reinforces the competitive strategic position of the few logistics companies capable of providing such services.

While customers will always retain the option of meeting their national needs through the use of multiple local and regional solutions, where the market is less concentrated and barriers to entry lower, government policies of facilitating improved rail services ultimately makes national solutions that utilise vertically integrated rail services more attractive.

³⁰ Industry sources have cited the poaching of a competitor's major clients as an alternative means of 'acquiring' a competing firm. This is particularly effective when there is an over supply of logistics services, eg. in the road transport sector. This study has not established that evidence exists to support the claim that the poaching that has taken place represents anti-competitive behaviour.

Consequently, we conclude that governments seeking to use transport infrastructure investment as a means of driving productivity growth must also balance how additional capacity can be utilised to increase the competitive dynamic in the industry.

In addition to investigating changes in the competitive dynamic of the logistics industry, this study has attempted to consider changes in market power from a demand perspective.

The strategies customers have adopted range from partial or full out-sourcing of their logistics operations, rationalisation of their distribution networks and/or suppliers, reducing inventory and increasing chain velocity. Big and small customers have applied these strategies to local, regional and global networks.

However, the most fundamental change in the demand for logistics services has been the initiation of strategies by Woolworths and Coles Myer to take control over the primary freight task (from the supplier's factory or warehouse to the retailer's distribution centres).

Responsibility for the primary freight has historically been organised and managed by suppliers of retail products. While control of the primary freight task by retail chains has been taking place in Europe for over a decade, there is uncertainty in Australia how this change will impact suppliers of retail products due to the more consolidated Australian retail market. For example, in the case of manufacture dry food products, sales through Woolworths and Coles Myer represent approximately 75 per cent of the market.

This study finds that while there is sufficient overseas evidence to conclude that there are significant benefits to customers and retailers as a result of the latter's control of the primary task, there is insufficient information to determine whether or not suppliers benefit. However, even if suppliers are worse off, it is debatable whether this represents market failure and a cause for government concern. Nevertheless, understanding the effect of retail control of the primary freight task is important because of the key position food manufacturers have in the farm-to-retail supply chain and their historical influence on the character of the Australian distribution network.

In addition to the structural change in demand caused by the control of the primary freight task by retailers, the study finds that there is a trend of rationalising logistics systems as a means of reducing costs. As a result there will be a change in the spatial characteristics of the demand for transport and storage infrastructure. This may pose a challenge to government infrastructure investment decision-making as current planning is based meeting the challenge of an increasing freight task through the existing spatial network.

Fewer, much larger warehouses will also result in greater concentration of road transport activity at key distribution points in the network. This will result in increased congestion and loss of social amenity in the local area, and significantly affect the demand on land transport infrastructure, particularly in terms of the local connections with the inter-state network.

This study highlights that there are fundamental shifts in power currently taking place for the supply and demand for logistics services. The study recommends that further analyses of these developments is needed, particularly with respect to understanding:

- The degree to which scarce logistics assets act as barriers to market entry, and whether or not future demand for these assets may allow for additional capacity to be made available to new entrants.
- Changes in the strategies of those responsible for the management of Australia's logistics chains, the implications for the spatial characteristics of the national distribution network and the consequential demand for land transport infrastructure.

Ultimately this study concludes that government and industry understanding of the likely medium to long-term competitive dynamics of the Australian logistics market requires further development, particularly in terms of the potential role for governments to facilitate greater competition in the industry.

REFERENCES

- ABS 9220.0, Freight Movements Survey, April 2000 to March 2001, Summary, (re-issue).
- AFR 2004, 'Buyers look to be winners as grocery war heats up', *Australian Financial Review*, April 17-18, p. 9.
- ALIS 2002, *Freight Logistics in Australia: An Agenda for Action*, prepared for the freight logistics industry by the Industry Steering Committee of the Freight Transport Logistics Industry Action Agenda and launched by the Deputy Prime Minister and Minister for Transport, John Anderson as the Australian Logistics Industry Strategy, www.dotars.gov.au/transinfra/aftliaa/actionagenda/index.htm.
- BTRE 2001, *Logistics in Australia: A Preliminary Analysis*, Working Paper 49, Bureau of Transport and Regional Economics, Canberra.
- BTRE 2003a, *An Overview of the Australian Road Freight Transport Industry*, Working Paper 60, Bureau of Transport and Regional Economics, Canberra.
- BTRE 2003b, *Freight Between Australian Cities*, Information Sheet 22, Canberra.
- BTRE 2003c, *Australian Transport Statistics*, June 2003, Canberra.
- CLM 2004, *Food, Liquor & Fuel Supply Chain Transformation*, Coles Myer Ltd Supplier Update, June.
- CLM 2004b, *Coles Myer Fourth Quarter Sales Up 28.1%*, News Release, 12 August 2004.
- Corbet, R 2004, Woolworths Limited Half Yearly Report 30 June 2003 to 11 January 2004.
- Cox, A., Ireland, P., Lonsdale, C., Sanderson, J. and Watson, G. 2002, *Supply Chains, Markets and Power: Mapping Buyer and Supplier Power Regimes*, Routledge, London.
- CNT 2004, *Transport/Europe*, bulletin of the Observatory on Transport Policies and Strategies in Europe, Couseil National des Transport, No. 11, May 2004.
- ECR 2003, *Efficient Product Movement: Improving Product Transport and Handling Through The Supply Chain*, Efficient Consumer Response Australasia, in conjunction with IBM, Australian Food and Grocery Council, Kingston, ACT.
- EFT 2003, *The European 3PL Market: A Synoptic Overview of Emerging Trends and Opportunities*, September 2003, www.eyefortransport.com
- Le Blanc, H. M., Cruijssen, F., Fleuren, H. A., and de Koster, M. B. M. 2004, *Factory Gate Pricing: An Analysis of the Dutch Retail Distribution*, Discussion Paper, CentER Applied Research, Tilburg University, March.
- Piggott, R., Griffith, G. and Nightingale, J. 2000, *Market Power in the Australian Food Chain: Towards a Research Agenda*, a report for the Rural Industries Research and Development Corporation, RIRDC Publication No. 00/150.
- Potter, A., Lalwani, C., Disney, S.M., and Velho, H. 2003, 'Modelling the impact of factory gate pricing on transport and logistics', *8th International Symposium of Logistics*, Sevilla, 6-8 July, pp. 625-631.
- SFC 2004, *Regional Intermodal Terminals: Indicators for Sustainability*, Sea Freight Council of NSW Inc., Sydney.
- Spencer, S 2004, *Price Determination in the Australian Food Industry, A report*, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.
- Woolworths 2004a, *Full Year Sales Results*, news release 19 July.
- Woolworths 2004b, *Preliminary Final Report and Dividend Announcement For The 52 Weeks Ended 27 June 2004*, Press Release, 23 August 2004.

Woolworths 2004b, *Woolworths Limited Half Yearly Report 30 June 2003 to 11 January 2004*.

www.industrysearch.com.au, 'Grocery Industry Could Save \$950m with Better Logistics', article on the report *Efficient Product Movement* by IBM Business Consulting for the Australian Food and Grocery Council and ECR Australasia, 17/7/03.

APPENDIX A: INDUSTRY EVENTS

Date	Company	Event
1983		
August	Walter Wright Industries Ltd	Acquires Youngs Customs and Forwarding Agents Pty Ltd, expanding its shipping and customs agency arm
September	Grace Bros Holdings Ltd	Announces its intention to sell Grace Bros Transport following rationalisation after the Myer Emporium Ltd's takeover of Grace Bros
	Thomas Nationwide Transport Ltd	TNT and partner Consolidated Press Holding Ltd withdraw from their share of Hooker Corporation Ltd
1984		
May	Thomas Nationwide Transport Ltd	Announces proposed acquisition of Holland Motor Express, which would boost the group's US land based freight revenues by about 50 per cent to around \$US300m
October?	Mayne Nickless Ltd	APM Ltd launches partial takeover
November	Fleetways (Holdings) Ltd	Completes rationalisation following the 1982 acquisition of transport company W. J. George Pty Ltd, by selling a part to Incitec Ltd.
	Thomas Nationwide Transport Ltd	Announces net earnings almost doubled from \$8.55 million to \$16.2 million for the three months to September 30, based on improvements in transatlantic shipping and US land freight operations
December	Ansett Transport Industries	Sells its 50 per cent holding in Biro Bic (Australia) Pty Ltd as part of the transport group's continuing rationalisation program.
1985		
May	Federal Government	Establishes a five-year Australian Land Transport Program with road funding based on a user pay principle
June	Mayne Nickless Ltd	Announces its intention to raise \$47m - the biggest in its history - to fund expansion of its international interests
July	Westgate Transport Industries	Announces its plans to spend \$25 million on the development of the first stage of a \$50 million trucking and transport complex. Westgate is one of Australia's largest private transport groups.
August	Woodger Corporation Ltd	The Canberra-based property, petroleum and rugby league group, pays \$6 million for Finemores
September	Blakistons Ltd	The Victorian transport company announces that it lost \$373,000 in the year to June 25, despite a 35 per cent increase in sales
1985		
September	Brambles Industries Ltd	Announces a 29 per cent rise in net profit for the year to June 30
December	Ansett Transport Industries (Operations) Ltd	Acquires 51 per cent of Transcorp Airways (HK) Ltd, a Perth-based international freight charter
1986		
October	Australian National Line	Celebrating its 30th anniversary with a return to profitability
November	Finemore Holdings Ltd	Acquires the Sydney-based interstate freight express company, AEI Group Transport Services Pty Ltd

Date	Company	Event
1987		
February	TNT Ltd	Announces a 25.6 per cent increase in pre-tax operating profit for the six months to December 31
March	Blakistons Ltd	Acquires fellow Victorian group, Robert Boyd Transport (Aust) Pty Ltd, as part of its strategy to become a medium-sized transport company
March?	ACTU	Bill Kelty announces plan to have just 20 major unions in Australia within two years
June	P&O	The UK parent of P&O Australia, The Peninsular and Oriental Steam Navigation Company, makes \$31.1m bid for the minority interests in its Australian subsidiary, valuing it at between \$140 million and \$150 million.
	Mayne Nickless Ltd	Expands its Canadian interests with the acquisition of Express Airborne, a national air express operation
July	Linfox Ltd	Debuts on the Australian Stock Exchange with a capitalisation of \$48.96 million
August	Mayne Nickless	Announces offer for the Canadian transport operations of Wells Fargo
	Federal Government	The Prime Minister, Mr Hawke, commits to sweeping economic efficiency reforms including transportation deregulation, work practices reform and asset sales
September	Blakistons Ltd	Geelong-based transport group returns to profitability with a \$73,000 pre-tax profit
October	Sharemarket crash	
October	Mayne Nickless Ltd	Announces the purchase of TNT Ltd's armoured car division
	TNT Ltd	Announces that it will sell the North American road freight subsidiary TNT Pilot Inc
November	Federal Government	Announces government business enterprises will be expected to work toward a financial target set by the responsible minister and to provide corporate plans
1988		
February	National Australia Bank Ltd	Takes control of Melbourne-based customs agent and freight forwarder, J.P. Crosbie Pty Ltd in a move to expand the amount of trade finance facilities on offer to its international customers
	Brambles Industries Ltd	Announces pre-tax profit up by 27 per cent to \$102.8 million in the six months to December 31, 1987.
April	Bell Basic Industries Ltd	A subsidiary of the Bell Group Ltd buys a private Queensland bulk materials handling company
May	Mayne Nickless Ltd	Acquires Montreal-based road express business, Metro Express, expanded its Canadian express freight operations. Announces it will buy the half of the Ipec transport group it does not own from Roadswift Transport Holdingsr.
June	John Swire and Sons	Announces a \$14.3m bid offer for outstanding shares in local refrigerated storage group Woodmasons Ltd
September	Linfox Ltd	Announces that it has fallen well short of its earnings forecasts made when it listed in July 1987, announcing a slim 9 per cent increase in pre-tax earnings to \$6.05m for the year to June 29.
October	Federal Government	The Minister for Transport and Communications, Mr Willis, urges the States to place their port authorities on a more commercial footing as part of the drive to

Date	Company	Event
		improve the efficiency of Australia's waterfront.
November	Mayne Nickless Ltd	Acquires British guards business Inter-Globe Security Services Ltd
December	Finemore Holdings Ltd	Sir Ron Brierley's Industrial Equity Ltd has lifted its stake to become the largest shareholder with 14.99 per cent.
1989		
?	Patrick Corp	Chris Corrigan establishes venture capital firm Jamison Equity with \$200m, investing in Freedom Furniture, Australian Hospital Care, Macquarie Textiles, Patrick Stevedores and TDG Australia.
January	Brambles Ltd	Announces it plans to spend \$400 million expanding its European operations. Acquires United Transport group from British company BET PLC for \$52 million.
February	Brambles Industries Ltd	Announces rise in pre-tax profits by 19.5 per cent to \$113 million for the half to December 31.
	Finemore Holdings Ltd	Announces a 124 per cent leap in pre-tax profit for the six months to December after 12 months of consolidation
April	NSW Government	Announces that the NSW port system will be administered by three authorities in Newcastle, Port Kembla and Sydney
	TNT Ltd	Announces the acquisition of XP Systems, the express parcel delivery subsidiary of KLM Royal Dutch Airlines
July	Mayne Nickless Ltd	Announces plan to purchase a private hospital company from the Australian Industry Development Corp and the Hospital Corp of America Inc for a total of \$A106m
August	Mayne Nickless Ltd	Acquires Active Waste Services Pty Ltd, expanding its presence in the waste disposal market. Expands its British security operations with the acquisition of the security guard company Secureforce Group.
September	TNT Ltd	Announces a 9.3 per cent slump in pre-tax equity-accounted profits to \$299.5m for the year to June 30
	Brambles Industries Ltd	Announces a pre-tax profit rise of 23 per cent to \$260.2m for the year to June 30.
	NSW State Rail Authority	Announces staff cuts and \$500 million to be spent updating rolling stock, freight terminals and tracks in a bid to gain 60 per cent of the east coast interstate freight market in the next five years
1990		
May	Mayne Nickless Ltd	Announces plan to acquire Spanish transport company Transportes Helguera SA
August	Brambles Industries Ltd	Announces plan to invest \$30m to expand US and European materials handling and equipment rentals divisions ahead of the launch of CHEP pallet hire in the US.
September	Finemore Holdings Ltd	Announces a joint venture with Japanese Kawasaki Kisen Kaisha to develop a transport terminal and distribution centre in Laverton
	TNT Ltd	Announces a 26 per cent fall in equity accounted pre-tax profits for 1989-90, due to the pilots' dispute, transport disruption and freight markets weakened by the economic downturn

Date	Company	Event
October	Mayne Nickless Ltd	Begins implementing strategy of organic growth in British parcel freight operations after acquiring two regional companies
1991		
April	Brambles Industries Ltd	Acquires made its fourth major European acquisition in the past 12 months, spending \$40 million on the purchase of the French-based Seroul specialised bulk road transport operation
September	Brambles Industries Ltd	Announces a decline in 1991 earnings, the first in almost 20 years of profit increases
October	TNT Ltd	Announces a pre-tax equity consolidated loss of \$14.7 million for the three months to September compared with a profit of \$35.9 million in the previous corresponding period
1992		
February	Brambles Industries Ltd	Foreshadows a 7-8 per cent drop in full-year profits after reporting a 13.5 per cent drop in pre-tax earnings in the six months ending December 31.
June	Westgate Transport Industries	Acquires Sydney based national carrier Interport Australia Ltd
August	Australian air Express	Launched by joint venture partners Australia Post and Australian Airlines
September	TNT Ltd	Announces equity consolidated pre-tax loss rose from \$42.56m to \$75.03m in the year to June 30
	Brambles Industries Ltd	Announces pre-tax profit fell 7.9 per cent from \$311.83m to \$287.09m in the year to June 30
	Scott Corporation Ltd	Announces plan to raise \$6m through a rights issue to fund the purchase of Smorgon Consolidated Industries Ltd's Sydney and Melbourne distribution assets
November	TNT Ltd	Shares sunk to their lowest level for 13 years after announcing a \$65.12m loss for the September quarter and that its deputy chairman, Sir Peter Abeles, had been admitted to hospital
December	Mayne Nickless Ltd	Agrees to buy one of France's largest contract warehousing companies, France Distribution Systems.
1993		
1 January 1993	European single market opens	
April	Coles Myer Ltd	Acquires the retail distribution management for its two supermarket distribution centres in NSW from Linfox
July	Linfox Transport (Australia) and ANL	Announce the merger of the two companies' freight forwarding businesses
August	Scott Corp Ltd	Announces a rise in its net profit of 58.8 per cent, setting itself for further expansion and a major acquisition in the next three years
September	TNT	Announces a \$133.7 million loss
October	National Rail Corporation	Announces an \$800 million capital investment program to upgrade rail freight terminals, track and equipment, and to buy new rolling stock
November	Rail	First time a train travelled the 1,000 kilometres from Melbourne to Adelaide with only one change of crew
1994		
April	Finemore Holdings	Announces plan to pay \$11.756m cash for NSW regional transport company C J Dean Enterprises Pty

Date	Company	Event
		Ltd
May	Jamison Equity Ltd	Acquires almost 20 per cent of Victorian trucking and warehousing company Blakistons Ltd
June	Mannway Transport Westgate-Interport	The Melbourne based transport and warehouse companies announce merger plan to create one of Australia's largest second-tier transport companies
June?	Australian National Line	Set to post a record loss of more than \$20m for 1993-94, the Minister for Transport, Laurie Brereton announces that ANL could not be given away
July	Ansett Transport Industries Ltd	Sells Ansett Freight Express and Wridgways Holdings Ltd to its half owner TNT Ltd as part of its asset disposal program
August?	Australian National Line	Federal Government replaces the board of the publicly owned shipping line, ANL Ltd, after a consultants' study found the company had negative value and urged that it be liquidated. Laurie Brereton announces that ANL could not be given away.
September	Jamison Equity	Announces that it plans to press ahead with a \$160 million capital investment strategy at Australian Stevedores Holdings and step up productivity now that it has sole control of the ports handling business.
October	Blakistons Ltd	Board recommends that shareholders accept the \$5m takeover bid of Scott Corporation Ltd
1995		
February	Finemores Holdings Ltd	Announces a profit rise of more than 25 per cent for the first half of 1993-94
June	Rail	Opening of the final section of the standard gauge inter-state network.
July	TNT	Exercises its option to buy the second 50 per cent share in Refrigerated Roadways Pty Ltd
August	Finemore Holdings Ltd	Announces a 14 per cent rise in net profit to \$8.6m for the year to June 30
October	Mayne Nickless	Sells general freight operation Interlink to Toll Holdings for \$13m, ridding Mayne of one of its consistent loss-makers
1996		
?	Patrick Corp	Jamison Equities folded into Lang Corporation.
April	Australian National	Board warns the Federal Government that the group faces a \$50 million loss in the next financial year
May	Mayne Nickless Ltd	Announces that it will sell its investment in Optus Communications in a \$1b-plus withdrawal from telecommunications and will reinvest the proceeds in its core transport and health-care operations
June	Brambles Industries Ltd	Completes its 18-month divestment strategy in Australia by quitting its mainstream transport operations through the \$25m sale of its domestic general freight and forwarding businesses.
	Toll Holdings Ltd	Emerges as National Rail Corp's second biggest customer after securing a rail freight deal expected to net the interstate operator \$80 million in annual revenue.
August	Toll Holdings Ltd	Announces that its aggressive acquisition strategy should result in turnover doubling and net profit rising 78.8 per cent in 1996-97
September	Ansett	Air New Zealand announces a \$475m deal to secure 50 per cent

Date	Company	Event
Oct-Nov	TNT	Bidding war involving Dutch postal and telecommunications group KPN
1997		
March	Toll Holdings	Announces a doubling in profits in the December half year and signals its intentions of buying a stake in the national rail system
August	Mayne Nickless Ltd	Sells its European contract logistics ventures for about \$202m to focus on its logistics operations in Australia and Asia
September	Federal and State governments	Agree to set up a national track authority to manage Australia's interstate rail network
October	Wridgways Ltd	Divestment TNT assets continues with the \$17 million sale of the 105-year-old furniture removal business to a management buyout team
November	Brambles Industries Ltd	Announces plan to broaden its operational base by becoming a major transport and logistics provider to the east-coast coal industry after abandoning plans to invest in airports
1998		
April	Lang Corp	Patrick-MUA waterfront dispute
March	Holyman Ltd	The shipping and transport group announces a management restructure
June	Toll Holdings Ltd	Wins the NSW warehousing and distribution contract for Tooheys Brewing - 5,000 deliveries a week
August	Toll Holdings Ltd	Announces plan to build a \$15 million warehouse and distribution complex on the 53ha former BP Altona Refinery site in Melbourne's western suburbs
September	Mayne Nickless Ltd	Announces a 56 per cent decline in bottom-line earnings to \$44.2 million, with a net abnormal loss of \$87.5 million
November	FreightCorp	Launches freight services between Sydney and Melbourne
December	Westrail	The WA Government confirms it would sell the freight business of Westrail, expecting to raise \$300m to \$800m
1999		
?	Freight Australia	Purchases Vic rail for \$163m
February	K&S Corporation Ltd	Cost-cutting delivers an 11 per cent higher interim profit
April	Davids Ltd	The grocery wholesaler makes a \$50m buyout of its 50 per cent partner in the venture, Foodland Associated Ltd
July	Adsteam Marine	Launches a \$81.6m takeover bid for Holyman Ltd
August	Finemore Holdings Ltd	Announces full-year net profit declined by 16 per cent to \$7.448 million
November	Lang Corp	Announces plan to fund further growth through a \$204 million equity issue
2000		
?	K&S Corp or Scott Group	Sells express freight business to Mainfreight
February	Finemore Holdings Ltd	Announce planned expenditure of \$15m over 3 years for IT and E-commerce upgrade
	Adsteam Marine	Announces its biggest acquisition since its 1997 sharemarket listing, buying a half share in US towage and barge services group Northland Holdings

Date	Company	Event
Feb?	Toll Holdings Ltd	Announce planned expenditure of \$50m over three years for E-commerce initiatives
Feb?	AWB Ltd	Privatised
April	Lang Corp	Announces planned \$14m expansion of Webb Dock East
June	Mayne Nickless Ltd	Standard & Poor's lowers Mayne's long-term credit rating to BBB
	Brambles	Sells \$400m Eurotainer container business
	Finemore Holdings Ltd	Invests \$4m for a 20 per cent stake in a logistics joint venture in China's Shandong province
	Finemore Holdings Ltd Toll Holdings Ltd	Finemore approves Toll's takeover offer of \$119.4m – temporarily abandoned in September 2000.
July	Linfox	Acquires blocking stake against Toll in Finemore Holdings Ltd
August	NSW Grain Board	Announces insolvency after losing \$35m in the year to date
September	FreightCorp	NSW Government wins party support for the sale of its \$1b rail freight business
October	Westrail Australian Railroad Group	West Australian Government sells its freight business for \$585m to the Australian Railroad Group
October	Mayne Nickless	Losses PaperlinX contract to K&S
November	Finemores	Wins the Woolworths' dry grocery contract for NSW over incumbent Linfox, a deal estimated to be worth \$30m per year. Announce resumption of takeover discussions with Toll.
	Mayne Nickless	Announces strategy to improve performance and achieve growth through cost-cutting and improved marketing before expanding into Asia
	Lang Corp	Posts a 60 per cent increase in annual net profit on the back of the integration of Holyman and Liberty Group and confirms continued acquisition strategy
2001		
?	Toll Holdings Ltd	Issues a \$115m convertible bond to fund its purchase of Finemores
February	Victorian Government	Announces intention to open the State's rail freight network to competition from July 1.
	Toll Holdings Ltd	Announces intention to expand into Asia and New Zealand
March	BHP	Announces plan to merge with Billiton to create a \$58 billion global resource company
April	Brambles	Confirmation of \$19.8b merger with UK joint venture partner in the CHEP pallets business GKN plc
May	Qantas	Buys Impulse Airlines
June	Brian McGuigan Wines Simeon Wines	Announce strategic alliance
	Wesfarmers	Launches a \$2.7 billion takeover of the Howard Smith hardware and distribution group.
	Mayne Nickless	Bids \$2.45 for FH Faulding
July	BHP Billiton	Announces decision to divest its \$250m BHP Transport Group
	Toll Holdings	Included in the ASX100 index
	Mayne Nickless Ltd	Secures FH Faulding & Co's support for the break up of the \$2.5b group, including the divestment of its 130 year old logistics operations
August	Federal, Victorian and NSW governments	Reach agreement on the \$1b sale of their rail assets, National Rail and FreightCorp

Date	Company	Event
December	Lang Corporation	Announces proposal to take a controlling stake in Virgin Blue and the purchase of Ansett assets
2002		
?	Toll Holdings Ltd	Acquires Mayne Group logistics assets, Ausdoc's DX and Brambles shipping business.
January	Pacific National	Lang Corp and Toll Holdings acquire National Rail and FreightCorp for \$1.2b
February	Patrick Corp	Lang Corporation renamed to Patrick Corporation
March	Toll Holdings Ltd	Announces sixth consecutive record interim profit (\$40m)
	Patrick Corporation Ltd (formerly Lang Corp)	Announces purchase of United Transport from Brambles Industries Ltd, deal believed to be worth \$30 million, and indicated interest in further acquisitions. Announces \$260 million acquisition of a half share in Virgin Blue.
July	Orica	Confirms it is pursuing talks targeted at consolidating the \$2b fertiliser industry
October	Toll Holdings	Acquires Brambles Industries Bass Strait shipping operations for \$73m Department of Defence announces the joint venture between Tenix Defence Systems and Toll Holdings as the preferred tender for the Defence integrated distribution system (DIDS)
	K&S Corp	Secures a five year deal with Fletcher Challenge Forests to transport sawn timber products in New Zealand
November	AusBulk	Announces bid to takeover Joe white Maltings, which would make the grain handler Australia's largest malting company
November?	Gargill Inc Graincorp	Pay \$200m for Goodman Fielder
2003		
March	Patrick Corporation	Announces \$1b investment plan to double the size of the company in the next 5 years, with a growth earnings goal of 15 per cent a year before interest and tax
	Burns Philp	Moves to compulsory acquire outstanding shares in Goodman Fielder after lifting its stake to more than 90 per cent
April	Fosters	Carlton & United Breweries announces restructure, reduction in sponsorships and reform of supply chains as it targets \$130m savings
May	Toll Holdings Ltd	Announces \$350m takeover bid for New Zealand company Tranz Rail Holdings
June	National Foods	Announces logistics chain cost cutting strategy
August	K&S Corp	Announces intention to secure a medium-sized New Zealand acquisition
September	AWB Ltd	Secures support to raise \$150m to fund its \$718m purchase of Wesfarmers' Landmark rural services business
	Coles Myer	Announces \$650m, 5 year, E-commerce and logistics technology investment plan
	Toll Holdings Ltd	Announces a 43 per cent increase in 2002-03 net profit to \$106.1m
October	Toll Holdings Ltd	Announces plan to issue reset preference shares to raise up to \$250m to fund more acquisitions. Takes 12 per cent of New Zealand company Owens

Date	Company	Event
		Group, already the subject of a takeover bid by Mainfreight. Announces earnings well ahead of the same period the year before, with the Mayne and Tranz Rail acquisitions providing and extra \$600m in revenue.
November?	McGuigan Simeon Wines	Acquires Miranda Wines
December	Federal and NSW governments	Announce agreement to pursue the signing of a 60 year lease to allow the Australian Rail Track Corporation access to the NSW interstate rail track and the Hunter Valley rail corridor
	Star Track Express	Air Express (Qantas and Australia Post) acquire the privately owned Star Track Express for \$750m. Toll Holdings Ltd had been earlier excluded from the sale process.
2004		
January	Toll Holdings Ltd	Acquires Auckland Stevedores? Tranz Rail announces that it will seek to raise \$305m in the next 12 months to repay debt and fund expansion of its locomotive network.

Figure 11 - Time Line of Key Events: Mayne Nickless

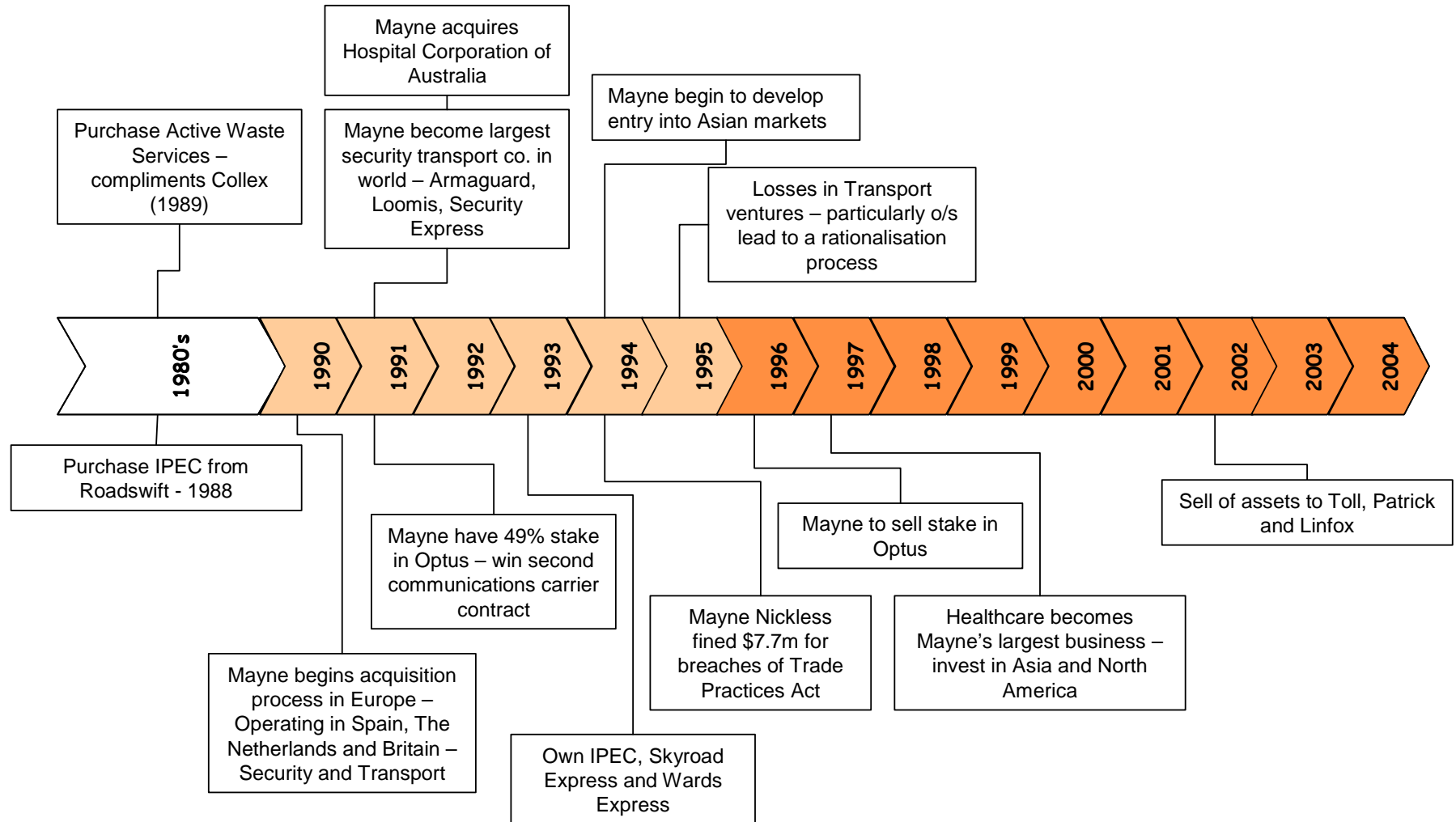


Figure 12 - Time Line of Key Events: Brambles

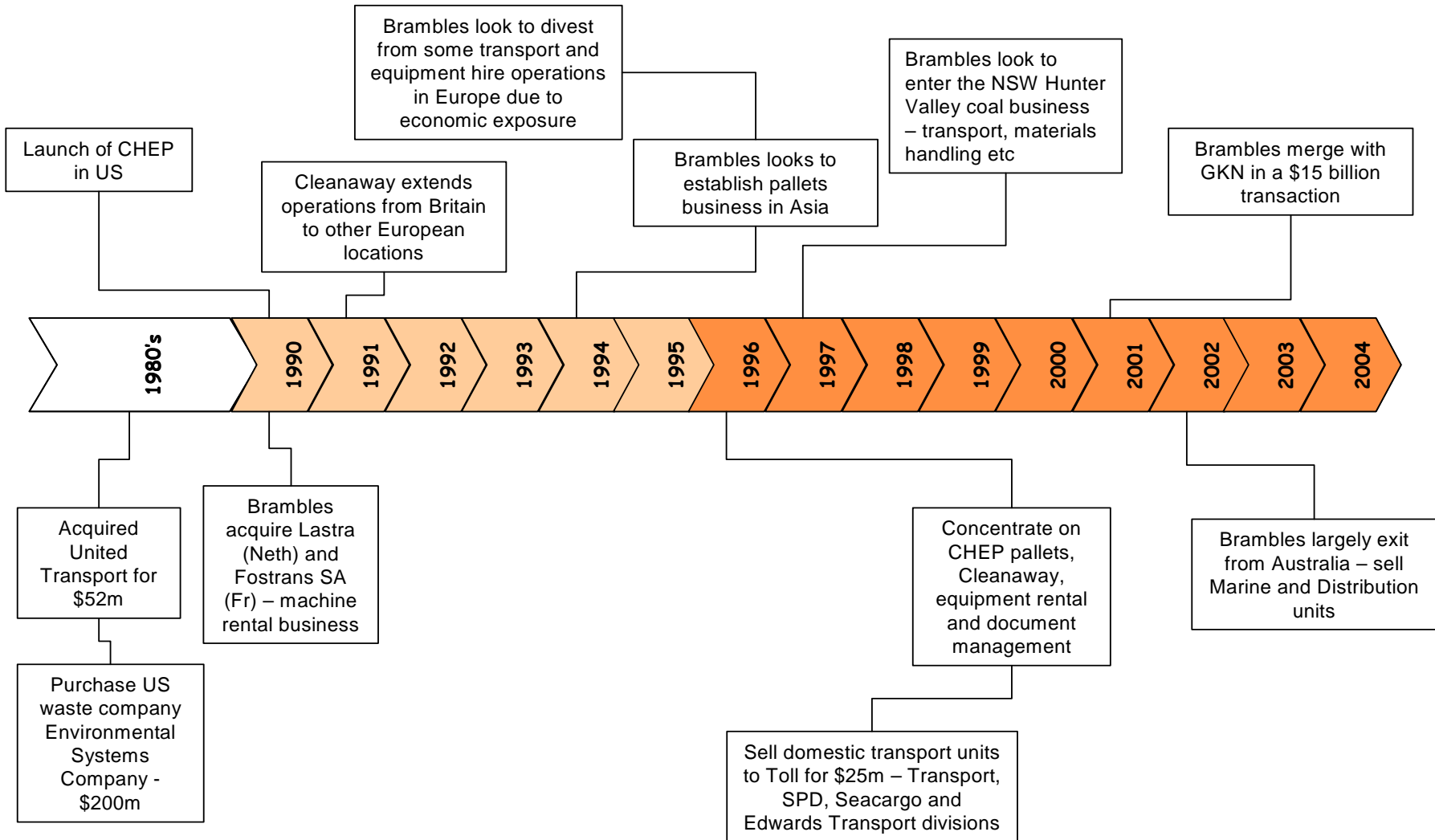


Figure 13 - Time Line of Key Events: TNT

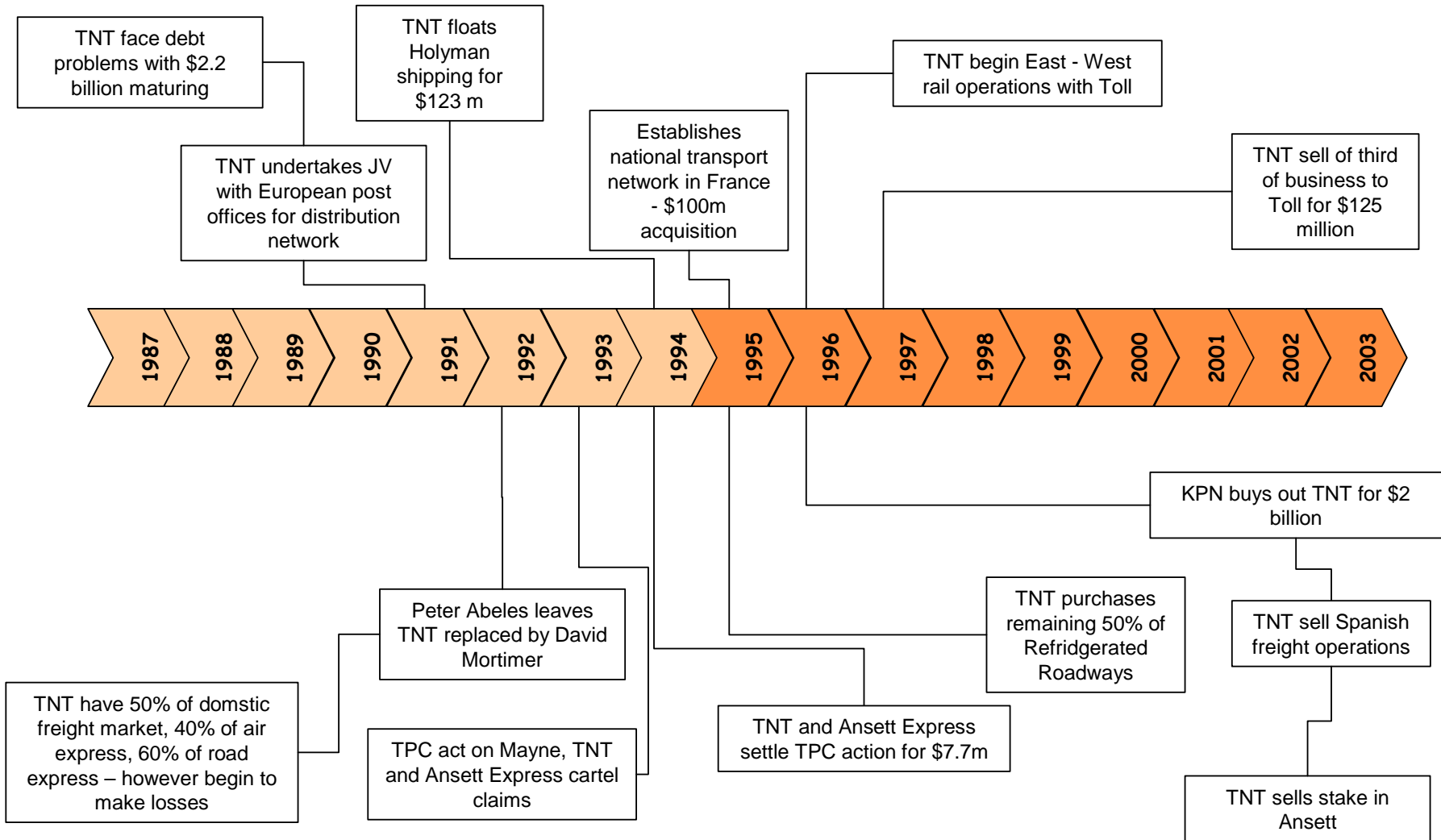


Figure 14 - Time Line of Key Events: Toll Holdings

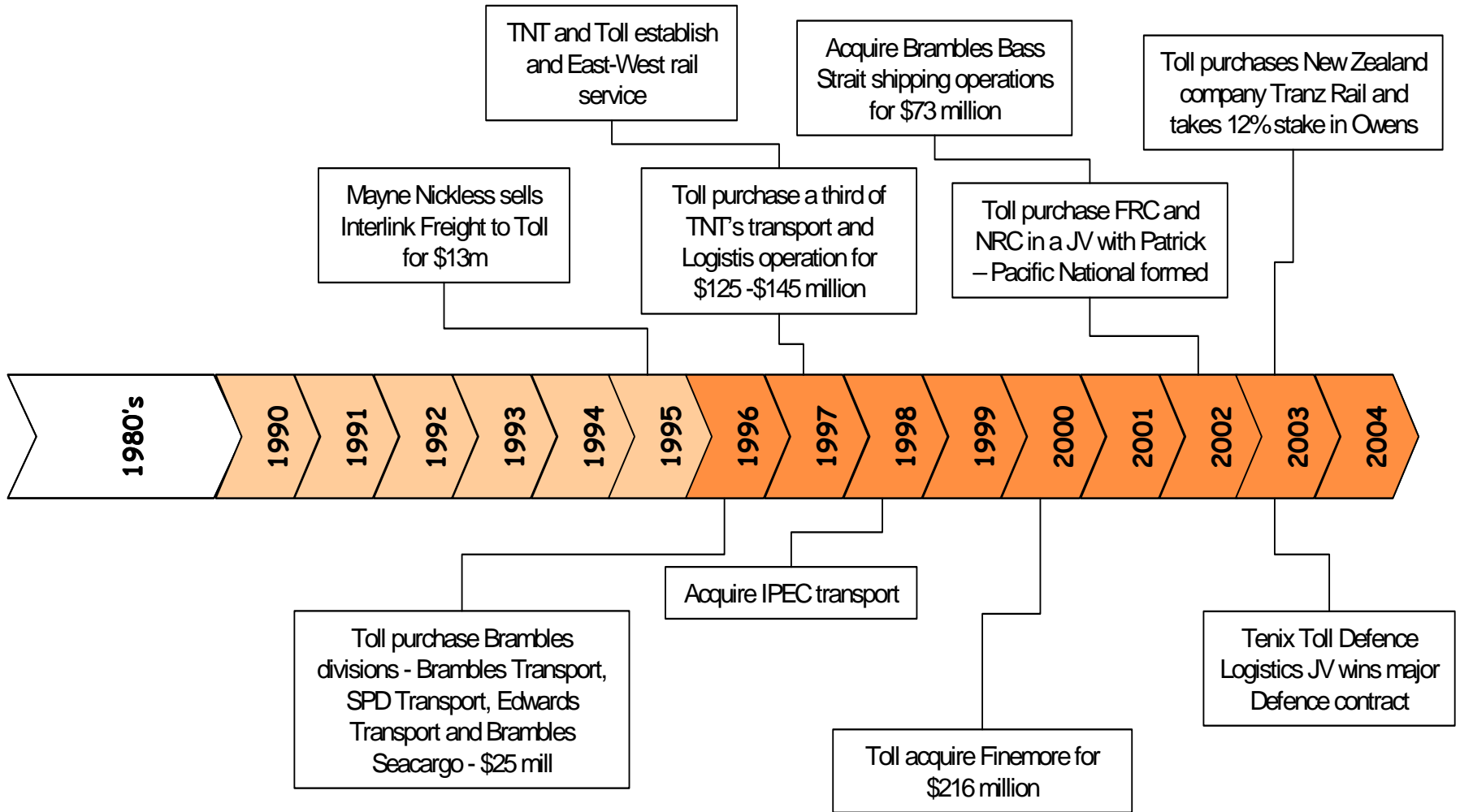


Figure 15 - Time Line of Key Events: Patrick Corporation

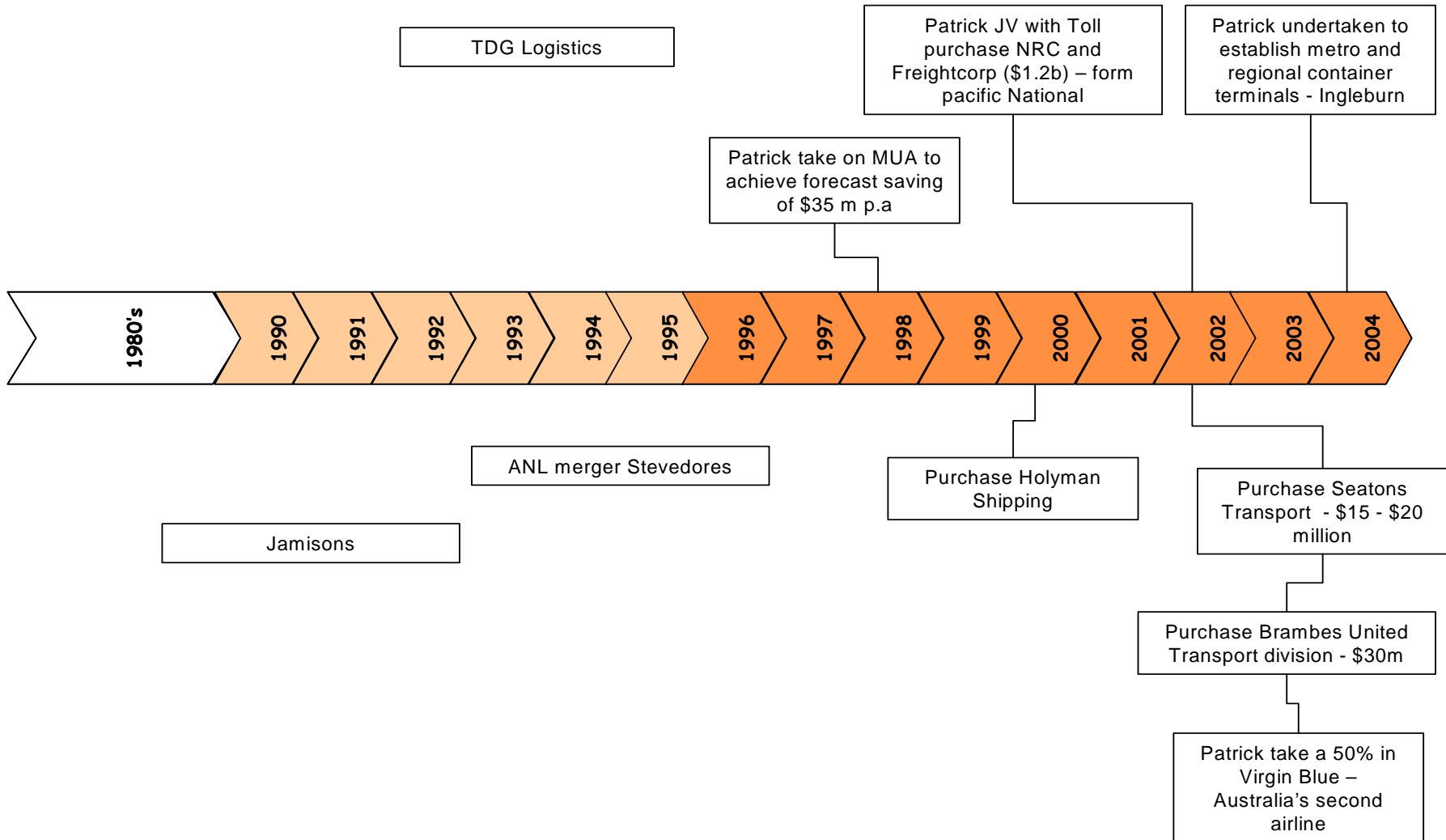


Figure 16 - Time Line of Key Events: Linfox

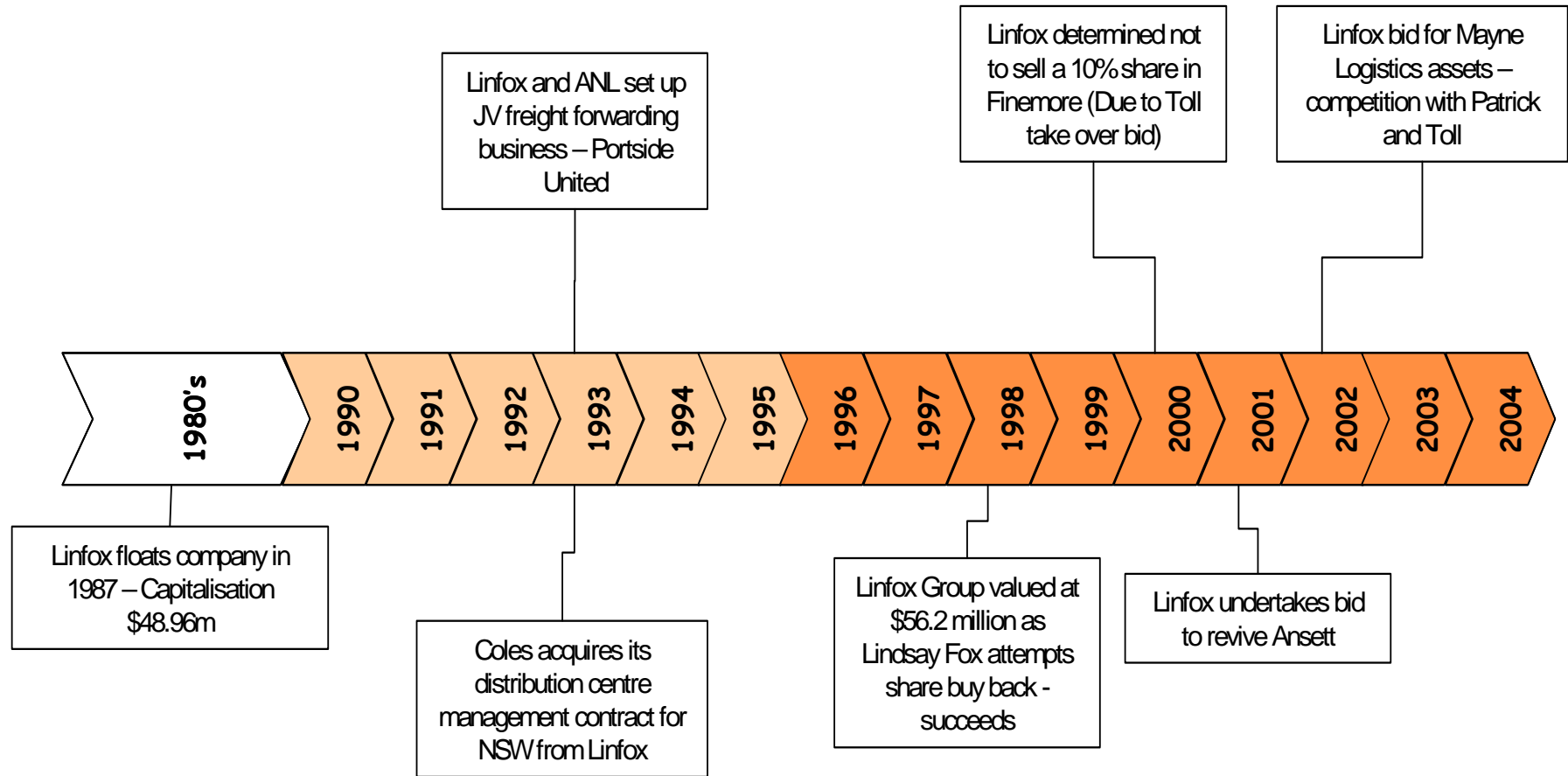


Figure 17 - Time Line of Key Events: Rail

