CHAPTER ONE

A Quintessentially Australasian Institution

THE DEVELOPMENT BACKGROUND

Australasia was one of the most rapidly developing regions of the world economy in the nineteenth century. In the half-century from 1820 Australia was the fastest growing economy among sixteen major nations measured by total and per capita real Gross Domestic Product (GDP); a list that included the United Kingdom, United States and Japan. New Zealand’s per capita income level was probably larger even than that of Australia’s by the mid-1860s and the greatest of any nation of reasonable size. By 1870–1913 Australia was still one of the fastest growing nations after Canada and the United States, and her per capita income remained amongst the highest. For the subsequent period, 1913–50, both total and per capita income growth suggest a relatively poor performance. Likewise, New Zealand’s comparative position also declined in the late nineteenth century and particularly through the interwar period. In the decades since World War Two real GDP in both economies has grown rapidly in absolute and relative terms although per capita GDP has performed poorly relative to other major economies.¹

Before 1810, however, the level of economic activity among European settlers had been very modest with about 12 000 people in Australia while New Zealand, not yet formally colonised by Britain, was home to a negligible population scattered across sealing and whaling stations.² By 1850 the Australian population had grown to about a third of a million and real GDP had expanded at a similar rate though with a slight improvement in per capita incomes. In spite of an economic depression in the 1840s the Australian colonial economies soon resumed their high growth rates. The New Zealand European population was a mere 26 000 in 1851.³

From the 1860s more detailed information is available indicating real product growth of 4 to 5 per cent per annum in the following three decades, including a growth per head of about 1.5 per cent. Growth rates were somewhat lower in the second half of this period than before the
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mid-1870s despite rising investment. A deterioration in performance from the mid-1870s is also suggested by a slower growth in labour productivity.² Per capita real incomes in New Zealand have been estimated by Hawke to have risen by about 1 per cent per annum in the second half of the nineteenth century. Substantial growth in the 1870s gave way to faltering progress, possibly slight contraction, in the 1880s and early 1890s before rising to much higher growth rates of about 3 per cent between 1896 and 1903. Rankin’s more recent revisions, though, suggest higher per capita GDP levels by 1870 followed by more limited growth from thence to the 1890s.³ An economic downturn also occurred in Australia in the first half of the 1890s that reduced real GDP by up to 20 per cent with per capita levels falling further.⁶ It took at least a decade to resume pre-Depression levels of per capita GDP. The interwar period witnessed more years of crisis than of growth in both countries, with the period 1926–32 probably the nadir of progress. In New Zealand, for example, per capita real incomes fell by 10 to 20 per cent during the interwar years. The higher average growth rates after 1945 also concealed volatility. After real GDP growth rates of around 2 per cent per annum in the 1950s and 1960s, the collapse of the commodity price boom in the mid-1970s left the New Zealand economy growing at only 0.4 per cent. The more diversified Australian economy experienced slightly higher and more stable growth of nearly 3 per cent in the 1960s and 1970s before falling to 1.3 per cent in 1975–82.⁷

The causes and components of economic expansion are complex but some generalisations are accepted. The period 1820–50 is often known as the ‘Pastoral Age’ because of the dominance of the pastoral sector; gold discoveries played a vital role in the 1850s and 1860s, while development of the urban infrastructure and the construction of the railway system were increasingly important activities in the 1870s and 1880s. By World War One dairying and refrigeration had provided a further boost to GDP. Therefore, by the early twentieth century, the two economies had begun to modernise in several respects. Each had a broadening spectrum of productive sectors including some manufacturing and services, in addition, a few larger corporations were emerging and an active capital market was beginning to take shape.⁸ However, these trends still had a long way to go, and it might be argued that the Australasian economies did not reach ‘maturity’ until after World War Two with the spread of large-scale enterprise across a wide range of industries.

A key aspect of economic expansion in the nineteenth century was the heavy reliance on international migration, trade and investment. Approximately 40 per cent of the increase in the Australian population, 1860–90, was due to net immigration compared with nearly 50 per cent for New Zealand.⁹ Over the same period and continuing into the twentieth century the share of GDP accounted for by imports and exports rose periodically to as high as 25 to 30 per cent each for both countries.¹⁰ The high foreign trade ratio was dominated by trade with Britain, particularly the export of primary products and natural resources, most notably wool, meat, dairy products, grain and gold. In 1888/90, for example,
farm products accounted for 70 per cent of total Australian exports and minerals for 24 per cent. Wool exports alone have been estimated to account for up to two-thirds of total exports in some years.\textsuperscript{11} Pastoral exports were more dominant in New Zealand and their share actually rose in the early twentieth century to over 90 per cent by the 1920s with the contraction of grain and gold exports. Sixty per cent of New Zealand’s import and 79 per cent of her export trade was conducted with the United Kingdom, most of the rest being with the United States and the Australian colonies.\textsuperscript{12} Capital imports, largely from Great Britain, periodically accounted for up to half of Australian gross domestic capital formation and 10 per cent of GDP.\textsuperscript{13} From what is known about public debt, New Zealand relied at least as heavily on overseas borrowing from Britain, particularly during the boom of the 1870s initiated by the Vogel government.\textsuperscript{14} The reliance of both countries on capital imports from Britain built up rising levels of debt servicing and profit repatriation by the late 1880s at a time of falling land and commodity prices.\textsuperscript{15} In the course of the twentieth century the maturing and diversifying Australasian economies reduced their reliance on farming exports, and British buyers and investors.\textsuperscript{16}

ECONOMIC DEVELOPMENT AND THE FARMING SECTOR

Even this cursory glance back at Australasia’s development experience signifies the role of rural production, and the pastoral sector in particular, in shaping the pattern of growth and change. Besides the dominance over exports, investment, output, and employment all confirm the importance of wool, meat, and dairy products in Australasian economic development. Sectoral distributions of economic activity are difficult to measure before about 1850 although Butlin’s estimates suggest the dominance of the pastoral sector, which accounted in some years for up to 40 per cent of a small GDP. Focusing on the period since the mid-nineteenth century reveals that farming’s share of GDP was 17 per cent in 1861, rose to 19 per cent by 1913, and then fell to 13 per cent by 1939 by which time it had been surpassed by manufacturing, and trade and transport as the leading sector. Farming output fell to a mere 4 per cent of GDP by 1983. Figures are less accurate for New Zealand but suggest a larger and more dominant share for the sector of about a third by the interwar period, declining to around 10 per cent by the 1970s. The rural workforce was the largest group in 1891, accounting for more than a quarter of total employment in Australia, but fell to a fifth by 1939 behind more labour-intensive manufacturing, trade and transport. By 1979 it constituted just 6 per cent of the workforce. Farming is confirmed as being more dominant in New Zealand, absorbing close to 35 per cent of the workforce in the mid-1890s, reducing to around 25 per cent after World War One though it remained the largest group throughout the interwar period. By the 1970s it employed about 12 per cent of the workforce.\textsuperscript{17}

Most revealing, though, is farming’s share of private capital formation,
which in Australia was 31 per cent in 1861 before rising to more than 50 per cent in some years of the 1870s and 1880s. In New Zealand, capital formation in the sector also rose to around 50 per cent of private investment in some years of the 1870s. After the collapse of the mid-1890s its volume and share fell dramatically to around 10 to 20 per cent in Australia. The central importance of refrigeration in New Zealand explains a further upward movement in pastoral investment in the decade from the mid-1890s before falling sharply during the interwar period. In line with the other indicators, the sector’s share of investment continued falling after 1945 in both countries.18

The fact that farming appears central to the pattern of economic progress in Australasia is not to assume that it was necessarily a critical driving force, although at certain periods this may well have been the case. Rostow argued that a particular sector or industry, known as a ‘leading sector’, might drive economic expansion through its ‘spreading effects’ or linkages to other potentially expansive areas of the economy.19 Staple theory is a particular version of this approach, which emphasises the economic impact of the rapid export growth of a particular product normally derived from a surplus natural resource.20 However, this theory reveals little about the supply-side response to such opportunities. Moreover, a dominant sector might possess few important linkages or, worse, ‘crowd out’ resources, such as capital and labour, away from potentially more productive areas of the economy. A downturn of that dominant sector might drag linked sectors into a spiral of negative growth.

Qualitative evidence regarding linkages might support the central position of farming in Australasian economic development in the nineteenth century. Tsokhas believes ‘domestic multiplier effects’ resulted from the role of woolgrowers as ‘borrowers, investors, consumers, and employers’.21 Farming activities induced investment in general purpose infrastructure such as roads, railways and ports, and business services such as finance and insurance. Bulky farm products provided two-way trading for international shipping which meant lower freight rates. Farmers sought the products of manufacturing industries, especially engineering, and the size of this demand encouraged the development of new skills and technologies. Looking downstream in the production process farm products were often the raw materials for developing secondary industries. More directly, refrigerated meat and dairy products stimulated manufacturing in primary processing activities. Farming profits additionally provided a source of investment for other expanding domestic industries.22 It is more difficult to measure accurately the extent of such stimulation, how far the benefits were captured locally, and whether alternative investments in other potential growth sectors would have provided more extensive connections.

The significance of farming activity varied over time and between the two emerging nations. In the so-called Pastoral Age in Australia (1820–50) vast tracts of good quality, easily accessible, ‘free’ land were put to use and wool exports expanded at a rapid pace, multiplying 200 times and making
them a 'powerful source of economic expansion'.23 Pastoral farming was the first large-scale and sustained private sector activity by European settlers on both sides of the Tasman and provided much of the export income that made it possible to import capital equipment and facilitate the spread of economic activity from the middle decades of the nineteenth century. However, the direct linkages for the rest of the economy from simple pastoral activity before 1850, which required limited capital, technology or specific skills, were few.

By the last quarter of the nineteenth century pastoralism was widespread and continued to attract the dominant share of capital formation, but its relative contribution to GDP was reduced especially during the declining wool prices and rising indebtedness of the 1880s. This reflected more capital-intensive farming methods and the increased cost of farming more marginal and less accessible land. The rapid spread of the rabbit and dingo populations required investment in fencing and eradication measures. Refrigeration boosted the export of meat and dairy products but consumed a great deal of capital in the construction of freezing works and the development of suitable steamships. Dairying required capital-intensive factory production and thus helped to diversify the nature of economic activity. Thus, while farming occupied a large portion of capital investment, it also provided significant linkages to other emerging sectors. Indeed, extensions of secondary and tertiary production in New Zealand at the end of the nineteenth century were mostly related to farming output, such as the transport and processing of produce. Hawke confirms that primary processing was the fastest growing area of manufacturing between 1870 and 1910.24 While pastoralism’s share of economic activity declined in both countries during the twentieth century, the average benefit to the local economy increased through the relocation of produce markets, company ownership and management to Australasia, and the increasing reliance on local industry for farming equipment and inputs.

None the less the question of the slowing growth of GDP and declining international standing from the late nineteenth century, in spite of high investment rates, has dominated much thinking. Several prominent Australian economic historians have argued either that there was a general over-supply of capital from Britain (Coghlan) or that it was misdirected into housing, the railways, and pastoralism at the expense of manufacturing and arable agriculture (Butlin). Hawke takes a more optimistic view of the New Zealand economy. While indebtedness continued to increase, the additional goods and services this investment generated converted the long-term trend in the balance of trade from negative into positive from the mid-1880s, which expanded domestic sources for future investment. He notes that it was the proportion of investment in farming, rather than transport or urbanisation, that made New Zealand unusual among developing economies, but is more ambivalent as to whether this represented a misallocation of resources.25

Coghlan’s notion of over-investment is not wholly convincing. The sustained expansion of farming output stimulated the demand for social
overhead capital in the form of transport and housing as part of a natural process of economic development. Social investment accounts for rising levels of capital formation in the 1880s. Returns on social overhead capital, however, take much longer to achieve than directly productive activities and are not easily measured as part of total product. In addition, rising export prices from the mid-1890s helped to reduce the impact of indebtedness. By way of comparison it should be noted that during the post-World War Two period Asian economies, such as Singapore and Hong Kong, have achieved rapid rates of economic growth and development by specifically attracting large volumes of foreign investment. This has provided those economies with additional output and much needed technological and entrepreneurial expertise. Australia today remains heavily dependent on capital imports. The current level of Australia’s foreign indebtedness, which is equivalent to more than 40 per cent of national income, is not regarded as a problem by many economists.

The debate about structural imbalance is more significant. Concentration of productive investment on pastoral output directed to the British market may have precipitated a longer and more serious Depression in the 1890s than might have occurred with a more diversified economic structure. Moreover, the nature of pastoralism is of high degrees of uncertainty through price volatility and low entry barriers, which together provide some understanding of the prolonged instability of these economies, particularly in the interwar period. Failure to broaden economic activity has led to criticism of governments, particularly during the interwar period, for placing too much faith in an upturn in the price and demand for farming exports and for lacking a clear industry policy. On the other hand, some of the problems of the interwar period were externally generated, such as low export prices and the cessation of overseas borrowing, and governments did show some manufacturing vision. The economic structure had begun to diversify, a process which was extended after World War Two.

Rankin’s national income estimates for New Zealand emphasise the interwar volatility, which he attributes to the country’s ‘narrowly structured economic development based on pastoral exports to the British market’. His views provide a resonance of those of Simkin, writing forty years earlier about the period before World War One, who stressed the instability and uncertainty created by sectoral concentration. Although there is no modern policy study for New Zealand that is comparable with Scedvin, the evidence suggests that attempts at economic diversification were, at best, limited. Among contemporaries W. B. Sutch was a vocal minority advocate of a more fully developed industry policy.

While Australasia can claim a strong comparative advantage in the rural industries, the work of Michael Porter has alerted us to the fact that nations can achieve rapid economic development by alternatively fostering long-term competitive advantages in new high-growth industries. Alfred Chandler has provided the principal historical application of these ideas in his studies of the rise of big business in the United States and Europe.
He has argued that the rapid development of the United States economy since the mid-nineteenth century has been driven by the ‘visible hand’ of large, efficient corporations administered by well-organised tiers of professional managers. These firms have operated in new high-growth industries such as chemicals, oil and automobiles, and by investing extensively in the three ‘prongs’ of production, marketing and management have developed capabilities which have enabled them to sustain their initial advantages as ‘prime-movers’, or early leaders of their industry. Heavy commitments to research have helped them to diversify their production to yield economies of scope in addition to their size-based economies of scale. United States corporate and economy-wide success is contrasted with slower progress in Britain where firms often failed to make the three-pronged investment.

It is a matter for dispute how far Australia or New Zealand may have been able to diversify away from resource-based comparative advantages at an earlier stage to develop competitive advantages in the rapidly growing new technology industries of the late nineteenth century. The conditions faced by Australasian firms were quite different from those in Europe and North America. The smallness of the domestic market scattered across different colonies, and the remoteness from foreign markets and sources of technological change, distinguished Australasia from more advanced manufacturing nations and suggest that the economy’s resources would not have been efficiently deployed in a broader strategy of industrialisation. Moreover, it is questionable whether foreign investment would have been attracted into alternative industries. British investors were attracted to the natural resource benefits of Australasia but may have been less convinced of manufacturing projects. If this were so, crowding out in the capital market was unlikely. The Australasian capital market was poorly developed in the nineteenth century and relied on special and privileged links which were mostly only well established in the rural industries.

Thus, it is difficult to disagree with Butlin in that while structural imbalance, or sectoral concentration, existed to differing degrees in both economies before World War Two, this did not come at a high opportunity cost since there were few credible alternative paths of development. While there may have been excessive investment in pastoralism in the 1880s in response to the 1870s boom, over-expansion based on optimistic expectations is an endemic feature of private investment cycles irrespective of sector or nation.34 None the less, there is still the problem of explaining why the flow of resources, especially capital, was diverted so extensively and persistently into pastoralism and how efficiently such resources were deployed.

ECONOMIC CHARACTERISTICS AND HISTORICAL DEVELOPMENT OF PASTORALISM IN AUSTRALASIA

Farming output in both countries was initially dominated by pastoral produce notably, wool, meat, and dairy products. Rabbit and sheep skins
and tallow were also pastoral products, though of much less value. Agriculture, or crop production, was more modest before the twentieth century but included the growing of wheat, sugar, and flax. Some farmers also diversified into related rural industries such as stock breeding, timber, kauri gum, and horse-drawn contracting services.35

It was noted in the previous section that during Australia’s so-called Pastoral Age (1820–50) wool output expanded rapidly and occupied a central position in total output and export from the colonies. A growth spurt occurred, particularly in the 1830s, with sheep numbers rising by an annual average of 22 per cent and wool exports 32 per cent by value. In the 1840s annual growth was still as high as 12 and 11 per cent respectively.36 The availability of free and accessible coastal land and free convict labour facilitated this expansion. High British wool prices in the 1830s and rising long-term demand, together with the opportunity to sell livestock to new farmers, provided incentives on the demand side.

On closer inspection, however, the pastoral expansion was not so impressive. Progress provided few solid foundations for the long-term expansion of the industry. The minimal use of capital and technology reflected the view of many that their stay would be temporary, and helps explain the frequency of low or negative returns.37 Simple nomadic herding, inadequate flock control, and inexperienced ex-convict overseers contributed to heavy stock losses and animals of poor quality. Although the merino sheep was introduced to Australia in 1797, expansion of suitable fine wool sheep breeds was delayed by the need for meat-producing herds and ignorance of breeding methods. These problems were compounded by high turnover rates resulting from a lack of experience and resources to deal with droughts, bushfires, bushranging, sheep rustling, pestilence, and periodically falling prices. Ignorance of the best farming practices used in Britain, such as preferred shearing times, was common and there was little attempt to develop techniques appropriate for local conditions such as fodder crops and artificial grasses. Even the Australian Agricultural Company herded sheep in damp conditions in spite of the existence of problems caused by this practice in Britain. It took the company at least sixteen years to achieve a reasonable level of fine wool production.38

It is hardly surprising that early progress was unimpressive, given the uncertainties associated with farming and the problems of settlement in colonial Australasia. Farming is subject to high degrees of instability. World output and prices fluctuate significantly from year to year due to vicissitudes in supply and demand. Fluctuations in farming activity have often run ahead of the main trade cycle, adding to uncertainty by making it more difficult to judge future trends.39 Farmers are price-takers in a fragmented global market and therefore have little or no influence over price trends. In addition, it is very difficult to cut costs at times of falling prices. Farm equipment and land mortgages and maintenance are fixed, while variable costs may increase if farmers seek to raise output in years of poor prices. Climatic conditions, particularly drought and flood, can substantially reduce animal survival rates, crop size, and the consequent availability of
feeds with the result that falls in output will continue over successive years. Thus, a production shortfall in a year of low world prices is particularly damaging for the farmer, and such uncertainties are best handled by offsetting the gains from good years against the losses from poor ones.

Remoteness and unfamiliarity with different economic, geological and climatic conditions were the predominant sources of uncertainty for Australasian settlement. Production cost structures were the reverse of those in Britain, with cheap and plentiful land but scarce and expensive capital and labour. Australian growing conditions were also quite different from those in Britain, where severe and prolonged droughts were unknown. Even amongst those farmers not constrained by finance or thoughts of returning Home (that is, to Great Britain), sinking investments in soil improvements, the construction of working properties, and the purchase of equipment was risky until more was understood about the environment. International remoteness derived from Australasia’s geographical location and the absence of regular shipping services. Local isolation was a reflection of the undeveloped infrastructure. Remoteness from other farming nations emphasised the difficulties of keeping up to date with best practice, while local isolation between farms slowed the development and diffusion of core knowledge of preferred local techniques. Appropriately skilled labour was also in short supply and finding seasonal labour for shearing and harvesting was difficult in the absence of an organised labour market.

By mid-century the challenges facing the farming community were increasing. The ending of transportation in the 1840s exacerbated labour problems as did the distraction of the gold rushes in the following decade. The boom in the English wool industry in the 1830s attracted many new and inexperienced settlers to Australia to take up farming. They included individuals from many walks of life, such as the military, law, the clergy, and commerce, who entered sheep farming on a small scale and had little previous experience. Ignorance of business techniques, such as accounting and labour management, was common. New farmers increasingly had to settle on poorer quality and less accessible land away from the coast, which required a greater investment of time and money to bring it into effective use and to maintain. Geological conditions beyond the coastal fringes were less familiar to British settlers and greater inaccessibility meant higher transport and information costs and greater risks of produce damage.

Distance to market was also increasing with a rising share of output being sold in Britain by the 1860s. This required complex organisation of local transport, storage in port warehouses, loading vessels, unloading and delivery at the destination port. All of this had to be organised, insured, and financed prior to receipt of payment for the sale, at a time when slow and unpredictable sailing vessels dominated trade with Europe. Export also required careful attention to product quality to compete with respected European produce that had travelled much shorter distances to the market. Thus, knowledge of the latest breeding, herding, and
produce handling practices designed to improve wool quality was vital. By mid-century Australian wool occupied a dominant place in the London market and, therefore, maintaining a high quality reputation was more important than in the earlier decades of the century when it was no more than a marginal supplement to European suppliers. Well organised marketing practices would also help the competitive position of Australian wool exports.

It has been suggested that the Australian pastoral industry was facing resource and market constraints by mid-century.42 The constraint would have been serious if the methods of production and marketing of the early Pastoral Age had been maintained. In order to farm land which was less accessible, often less suitable, and no longer free, and generate from it high quality produce for sale in distant competitive markets, important improvements in the pastoral industry were needed. These changes principally involved farmers investing heavily in capital intensive farms, adopting the latest techniques, and finding an efficient way of consigning their produce to the market. Each of these requirements – finance, technical expertise, and marketing – lay beyond the capacity of all but the largest and most experienced of colonial farmers. Thus, it might be argued that by the middle of the nineteenth century the continued expansion of the leading sector, pastoralism, could not be sustained by the farmers alone but required additional specialist support.

Pastoralism naturally began somewhat later in New Zealand and was influenced by news of the Australian experience. Sheep were introduced to Canterbury, Marlborough, Wairarapa, and Hawke’s Bay in the 1850s and 1860s partly in response to the migration of farmers from the slump in the Australian industry in the late 1840s and through the demand for meat from gold diggers. Sheep numbers increased rapidly from 2 to nearly 10 million during the 1860s.43 Similar problems and challenges were encountered to those of the Australian colonies, including local remoteness, the growth of distant markets, poor or inappropriate animal breeds which suffered various diseases and produced low wool yields, farmer inexperience, and inadequate funding to develop efficient and fully capitalised farms.

Some important differences in geology and climate between Australia and New Zealand have affected the evolution of farming. In addition to the much smaller land mass than Australia, drought is uncommon in most areas of New Zealand where most areas have a temperate maritime climate. This has made for smaller but more stable levels of pastoral output. Serious droughts have been a regular occurrence in Australia with particularly severe and prolonged ones in the 1890s and 1960s. At such times both produce output and quality, together with livestock numbers, contracted sharply and farmer indebtedness rose equally dramatically.44 Thus, while Australian wool exports fell by 34 per cent between 1896 and 1903, New Zealand’s rose by 20 per cent.45 Less land in New Zealand is located away from the coast than in Australia, although uneven terrain, together with many rivers and dense forests, has made inaccessibility a problem only a short distance inland. The very high degree of suitability of New