

**Māori economic development – Glimpses
from statistical sources**

Andrew Coleman, Sylvia Dixon, and David C Maré

**Motu Working Paper 05–13
Motu Economic and Public Policy Research**

September 2005

Author contact details

Andrew Coleman, Assistant Professor of Economics
University of Michigan Department of Economics
611 Tappan, 365b Lorch Hall
Ann Arbor, MI 48109-1220
USA
Email: coldman@umich.edu

Sylvia Dixon
Research Analyst, Motu Economic and Public Policy Research
Level 1, 93 Cuba Street, PO Box 24390
Wellington
Email: sylvia.dixon@motu.org.nz

Dave Maré
Senior Fellow, Motu Economic and Public Policy Research
Level 1, 93 Cuba Street, PO Box 24390
Wellington
Email: dave.mare@motu.org.nz

Acknowledgements

This paper is a draft book chapter for the book *Te Oranga o te Iwi Māori*, to be published by the New Zealand Business Roundtable. We gratefully acknowledge funding support from the Business Roundtable and from Motu's FoRST-funded research programme on *Understanding Adjustment and Inequality*. We received helpful comments from Simon Chapple, Gary Hawke, Rob McLeod, and Brian Easton, for which we are grateful. Remaining errors and omissions are our own.

Motu Economic and Public Policy Research
PO Box 24390
Wellington
New Zealand

Email info@motu.org.nz
Telephone +64-4-939-4250
Website www.motu.org.nz

© 2005 Motu Economic and Public Policy Research Trust. All rights reserved. No portion of this paper may be reproduced without permission of the authors. Motu Working Papers are research materials circulated by their authors for purposes of information and discussion. They have not necessarily undergone formal peer review or editorial treatment. ISSN 1176-2667.

Abstract

This draft book chapter provide an overview of Māori economic development during the past 150 years, drawing on readily available statistical and historical sources. The path of Māori economic development that we have traced through statistical evidence is one of ongoing change and adaptation, as well as one of substantial increase in material standards of living, albeit with periods of significant setback.

JEL classification

O1 - Economic Development – General; J11 - Demographic Trends and Forecasts; J15 Economics of minorities and races.

Keywords

Māori economic development

Contents

1	Introduction	1
1.1	Who are Māori?	2
1.2	What is meant by the Māori economy?	4
1.3	Indicators of Māori economic development	5
2	Before 1840	5
3	1840 to 1900	8
3.1	Demographic trends	8
3.2	Economic Activity	9
3.3	Asset accumulation	12
4	1900 to 1950	14
4.1	Demographic trends	15
4.2	Economic Activity	16
4.3	Government Services	18
5	1950 to 2005	19
5.1	Demographic trends	20
5.2	Economic activity	21
5.3	Asset accumulation	24
5.4	Cultural wealth	26
6	Summary	27
7	Tables and Figures	29
	References	37
	Motu Working Paper Series	40

Figures

Figure 1: Māori population – 1858-2001	31
Figure 2: Māori life-expectancy at birth – 1901-2002	32

Tables

Table 1: Estimates of Māori land ownership	29
Table 2: Total population estimates for Māori – 1858-2001	30
Table 3: Female to male and children to adult population ratios, 1858-2001	33
Table 4: Urbanisation of Māori – 1926-2001	33
Table 5: Statistical Indicators of Māori Development – 1951-2001	34
Table 6: Age and sex distribution of the Māori population – 1926-2001	35
Table 7: Industrial structure of Māori employment – 1926 – 2001	35
Table 8: Estimated value of Māori land and businesses, 2001	36

1 Introduction

The purpose of this chapter is to provide an overview of Māori economic development during the past 150 years, drawing on readily available statistical and historical sources. It is intended to provide a context for the studies presented in other chapters. Statistical measures of development, when available, are useful in benchmarking the magnitude of changes that might otherwise be under- or overestimated. Because it is impossible to do justice to the subject of Māori economic development in one short chapter, we provide references to key sources (both original and secondary) that may be consulted by readers wishing to learn more.

The crucial issue facing any attempt to document and analyse the evolution of the Māori economy using statistical measures is data availability. It is perhaps not surprising that there is very little economic data prior to 1840; what is surprising, however, is the paucity of information prior to 1950. Even though governments collected detailed data about European economic activity from the time of their first settlement, there was little attempt to collect information about the economic activity of Māori. Indeed, the census was collected separately for Māori and non-Māori until 1951, and until this time little economic information about Māori was collected. Consequently, any assessment of the Māori economy prior to 1950 must be made without the use of systematic economic statistical records.

Fortunately, historians and economists have developed a range of techniques that can be used to analyse the development of the pre-1950 Māori economy. Most of these use demographic and anthropometric information to make inferences about economic production and consumption. For instance, economic historians have shown that average height is highly correlated with per capita gross domestic product, and a diverse range of anthropomorphic data have been used to trace consumption patterns through time (see Steckel (1995)). More generally, development economists have shown that many measures of a people's standard of living are highly correlated, so that historical trends in life expectancy, infant mortality, average height, literacy rates, and the degree to which the population is young and rural can be used to make inferences about per capita production and consumption patterns (see Morris (1979)). For example,

according to the cross-country data compiled by the United Nations Human Development Report, if two countries differed in income by 10 per cent in 2002, they typically had a 2.5 percentage point difference in the urban population fraction, a 1 percentage point difference in the young-age population fraction, and a 0.4 percentage point difference in the infant mortality rate¹. Because there is quite a lot of historical demographic and anthropometric information available about Māori, it is possible to make living standard comparisons over a long period of time. Indeed, many of the best known analyses of the Māori economy, including Butterworth and Rose (1967) and Pool (1991), are based on such data.

There are several additional sources of written information about the economic organization of Māori tribes and people. Some of these are purely anecdotal, such as the accounts and diaries of eyewitnesses writing in the nineteenth century, or the sequence of reports from the Resident Magistrates; others are based on medical and education records collected by government departments and published in the Parliamentary Journals; and still more come from enquiries into the status of Māori commissioned by the Government or by groups concerned with the welfare of Māori such as the Māori Women's Welfare League. Such sources are invaluable in pointing out how Māori economic behaviour evolved over time, even if they cannot always be used to directly quantify this behaviour.

This chapter describes some of the sources of information that have been used to document the development of the Māori economy over time. The discussion is organised in terms of the following periods: pre-1840, 1840-1900, 1900-1950 and 1950 to the present. To provide continuity, emphasis in the discussion of more recent periods is given to the measures that were available in the earlier periods, even though a much greater variety of information is available. First, however, it is necessary to discuss what is meant by “the Māori economy”.

1.1 Who are Māori?

To assume that it is meaningful to define “the Māori economy” is to assume it is possible to consistently identify Māori as a distinct group of people, and thus analyse

¹ The correlations between per capita income and the fraction of the population that was urban, the fraction of the population that was under fifteen years old, and the infant mortality rate were 0.75, 0.83 and 0.83 respectively.

their economic activity. This proposition is not particularly controversial, but over time there have been several changes in the official identification of Māori by those collecting data. These changes, which were first described by Brown (1983), mean care needs to be taken with official statistics. Pool (1991) and Kukutai (2003) also have useful discussions.

There have been two main ways in which people have been categorized as Māori, for official purposes: either because they meet an ethnic or racial origin criteria, in terms of having Māori ancestors or Māori blood; or because they self-identify their preferred cultural affiliation as Māori. Until recently, the former approach was used, although the exact definition of Māori varied through time, and in many cases cultural identification was part of the process by which Māori were categorized. In response to widespread intermarriage of Māori and Europeans, and recognition that ethnic classifications are to a large extent socially defined, this categorization method was progressively replaced with classification based on cultural self-identification.

The treatment of Māori in the New Zealand population census illustrates this process of change. From 1851, when the first European census was conducted, until 1951, Europeans and Māori were enumerated in different censuses. Initially, all Māori were enumerated in the Māori census, except those who were “half-caste” or less and whose mode of living was European rather than Māori, who were included in the European censuses. “Half” Māori living with hapu in villages were thus deemed Māori; those living separately in their own households were deemed European. The latter group increased from four percent of the population in 1886 to seven per cent of the population in 1921 (Pool, 1991, p. 17). In 1926 the definition was changed, and all people with half or more Māori blood were classified as Māori irrespective of their living arrangements². If this change in the classification of Māori is ignored, one tends to overstate the growth rate of the Māori population after 1926, as it is undercounted in the Māori census until then, and to ignore what are likely to have been the most westernized Māori before 1926. In any event, census enumerators had to rely on self-reported blood ties, so the decision

² There was one exception. People who were half-Māori blood and half non-European blood were not included in the “Māori” classification until 1956. Data were also collected on the number of people ‘reporting some degree of Māori blood.’

of Māori to include themselves in the Māori census to some extent reflected their willingness to identify themselves culturally as Māori.

Towards the end of the 20th century, the relevance of basing the ethnic classification on fractions of descent was increasingly questioned (Statistics New Zealand, 2004b, p. 20). In 1986, the racial descent question in the Census was replaced with one on ethnic origin, which allowed respondents to list multiple ethnic origin groups, of which Māori was one. In 1991, self-identified cultural affiliation became the basis for classifying individuals as Māori in the Census. A Māori ancestry question was re-introduced, and since 1991 population censuses have enumerated the Māori population using both ‘descent’ and ‘ethnic identification’ concepts.

These classification issues can prove important. Kukutai (2003, p. 9), in a summary of one of her findings argues that “ individuals who identify as Māori as well as non-Māori, but more strongly as the latter tend to be socially and economically much better off than all other Māori. Their demographic behaviour is similar to that of Europeans.” As such, changes in the classification and coding of Māori ethnicity can have a large effect on the analysis of Māori economic participation and outcomes, and consequently considerable care needs to be taken when data from different time periods or different sources are compared.

1.2 What is meant by the Māori economy?

A resident of New Zealand in 1840 would probably have had few difficulties with the concept of ‘the Māori economy’. At that time most Māori lived in rural areas, had little direct contact with Europeans, and were mainly engaged in the household production of food crops, or in hunting, fishing and trading. Much of the economic activity of Māori communities was undertaken separately from that of European communities, although Māori were connected to the European economy through trade, and some were already supplying waged labour to industries such as logging, flax production, and domestic service.

Due to the urbanisation of Māori during the 20th century and their increasingly high level of integration within European communities, it is no longer very meaningful to talk about ‘the Māori economy’. Māori are participants in the New Zealand economy,

working chiefly within organisations and businesses that are not organised along ethnic lines. While Māori-owned enterprises and trusts do exist, and some of the larger ones can be identified in official statistics and other public information sources, the bulk of Māori economy activity takes place elsewhere. To consider Māori economic activity therefore is to consider the assets, participation, outcomes and living standards of Māori as individuals (or as family units) within the wider New Zealand economy.³

1.3 Indicators of Māori economic development

This chapter focuses on the following indicators of Māori wealth and economic development: population size and age structure; life expectancy at birth; land ownership; urbanization; educational attainment; participation in the paid labour market; and attainment in the labour market. These can be viewed as development ‘fundamentals’. Together, they have a significant bearing on economic opportunities and living standards. We also include some data on levels of proficiency in the Māori language, which can be viewed as an indicator of cultural wealth.

These indicators were chosen primarily because of the availability of at least some historical statistics (which vary in their quality and cover varying periods of time). Most of the statistical indicators reported in this chapter were compiled from individual-level data. This reflects that way that statistical data have been gathered historically – statistics on Māori institutions or communities are scarce. However, it is also consistent with the conceptual focus of the chapter on Māori as participants within a larger New Zealand economy.

2 Before 1840

Little is known about the organization of the pre-European Māori economy beyond the obvious facts that it was a mixed agricultural and hunting economy with rudimentary technology. Archaeological remains and the records of the first Europeans suggest that by 1750 most Māori lived in small, normally fortified, agricultural settlements, growing a limited variety of crops, which were supplemented by fishing and

³ See Te Puni Kokiri (2002) for discussion of these measurement issues. New Zealand Institute of Economic Research (2003) is an important recent attempt to estimate the size and composition of the Māori contribution to the national economy using the available statistical sources.

hunting activity. Human muscle provide most mechanical power; metallurgy was unknown; and there was no technological transfer from other societies. There was a small amount of trade, notably in stone implements and in some processed foods. (The standard reference is Firth (1959). For a recent survey, and a bibliography of archaeological studies, see Davidson (1992)). Despite the primitive nature of the economy, however, there is evidence from skeletal remains that physical living standards were quite high.

In the last two decades there has been much research about the link between stature and standard of living. A wide range of studies have shown that there is a strong positive correlation between the average height of people in a society and per capita income (see Steckel (1983), Steckel (1995) or Floud (1994)). For instance, Floud (1994) estimated that as average incomes in Europe between 1850 and 1950 increased from \$1,000 to \$2,000 to \$4,000 (in 1970 US dollar equivalents) average male height increased from 167cm to 170cm to 173 cm. Since other factors such as the disease environment and inequality affect average height — in many countries average height declined on the onset of the industrial revolution as cities proved to be unhealthy places in which to raise children — one must be wary about inferring per capita income from height records. Nonetheless, trends in height do appear to be a useful indicator of living standards, and increasingly skeletal remains are being used to gather information about historical living standards.

A large amount of information can be derived from skeletal remains. Bones inform about height, age at death, time of death, general health while living, diet, physical activity while living, gender, and (for women) the number of children. While the number of skeletal records for pre-European Māori is rather small, they have been systematically analysed and present a picture of a tall, reasonably healthy population, albeit one with a low life expectancy. The best summary of the material is by Houghton (1980), while Pool (1991) offers a brief critical review.

Houghton describes the analysis of approximately two hundred pre-1769 skeletons, many of which were excavated by Roger Duff at the Wairau Bar in the South Island. Skeletons from the twelfth through fourteenth centuries indicate the average height for males was 175 cm, while females averaged 163cm. Average height had

declined by two or three cm by 1600, and in 1849 a sample of 150 males had an average height of 170 cm. This lower figure was also the average height of 424 full-blooded Māori males sampled by Peter Buck immediately after World War 1.

The small sample size means that one should be a little cautious about conclusions. However, these data suggest early Māori were tall. By comparison, the average height of male soldiers in the mid nineteenth century was 171 cm (U.S.A.), 168 cm (Sweden), 166 cm (United Kingdom) and 164 cm (Netherlands). Europeans were small; both plains dwelling Native Americans (172cm) and Tongans (178cm) were taller on average, arguably because they had better diet. Nonetheless, it appears that the early Māori economy was sufficiently productive to enable Māori to have a physical living standard at least as good and in many cases better than Europeans at the corresponding time.

The decline in the average height by 1600 appears to correspond to a change in the main economic activity and social organization of Māori. Prior to this time, dental evidence suggests a “soft” meat rich diet, consistent with a large amount of protein from hunting. After 1500, adult teeth especially molars were extremely worn, suggesting a change in diet towards shellfish and fern root. It is at this time, possibly in response to the changing food supply but also due to growing population, tribes became more settled and agricultural.

Skeletal records also provide information about fertility and mortality. Houghton (1980, p. 107) details a study of 33 women who had 101 pregnancies between them. Such data suggests a fertility rate of between 30 and 40 per 1000. Given the population in 1750, the population growth rate must have been high, probably between 1.0 and 1.5 per cent per year, suggesting that the higher fertility rate is more probable. There is some controversy about the mortality statistics, as there are few skeletons either of children or of adults who lived beyond forty years. The average age of death of the adults seems to have been around 30. From this average, and the growth rate of the population, it may be inferred that the life expectancy at birth was slightly under 30, while the life expectancy of those reaching adulthood was perhaps 45 (Houghton, 1996, p. 191). Low life expectancy seems surprising given the stature of the population,

although it could have been due to high susceptibility to disease. Whatever the explanation, the low life expectancy of early Māori is a negative aspect of their social and economic life.

3 1840 to 1900

Since the census records collected prior to 1900 have little information about the Māori economy, most information must be assembled from other sources. Some of these are anecdotal, such as the sequence of reports from the Resident Magistrates in the late nineteenth century; others are based on the Māori censuses, held regularly since 1858; still more pertain to medical, land transfer, and education records collected by government departments and published in the Appendices to the Journal of the House of Representatives (AJHR) each year. These sources all suggest that the Māori economy changed rapidly in response to new technology, the opportunity to trade, and the influx of European settlers. Three themes can be discerned; Māori rapidly adopted new production techniques and consumption possibilities; they were badly affected by new diseases; and, like many other societies at the time, they were slow to adopt a capitalistic ethic, and accumulated little capital.

3.1 Demographic trends

The period from 1840 was marked by a rapid increase in the European population, and a slow decline in the Māori population. Māori were badly affected by diseases introduced by European contact, and the population fell from 80,000 in 1840 to 44,500 in 1901. Pool (1991, p. 77, also see below) estimates life expectancy at birth was less than 22 between 1844 and 1874, gradually rising to 27 in 1891 and 33 in 1901. By this metric, living standards were lower than during the pre-European period, an assessment consistent with stature data. The comparison is not entirely fair, given the much worse disease environment in the second half of the nineteenth century than in the pre-European period, but whatever the cause extremely high mortality has dire economic consequences.

The primary sources for demographic information are the New Zealand censuses. The first Māori census was conducted in 1857; it was followed in 1874, 1878,

and then every five years from 1881 onwards. Unlike the European census, very little information was collected; basically the censuses comprised an enumeration split by gender and age.

During this time, most Māori lived in rural villages in the northern half of the North Island. In 1901, fewer than 3 per cent of Māori population lived in Auckland, and only 5 per cent lived in the Manawatu and Wellington region. The censuses reveal that in the nineteenth century Māori were an overwhelmingly rural population suffering from extremely low life expectancy.

Agricultural information was also collected in some censuses. The first census with usable data is the 1886 census (New Zealand. Parliament. House of Representatives, 1886, G.12). Hargreaves (1960) provides an analysis of the variety and quantity of crops and livestock estimated to have been farmed by Māori that year.

3.2 Economic Activity

Historians have analysed how Māori economic activity responded to European influences in the nineteenth century (for a representative sample, see Hargreaves (1960 (1961 (1963) and the original sources cited therein.) Most of this work is based on contemporary descriptive accounts, although some uses the agricultural census to supplement these accounts. It is quite clear that Māori rapidly adopted much European technology, including new crops and farming techniques, new food processing equipment including flour mills, and new transport equipment including quite large ships. Māori groups produced food and forest products for European immigrants, and exported to Australia.

The variety of information available is perhaps best shown by example, in this case by analyzing a series of the “Reports from Officers in Native Districts”, published annually in the Appendix to the Journals of the House of Representatives. While they have little statistical data, the reports often included information about the production activities of Māori, as well as their health and welfare, normally by a European observer with long-standing ties to the district. Consider, for example, the annual reports by the Resident Magistrate of Hokianga, Spenser von Sturmer, from 1872 to 1886. In these reports he discussed the main productive activities in which Māori engaged; the demand

for schools and the willingness to pay for them; the general health of the population, including mortality from epidemics; consumption and saving behaviour; the availability of credit; law and order; and the political response to land sales. While his observations were never comprehensive, much can be gleaned from the sequence of reports about how Māori responded to the major economic changes of nineteenth century.

Von Sturmer noted that the economy had changed significantly since 1860. Whereas the region had previously been an exporter of food to Auckland and Australia, other activities had become sufficiently popular that food staples including oats, maize and potatoes were routinely imported. In particular, many Māori found it more profitable to dig for kauri gum, mill timber, or build roads on contract for the government, activities they were said to excel at, than to engage in agriculture. “Large numbers of the people are regularly engaged squaring timber for the Australian markets” he wrote in 1873 “ and, from the large wages which they are enabled to earn at this kind of labour, are in the enjoyment of every European necessity and comfort” (New Zealand. Parliament. House of Representatives, 1873, G.1 p. 2). These activities seem to have been popular because they were financially rewarding; not only were the Māori described as receiving good incomes from doing them, but there is evidence that people moved between gum-digging and farming as the price of gum rose and fell⁴. Furthermore, he noted that in response to monetary incentives many Māori migrated from the Hokianga to the fields of the Kaipara for six months of the year to dig for gum (New Zealand. Parliament. House of Representatives, 1884, G.1 p. 4).

While the region was not self-sufficient at farming, von Sturmer noted a wide range of crops were grown, and there was considerable experimentation. The staples were maize, potatoes, and kumara, but cattle were also raised in large numbers, as were some oxen, horses, and sorghum-fed pigs. At various times hops, wheat, and tobacco were farmed, and in 1884 one person grew grapes and sold them to a German vineyard at 2 pence a pound. Of the newer crops, tobacco proved to be the most successful, and was widely grown, to the point that little was imported in the 1880s. By 1881, von Sturmer also noted with approval that several horse teams and ploughs were used instead of hand

⁴ In 1873, von Sturmer noted that more attention was paid to agriculture because gum prices were low and few were digging; in 1876 farming was at a low ebb as people were back working in the gum fields.

labour to prepare the land, although he continually complained that more food could be grown if only the people would work harder. The picture, therefore, is one of considerable agricultural innovation.

Von Sturmer also noted the popularity of education. In 1872, five years after the passing of the Native Schools Act (1867), 15 acres were donated for the first school, and sixty pupils were signed up. In 1874 there were three schools, with 100 students in regular attendance; by 1879 attendance had increased to 250 in six schools, and a further four were opened by 1885. While the quality of the schools was variable, depending much on the quality of the teachers, von Sturmer noted that parents were sufficiently satisfied to pay high fees (totalling £91 10s in 1877) and to continue to send their children to them. It is not clear how economically useful such education was initially, for most students “return to their various settlements, or became labourers at sawmills, or worked as squarers or bullock drivers in the forests, their education being of but little use to them” (New Zealand. Parliament. House of Representatives, 1881, G.8 p. 2). Nonetheless, several years later von Sturmer reported that the better students were learning professions and mechanical trades, and at least one had an apprenticeship at an Auckland law firm.

On other dimensions, the reports are considerably gloomier. The health of the population was continually mentioned as an issue of some concern, as, consistent with the census records there was a slow but noticeable decline in the population. Low fever was a persistent problem, most years causing death among children, the elderly, and kauri-gum workers; and there were occasional epidemics, such as measles in 1875, and whooping cough in 1878. Even in an “excellent” year, 1883, among the 2800 inhabitants there were 41 deaths and only 47 live births, a population increase rate of 0.2%. von Sturmer attributed to the high death rate to several causes. There was little medical knowledge, no doctor, and few medical supplies – although when the latter were made available, they were used. Public health was poor, and climate in the low country where kauri-digging was popular was disease prone.

The type of economic activity undertaken by Māori in the Hokianga is similar to that undertaken in other areas, with the possible exception of the King Country which

adopted an isolationist policy after the Waikato Land wars. Hargreaves (1960) used the 1886 census to describe the variety of farming undertaken around the country. In addition to traditional crops and potatoes, 6,400 acres of wheat were grown, mainly in the Hawkes' Bay; and there were 112,000 sheep, 42,000 cattle, mainly in the East Coast and Manawatu, and 92,000 pigs. Farming practices appear to have been inferior to those of contemporary Europeans, quite possibly because Māori were farming inferior land with less capital equipment. Nonetheless, farming practices had clearly changed markedly from those of pre-European times.

3.3 Asset accumulation

The third feature of the nineteenth century economy concerns asset accumulation. A vast amount of Māori – owned land was purchased by Europeans or confiscated by the Government⁵. Much of the rest was fractured into small and oftentimes unusable sections, or was marginal land that needed considerable capital investment to make economic. The sales were recorded in the Appendices of the Journals of the House of Representatives as they took place. By 1860 almost all of the South Island (38 million acres) and less than a sixth of the North island (28 million acres) had been sold. Some 3.2 million acres were confiscated during and after the Land Wars, of which 0.8 million acres was subsequently returned and 0.8 million acres were retrospectively purchased⁶. Thereafter sales proceeded at a rapid rate. In 1891, only 10-11 million acres remained in Māori hands (see Table 1). By 1911 the total had reduced further, to around 7 million acres. This decline represents a massive reduction in the physical assets of Māori. The proceeds of these sales could of course been invested in other forms of productive assets. On the whole such investment was not undertaken, in part because the proceeds from land sales were very low and there is evidence that the sales process itself was extremely costly. In addition, there is evidence that most Māori, like some other peoples colonized in the nineteenth century, were much slower to adopt western attitudes towards capital accumulation than they were to adopt western technologies (see Adas (1974, pp. 217-9)).

⁵ Until 1862 the Crown purchased most land directly from tribes, and then on-sold it to settlers. After the Native land Acts of 1862 and 1865, land could be purchased directly from Māori by European, so long as Māori land had an individual title. The process of obtaining individual title proved expensive for Māori. A sitting of the Māori Land Court had to be arranged, and all Māori with an interest in community owned land had to attend to be assured their interests were recognized. See Sorrenson (1956) for a description.

⁶ Royal Commission on Confiscated Lands, AJHR 1928. Quoted in Sorrenson (1992).

[Table 1: Estimates of Māori land ownership]

The evidence on Māori investment behaviour is largely anecdotal. Clearly there was some investment in productive capital, be it agricultural land improvement, farming equipment such as ploughs, or flour mills. Yet such investments were often poorly maintained, and not as productive as those undertaken by Europeans. There is also widespread suggestion that some of these investments were made less out of profit and loss calculations than as a way of acquiring mana, particularly in the earlier part of the period when many of these investments were undertaken on a tribal rather than individual basis. (For a review of this material, see Firth (1959, Chapter 12: The Exchange of Gifts), Merrill (1954), and the sources referred to by Hargreaves (1960 , 1962 , 1963). More generally, it was commonly argued that Māori did not save adequately — that is to say, in accordance with European ideals — given the patterns of income uncertainty in a capitalist economy.

Von Sturmer provides a representative sample of such writings. As frequently as he praised the productivity of the Māori in his district, he bemoaned their lack of thrift. Noting the high return from gum digging (New Zealand. Parliament. House of Representatives, 1880, G.4 p. 2) and farming (New Zealand. Parliament. House of Representatives, 1881, G.8 p. 2) he decried that the Māori were “reckless and improvident, and do not understand the value of money, or make any kind of provision for the future” (New Zealand. Parliament. House of Representatives, 1880 G.4 p. 2). He thought that the poor health of Māori in his district could be attributed in part to poor saving habits, noting that “... the Natives of today are not as provident or industrious as those of former times. They do not cultivate and store up supplies of food for winter use as extensively as their ancestors did, relying as they do now on the sale of land, timbers or some other article to make up for any deficiency when a time of scarcity arrives. Thus the children often suffer from an insufficiency of wholesome food in cold winter and spring weather, when it is most needed, and so lay the foundation of future weakness and disease.” (New Zealand. Parliament. House of Representatives, 1885, G.2 p. 1) He was especially offended by non-capitalist habits such as the hui, for “hardly a month passes but some large hui or hahunga is held in this district, at which more food is wasted or consumed in a week than would support the settlement in comfort for several months”

(New Zealand. Parliament. House of Representatives, 1883, G.1A p. 2). In short he, and almost all European observers fretted over the failure of Māori to adopt European capitalist values, seeing in that failure the seeds of poverty.

The transformation of Māori from members of a tribal based, communal culture at the beginning of the nineteenth century to members of an individualistic capitalistic culture at the end of the twentieth century is the fundamental story of the change that took place in the Māori economy. Until the beginning of the twentieth century the lack of economic statistics mean it is best told by contemporary observers such as those referred to above, and anthropologists and historians such as Firth. For most purposes, a bibliography of these sources can be obtained from a standard history, such as Rice (1992).

4 1900 to 1950

Between 1900 and 1950, a fundamental transformation in Māori society and the Māori economy began. The population expanded rapidly, and it became substantially more integrated into the European economy. Agriculture was commercialised; many people moved to urban areas and took up new jobs; incomes increased; Māori became eligible for a wide range of Government-provided benefits and services; education levels slowly began to improve; and living standards — at least as measured by health and life expectancy — began to rise. The Māori economy became more similar to the European economy, although neither incomes nor living standards were as high.

The starting point was not promising. While it was becoming apparent in 1900 that, despite the views of earlier commentators, Māori as a race were not dying out, in terms of most indicators of economic welfare Māori were very badly off. Butterworth (1972, p. 161) summarized as follows:

“ In the 1920s the Māori standard of living did not even approximate to that of the European. Māoris, at least in the Auckland province, were still largely Māori speaking, often with only a limited command of written and even spoken English. They were poorly educated, partly because of the lack of proper educational facilities — few, in fact even reached Standard 6 and fewer still went on to Māori secondary schools. Their main economic importance was as a source of labour to farmers, particularly for their seasonal peaks, and as unskilled labour in the timber industry and on rural

public works projects. Most Māoris lived in out-of-the-way villages with only limited social contact with European society.”

Economic statistics for this period are appreciably better than for the late nineteenth century. Censuses were conducted every five years (except for 1931 and 1941) and after 1926 the Māori census was collected using the same forms as the European census. The later censuses include some income information. Demographic data were collected more systematically, and are available at annual frequencies from the mid 1920s onwards⁷. Moreover, an appreciable number of Government reports were written containing statistical information on the economic welfare of Māori, particularly land ownership, farming, education, health, and housing. The latter reports were written in conjunction with the general expansion of government welfare assistance that occurred after the election of the Labour Government in 1935.

4.1 Demographic trends.

The population expanded rapidly during this period, increasing from 46,000 in 1901 to 116,000 fifty years later (Table 2 and Figure 1). The rapid increase stemmed from a very high birth rate — it exceeded 40 live births per 1,000 people between 1936 and 1964 — as well as modestly declining infant mortality, and rising life expectancy. Life expectancy at birth for Māori males and females was estimated to be 54 and 56 years in 1950, considerably lower than the figures of 67 and 71 years for Europeans, but still a substantial improvement over the situation fifty years earlier (Figure 2).

[Table 2: Total population estimates for Māori – 1858-2001]

[Figure 1: Māori population – 1858-2001]

[Figure 2: Māori life-expectancy at birth – 1901-2002]

The major cause of the difference between Māori and European life expectancy was the extraordinarily high infant mortality rate of Māori. Infant mortality exceeded 90 per 1,000 life births between 1925 and 1945, three times the non-Māori rate. It was not

⁷ Thorns and Sedgewick (1997, Chapter 2) have a detailed description of the primary sources they used to compile demographic data pertaining to this period. Most of this data can be readily obtained from contemporary issues of the New Zealand Official Year Books; much is now available electronically from Statistics New Zealand.

until 1960, by which time most Māori were born in hospitals, that the infant mortality rate fell to 50 per 1,000 births, and not until 1978 that it declined to 20 per 1,000, a level reached by Europeans 25 years earlier. These initially high rates of infant mortality attest to the poverty of Māori in New Zealand during this period.

A second trend evident in census data for this period is a substantial increase in the ratio of women to men. Throughout the 19th century, Māori men outnumbered Māori women by as much as 20 percent. In 1881 for example, there were only 81.5 females for every 100 males. From the late 19th century, this large gender imbalance began to decline and by 1951, there were 92 women for every 100 men. Detailed gender ratios are shown in Table 3. Chapple (2000) considers various explanations for the gender imbalance and its decline. The most likely explanation, he concludes, is that improvements in the material well-being of Māori communities reduced the number of people who were living ‘near a margin of subsistence’ and allowed families to allocate a greater proportion of basic resources, such as food and health care, to girls and women.

Long-term improvements in the availability of food and other basic resources may also have contributed to reductions in infant mortality and consequent increases in the child-to-adult ratio. The 1858 Census of Māori recorded 25 children per 100 adults (table 3). By 1901 this ratio had increased to 58, and by 1951 to 87.

[Table 3: Female to male and children to adult population ratios, 1858-2001]

A further trend evident in the census data is growing urbanisation. Only 16 percent of Māori lived in urban areas in 1926, in contrast to 59 percent of non-Māori. By 1945, this had risen to 26 percent (see Table 4). The move to urban areas was generally associated with higher incomes, better health care, and in many cases better housing.

[Table 4: Urbanisation of Māori – 1926-2001]

4.2 Economic Activity

For much of the period, most Māori lived in rural areas and worked in agriculture, forestry, or fishing. As Butterworth, observed, at the beginning of the century few Māori worked their own land, and indeed land sales continued apace with another

two million acres sold between 1910 and 1920⁸. In the 1920s there was a significant change, however. Spurred by Sir Apirana Ngata, the Government undertook policies to halt the land sales and to assist Māori develop their own farms. The policy change started with the Native Trustees Act (1920) and continued with the Native Land Amendment Act (1929). The main aim of these policies was to provide Government financing to enable Māori to develop and farm their own land. While some money was lent directly to Māori farmers, most was channeled through the Minister of Native Affairs; the sums expanded rapidly during the depression and in 1935 a quarter of a million pounds was advanced. The programme proved successful at improving the commercialization of Māori agriculture. By 1937 some 750,000 acres were being developed under the Act, with nearly 200,000 acres under cultivation in 1500 farms or stations⁹. Initially most of these farms were small dairy farms, and in the 1930s a typical farm may have been 20 cows on 40 acres. The development of Māori owned land into commercial farms continued throughout the period (and beyond), however with 1.4 million pounds invested in 1950. By then, according to the Census of Agriculture, nearly ten thousand Māori farmers were farming 1.1 million acres, largely as dairy or sheep farms. These farms had 700,000 sheep, 100,000 dairy cattle, and 200,000 beef cattle¹⁰. While these farms proved to be smaller, less livestock intensive, and less productive than most European farms, the programme was instrumental in raising incomes at a time when Māori were overwhelmingly poor and rural, and represented a significant step towards the transformation of the Māori economy.

The second major change in economic activity was associated with the move to urban areas. Male Māori predominately took jobs in the manufacturing and construction sectors, primarily as labourers. According to the occupational classification recorded in the census, the fraction of the Māori labour force in these sectors increased from 9 percent in 1936 to 37 percent in 1951, although in both years the largest group was still forestry and agriculture¹¹. Employment in the transport and communication sector also

⁸Butterworth (1972, p. 160), from data compiled from the AJHR G9, 1912 – 1920.

⁹Butterworth (1972, pp.176-9) The original sources are the AJHR, G9 or G10, various years. The Hunn Report Hunn (1961) compiled most of the original data and is the most accessible source.

¹⁰Butterworth and Rose (1967, p.31) The figures come from the 1950 Census of Agriculture and the 1951 census. See footnote 10 for sources on land development.

¹¹Butterworth and Rose (1967, p. 86) from census figures.

increased steadily, from 2 percent in 1936 to 10 percent in 1951. Nonetheless, most of this work was in low-skill occupations. The census of 1945 reveals that the most commonly held occupations of Māori men were farmer or farm worker; forestry worker; freezing works employee; dairy factory assistant; road grader; road construction labourer; lorry driver and labourer. The most common occupations of Māori women were farm worker; school teacher; cook; housemaid; domestic servant and waitress.

4.3 Government Services.

As the century progressed, the government began to play a larger role in the Māori economy. In response to both Māori demands and a growing recognition of the marginalization of many Māori (epitomized, perhaps, by the devastating toll of the 1918-1919 Influenza epidemic), plus a general expansion of welfare to all poor New Zealanders during and after the Depression, government transfers to Māori increased dramatically. Money was provided to improve housing; loans became available for land development; and Māori became entitled to unemployment benefits, old age pensions, a family benefit and free medical services¹². These transfers had a large beneficial effect on Māori income, and hence living standards. In rural areas they may have increased income by a third, and in all places they provided income to the poorest¹³. Housing standards improved, with the fraction of the population in living in substandard housing declining from over two thirds to under one third between 1936 and 1951¹⁴. It is plausible that the increases in income, particularly among the poorest, led to significant improvements in health, and directly contributed to the improvements in infant mortality, life expectancy and even stature that were recorded during this period¹⁵.

There were also significant changes in education policy following the election of the 1935 Labour Government. Secondary school education was made free, and the school leaving age was raised to 15. Schools were consolidated and more secondary

¹² The Social Security Act, 1938 was the crucial legislation. See the discussion in Butterworth (1972) and sources cited therein.

¹³ Beaglehole and Beaglehole (1946) conducted a study of the effects in a representative village and found that welfare benefits comprised slightly over a quarter of income. Quoted in Butterworth (1972, p. 193).

¹⁴ Butterworth (1972, p. 181). The original data come from the Māori (and general) census, which collected information concerning the type of housing people lived in, including the number of rooms in each dwelling. See Hunn (1961) for data on government funded housing construction for Māori.

¹⁵ In addition to the sources mentioned in footnote 8, see Sutch (1966). Steckel (1995) has a discussion of the link between inequality and stature.

schools were built in Māori regions. The legal changes were effective, and Māori education participation rates as measured by the Department of Education and by the census increased significantly. Nonetheless, educational attainment remained low compared to European levels. While secondary school participation rates for those aged 13-17 increased steadily from less than 10 percent in 1936 to 46 percent in 1961, in 1951 participation rates were only three quarters those of Europeans, suggesting very few Māori achieved an education qualification beyond school certificate¹⁶.

5 1950 to 2005

The 1950s and 1960s was a watershed period in which the majority of the Māori population moved to urban areas and took up jobs in the mainstream market economy. The Māori workforce was transformed from a largely rural one, employed mainly in primary sector activities, to one engaged mainly in manufacturing and services. Initially, there were large improvements in incomes, both in absolute terms and relative to those of Pākeha.

Living standards came under challenge in the late 1970s and 1980s, when a series of economic recessions, policy reforms and structural changes led to widespread job losses among Māori. Employment and labour force participation rates plummeted. Many individuals and families were dissociated from the market economy and forced to rely on government income support. While non-Māori living standards were also severely affected by the economic developments of these decades, the impact on Māori was disproportionately large. This led to an increased focus on ethnic disparities in development outcomes in public discussions and public policy.

People of Māori descent made up an increasingly significant share of the total population, rising from 7 percent in 1951 to more than 15 percent in 2001. This large demographic shift inevitably raised the profile of Māori perspectives, needs and aspirations within the wider society.

¹⁶ Enrolment figures were collected by the Department of Education and published in the AJHR. The census also provides information on school enrolment. Butterworth and Rose (1967, pp. 100-10) noted that in 1964 40 percent of European but fewer than 8 percent of Māori left school with School Certificate.

There are a large number of information sources for this period. Historical reviews by Walker (1992) Hawke (1985), King (1981), Belich (2001) and King (2003) provide useful introductions. A large number of government reports provide relevant statistical data, including Hunn (1961), Butterworth and Rose (1967), Statistics New Zealand (1986), Statistics New Zealand (1994), and Te Puni Kokiri (2000).

[Table 5: Statistical indicators of Māori Development – 1951-2001]

5.1 Demographic trends

Population growth accelerated after WWII. The average annual growth rate in the Māori population between 1951 and 1966 was above 3.5 percent. The total Māori descent population (counting those with any degree of Māori descent) more than doubled in size between 1951 and 1971. It doubled again in the three decades to 2001. Using the official definitions of the time, the Māori population grew from 116,000 in 1951 to 536,000 fifty years later.

Intermarriage with non-Māori contributed to the rapid growth of the Māori population in the post-war period. As at 2003, almost one-quarter of Māori children were born to non-Māori mothers Statistics New Zealand (2005). The youthful age structure of the Māori population, relatively high fertility rates and reductions in mortality rates were other significant factors contributing to rapid population growth.

Life expectancy estimated at birth continued to improve, from 54 years for males and 56 years for females in 1950, to 69 and 73 years respectively in 2001 (Figure 2). The Māori-non-Māori gap in life expectancy has tended to narrow over time, despite some periods of divergence such as occurred in the mid to late 1990s. Urbanisation brought Māori into closer contact with mainstream health services. The improvements in nutritional standards, housing and health care that raised the average life spans of all New Zealanders had flow on benefits for Māori, albeit at a slower rate.

However, at the end of the 20th century, significant disparities in health outcomes between Māori and non-Māori remained. Controlling for age group, Māori were more likely to suffer from conditions such as asthma, diabetes, high blood pressure, and obesity Grigg (2000). They were more likely to suffer an injury at work.

[Table 6: Māori age and sex distribution – 1926-2001]

The Māori population remained a highly youthful one throughout the second half of the 20th century. For much of the century more than 40 percent were aged under 15 years (Table 6). By 2001 this proportion had declined, but at 37 percent remained high. The high child-to-adult dependency ratio reduced per capita living standards and made Māori families more vulnerable to poverty. On the other hand, the youthful age structure also meant that improvements in educational participation and attainment, when they eventually occurred, had a relatively rapid impact on the skill level and occupational profile of the Māori working-aged population.

Perhaps the most important demographic shift of this period was the transformation of a largely rural population into a largely urban one. The rate of urbanization during the 1950s and 1960s was extremely rapid. The proportion of Māori classified as urban dwellers rose from 35 percent in 1956, to 62 percent in 1966 and 76 percent in 1976 (see Table 4). Māori were attracted to towns and cities by the employment opportunities and wages available. Moreover, the rural economy was unable to support a rapidly growing Māori population (King, 1996, p. 249). The small size of Māori farms meant that many were increasingly uneconomic.

As a result of migration to towns and cities, large numbers of Māori became fully integrated into the market economy for the first time. Walker (1992) describes the changes involved:

The migrants had to function as members of the urban community. Adjustments included finding regular employment, and commitment to the cash nexus by meeting obligations on mortgages, rates, rent, power-charges, hire purchase and taxes....Once committed to this system, the migrants were irrevocably integrated into the economic system of mainstream society. The practice in the rural areas of supplementary subsistence activities such as gardening, hunting, and foraging for kai moana (seafood) to supplement low cash income was no longer an option. Food was now a commodity purchased entirely in the marketplace. [(Walker, 1992, p. 502)]

5.2 Economic activity

Lack of educational qualifications meant that Māori who moved to urban areas during the 1950s and 1960s obtained jobs chiefly in unskilled or semi-skilled fields of

employment, such as factories, freezing works, road maintenance, transport, the building trades, and labouring Walker (1992, p. 500). In 1956 only 7 percent of the Māori workforce held professional, managerial or clerical positions, as against 27 percent of non-Māori (King, 1981, p. 299). The dearth of Māori in the professions and in office jobs was an outcome of the educational policies pursued earlier in the century, which had not encouraged a high level of attainment in secondary schools (Walker, 1992, p. 500).

Not all of the ‘unskilled’ jobs taken up by Māori were poorly paid. For males at least, jobs in areas such as construction and meat processing offered relatively good wages. Government income support, delivered through policies such as the Family Benefit, also helped improve the absolute and relative incomes of Māori during the post-war decades. Census income statistics indicate that in 1961, the average annual income of Māori men was 90 percent of that of non-Māori men. For women, the ratio was similar. In all likelihood this was a massive improvement on the situation 30 years earlier (Belich, 2001, p. 474).

However, Māori workers were in sectors that proved to be particularly vulnerable to the economic changes that occurred from the mid-1970s. As economic growth slowed, unskilled workers were the first to lose their jobs, and Māori were over-represented among them (Belich, 2001, p. 474). Māori men were disproportionately employed in agriculture, transportation and manufacturing, and therefore suffered disproportionate job losses when these industries were hit by the removal of government subsidies and import protections in the 1980s. In 1981, 12 percent of Māori males and 17 percent of females were unemployed, several times higher than the unemployment rates of non-Māori (table 5). Those rates doubled between 1981 and 1991. High Māori unemployment continued to be a persistent feature of the economic scene during the 1990s. It was not until 2004 that the official unemployment rate of Māori fell back below 10 percent.

The Hunn Report Hunn (1961) highlighted low Māori educational attainment as a critical area of concern. In 1971 the National Advisory Committee on Māori Education made recommendations for reforms to the education system to facilitate better outcomes for Māori, including the introduction of Māoritanga into the mainstream

curriculum, lowered pupil-teacher ratios, and provision of ancillary teaching staff for schools with significant numbers of Māori students. From the 1970s onwards, a growing number of schools introduced Māori language and Māori studies courses. The initiation of kohanga reo in 1981, and the development of Kura Kaupapa Māori schools from 1984, were also significant milestones in terms of the incorporation of Māori knowledge and cultural values into the educational system.

While improvements in Māori educational attainment were relatively slow at first, larger gains were made during the 1980s and 1990s. The proportion of secondary school students leaving school without any qualification fell from three-quarters in 1971 to just one-third in 2001 (Table 6). An increasing number acquired sixth form or higher qualifications before leaving. In time these improvements flowed through into the educational profile of the workforce. The proportion of full-time Māori workers with no formal qualification declined from around 90 percent in 1971, to 46 percent of men and 35 percent of women in 2001. The proportion with a university degree rose from less than 1 percent in 1971 to 5 percent of men and 9 percent of women in 2001.

Well-educated Māori held teaching and other professional jobs in the 1950s and 1960s, but their numbers were small. By the 1980s a more sizeable class of well-educated Māori had emerged, and Māori were making significant inroads into skilled employment. The proportion of full-time Māori men who were working in professional or technical jobs increased from just 2 percent in 1971, to 14 percent in 2001. For women this proportion rose from 10 percent to 27 percent (table 5). By comparison, 24 percent of non-Māori males, and 33 percent of non-Māori females, were employed in these occupational classes in 2001.

The industrial structure of Māori employment continued to shift away from the primary and secondary sectors, towards services (table 7). By 2001 51 percent of male and 80 percent of female employment was in the tertiary sector, reducing the future vulnerability of Māori to the demand-driven employment swings that are typically more pronounced in agriculture, manufacturing and construction.

[Table 7: Industrial structure of Māori employment – 1926 – 2001]

The last decades of the 20th century were also marked by changes in both the nature of Government-led approaches to Māori economic development and the self-driven economic initiatives of Māori. Following Hui Taumata (the Māori Economic Summit) in 1984, there was a devolution of several government functions to tribal authorities, premised on the belief that (given adequate resources) Māori were better placed to provide certain services to their own people than was the state (Durie, 1998, p. 8). Government policies gave greater emphasis to promoting Māori economic development by means of Māori owned and managed business activities, in a wider range of sectors. In 1987 a Māori Development Commission was established to foster Māori business skills and provide advisory support and injections of capital.

New business enterprises were set up by a significant number of iwi organisations in the 1980s and 1990s, often using capital or property transferred from the Crown under Treaty of Waitangi settlements. A total value of \$637 million in negotiated settlements had been allocated to iwi and Māori organisations by the end of 2001 (Te Puni Kokiri, 2002). The Māori Fisheries Act 1989 and Treaty of Waitangi Fisheries Settlement Act 1992 provided Māori with large quantities of fishing quota and cash to help purchase fishing companies (ibid). While farming continued to be an important sector of economic activity, Māori-owned businesses acquired a greater presence in fishing, forestry, property and tourism services.¹⁷ Most notably, by 2002 Māori controlled an estimated 37 percent of the tradeable fisheries quota assets of New Zealand's fishing industry.

5.3 Asset accumulation

The total area of Māori land holdings continued to decline for most of the post-war decades, through sales and changes in legal status. The Te Ture Whenua Māori Act 1993 was a significant turning point, making Māori land more difficult to alienate (Durie, 1998, p. 136). As a result of a number of significant Treaty of Waitangi settlements reached in the 1980s and 1990s, in which Crown land was transferred to iwi

¹⁷ Te Puni Kokiri (2002) and New Zealand Institute of Economic Research (2003) provide detailed information on Māori economic activity.

organisations, the quantity of land in Māori ownership began to increase for the first time since 1840.

Despite its great cultural significance, by the end of the 20th century land had become less important than other assets in making up the total commercial wealth of Māori. Recent research commissioned by Te Puni Kokiri (2003) attempted to estimate the value of Māori-owned business assets, using information obtained from statistical sources and the published annual reports of corporations and trusts. Māori business assets were estimated to be worth nearly \$9 billion in 2001 (Table 8). This includes the estimated value of Māori Trusts and Māori Trustee land assets; the assets of various Māori-owned organisations (such as Te Ohu Kai Moana and the Waikato Raupatu Lands Trust); the value of iwi Treaty Settlements; the assets of Māori Trust Boards; and the estimated value of Māori-owned businesses. The \$9 billion represented a little over 1 percent of the overall value of New Zealand's commercial assets (ibid, p.2).¹⁸

[Table 8: Estimated value of Māori land and businesses, 2001]

At the household level, Māori were also significantly less wealthy than non-Māori in material terms. Personal and household wealth was measured systematically for the first time in the Household Saving Survey 2001 Statistics New Zealand (2002b). The assets measured in the survey included residential and investment property, farms, businesses, life insurance, bank deposits, shares and managed funds, money owed, cash, motor vehicles, and holdings in superannuation and other defined contribution schemes. The liabilities included property mortgages, other loans, and negative credit card balances. While the average net worth of Māori adults was \$54,000, the median was only \$5,200.¹⁹ An estimated 26 percent of Māori had negative wealth and nearly two-thirds had less than \$20,000. This low level of household wealth is likely to mean that Māori

¹⁸ The authors of the report note that due to significant information gaps, this is likely to be an underestimate.

¹⁹ Statistics New Zealand (2002b, p. 79). These estimates were reached by assigning half the net wealth of couples to each partner. By comparison, the average net wealth of European/European adults was \$163,700 and the median value was \$86,500.

have less access than non-Māori to loan capital (via mortgage finance) that could be used to develop small businesses.²⁰

It is worth noting that for most New Zealanders, however, job-related skills are the most important type of asset. Through labour force participation, skills generate by far the largest component of household incomes. The educational statistics of the early 21st century indicate that Māori are now investing in skills, in a manner that is increasingly similar to the investment patterns of non-Māori (New Zealand. Ministry of Education, 2005). A more favourable picture of the current and likely future wealth of Māori is obtained if human capital is considered along with physical capital.

5.4 Cultural wealth

Māori wealth can be thought of as including Māori cultural knowledge: knowledge of tribal history, genealogy, customs, artistic skills and traditions, social arrangements. Language occupies a central place in the cultural wealth of Māori.

The knowledge and use of Māori declined markedly during the 20th century. Māori was not taught in schools, and migration from rural communities to Pākehā-dominated urban areas reduced young people's exposure to the language. It has been estimated that in 1913, 90 percent of Māori school children could speak Māori; but by 1953 the percentage had fallen to 26 percent, and by 1975 to less than 5 percent (Durie, 1998, p. 60). The first national Māori language survey in 1973, conducted by the New Zealand Council for Educational Research, estimated that around 18 percent of adult Māori were fluent speakers, of whom most were aged over 40 (Benton, 1979).

In the 1980s Māori leaders began to initiate Māori-language recovery programmes, such as the Kōhanga Reo movement, which sought to immerse Māori infants in a Māori-language environment from infancy to school age (Ballara, 2004). This was followed by the setting up of the Kura Kaupapa, a programme of primary schooling in a Māori-language environment, and the whare wānanga (Māori universities or schools

²⁰ Gibson and Scobie (2004) analyse the sources of the ethnic gap in household wealth and report that the younger age composition of the Māori population and the lower average incomes of Māori are major contributors.

of learning) (Ballara, 2004). Māori language options also became more common in mainstream schools.

By the late 1990s, when a new survey of the health of the Māori language was undertaken, there were signs that the resurgence in Māori language education was beginning to having an impact. The 2001 census showed that one-quarter of all Māori stated they could hold a conversation in Māori about a lot of everyday things, well above the 1973 benchmark. In 2001 Māori language proficiency levels were slightly higher among 15-24 year olds than in the 25-34 year age group Statistics New Zealand (2002a), possibly because of the recent impact of school-based language programmes.

6 Summary

The path of Māori economic development that we have traced through statistical evidence is one of ongoing change and adaptation, as well as one of substantial increase in material standards of living, albeit with periods of significant setback.

The living standards of Māori improved enormously during the 20th century (as did the living standards of non-Māori). One of the most important drivers of that process of improvement was the gradual incorporation of Māori into the market economy, leading to the acquisition of jobs, incomes, new skills and new sets of knowledge. Another driver was the extension of Government social services and ‘safety net’ income support provisions to Māori. A third was the initiative of Māori people themselves: developing new types of business activity and social services, and channelling public funding for social services in directions likely to be of greatest benefit to Māori.

The focus of the chapter was largely on measures of material well-being at individual level, reflecting the nature of the historical data sources. We have given relatively little attention to the role of institutions and institutional change in enabling different forms of economic activity. These, however, are dealt with more fully in other chapters of this book.

A recent study of Māori economic development identified three stages in the integration of Māori into the Western market economy (New Zealand Institute of Economic Research, 2003, p. 5). In the first, Māori sold their goods and their labour in

European-dominated markets. This phase began on first contact with Europeans and continued to develop through much of the 20th century, gaining momentum as Māori urbanised. In the second stage, collectively-owned Māori assets were put to commercial purposes, providing jobs and incomes and satisfying, to some degree at least, aspirations for Māori control of economic opportunities. This phase began in the 1930s with the development of Māori land holdings into commercial farm units (ibid, p5). It was strengthened in the 1980s and 1990s by the transfer of assets to iwi under Treaty of Waitangi settlements, providing the basis for larger enterprises. In the third phase, an increasing number of Māori enterprises and non-profit organisations were established in the service sector, providing services to Māori (in fields such as health, education, employment, justice) or ‘providing access to authentic Māori culture and experiences’ (ibid). This analysis is useful in highlighting some of the innovations in economic institutions that emerged during the course of the last century. Those innovations undoubtedly brought about a wider variety of economic opportunities for Māori. Nevertheless, the majority of individual Māori were not directly involved and have continued to work in jobs and businesses that are not organised along ethnic lines.

We have had little to say about Māori cultural development. Insights into the ways that Māori have shaped and been shaped by evolving institutions within Māori society or broader societal change are not easily summarised in statistical terms. The current chapter thus complements the contributions of other chapters in this book. They are able to provide richer accounts of the way that institutions have adapted to support the ongoing process of economic development for Maori.

7 Tables and Figures

Table 1: Estimates of Māori land ownership

	Acres (000)	Hectares
1840	66,400	29,880
1852	34,000	15,300
1860	21,400	9,630
1891	11,079	4,985
1911	7,137	3,211
1920	4,788	2,154
1939	4,029	1,813
1975	3,000	1,350
1986	2,626	1,182
1996	3,744	1,515

Source: Māori land statistics compiled by Te Puni Kokiri, www.tpk.govt.nz.

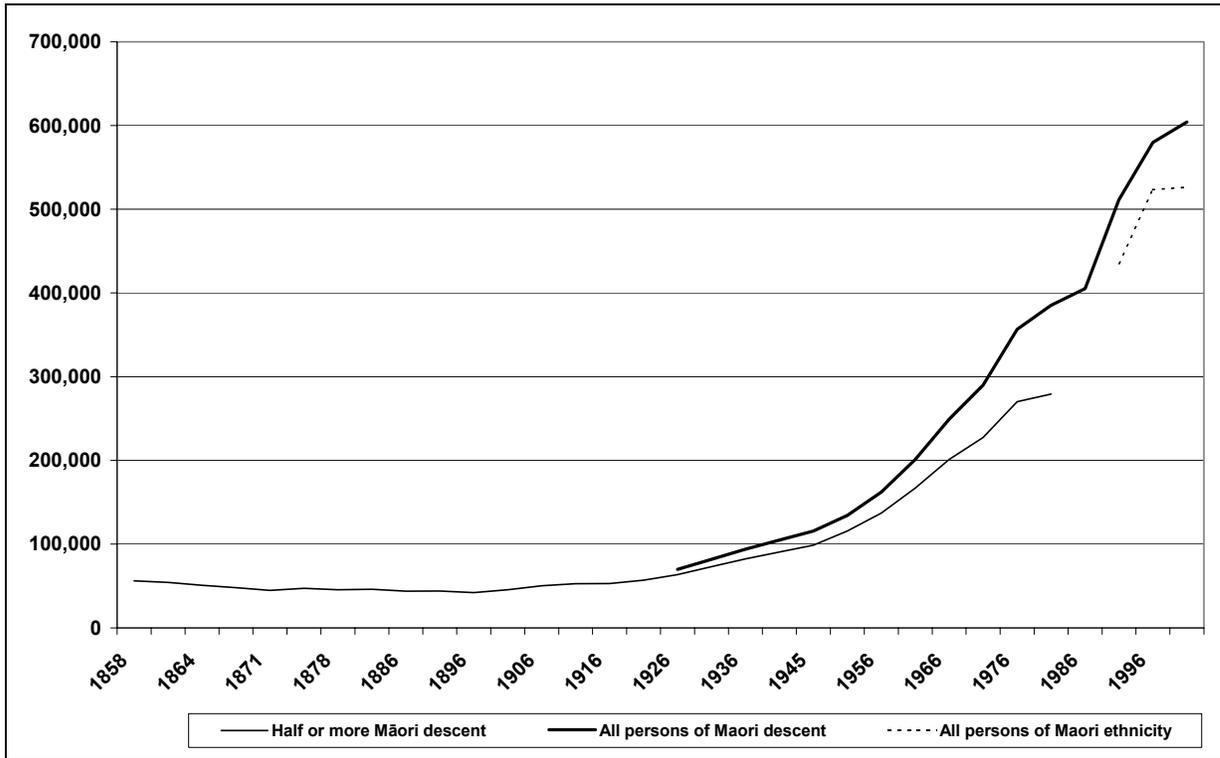
Table 2: Total population estimates for Māori – 1858-2001

	Half or more Māori descent	All persons of Maori descent	All persons of Maori ethnicity
1858	56,049		
1874	47,330		
1878	45,542		
1881	46,141		
1886	43,927		
1891	44,177		
1896	42,113		
1901	45,549		
1906	50,309		
1911	52,723		
1916	52,997		
1921	56,987		
1926	63,670	69,780	
1936	82,326	94,053	
1945	98,744	115,646	
1951	115,676	134,097	
1956	137,151	162,259	
1961	167,086	201,159	
1966	201,159	249,236	
1971	227,414	289,887	
1976	270,035	356,573	
1981	279,252	385,224	
1986		405,309	
1991		511,278	434,847
1996		579,714	523,371
2001		604,110	526,281

Sources: SNZ, 1981 Census of Population and Dwellings, Volume 8 Part A Table 1; and 2001 Census tables on Māori, Table 1.

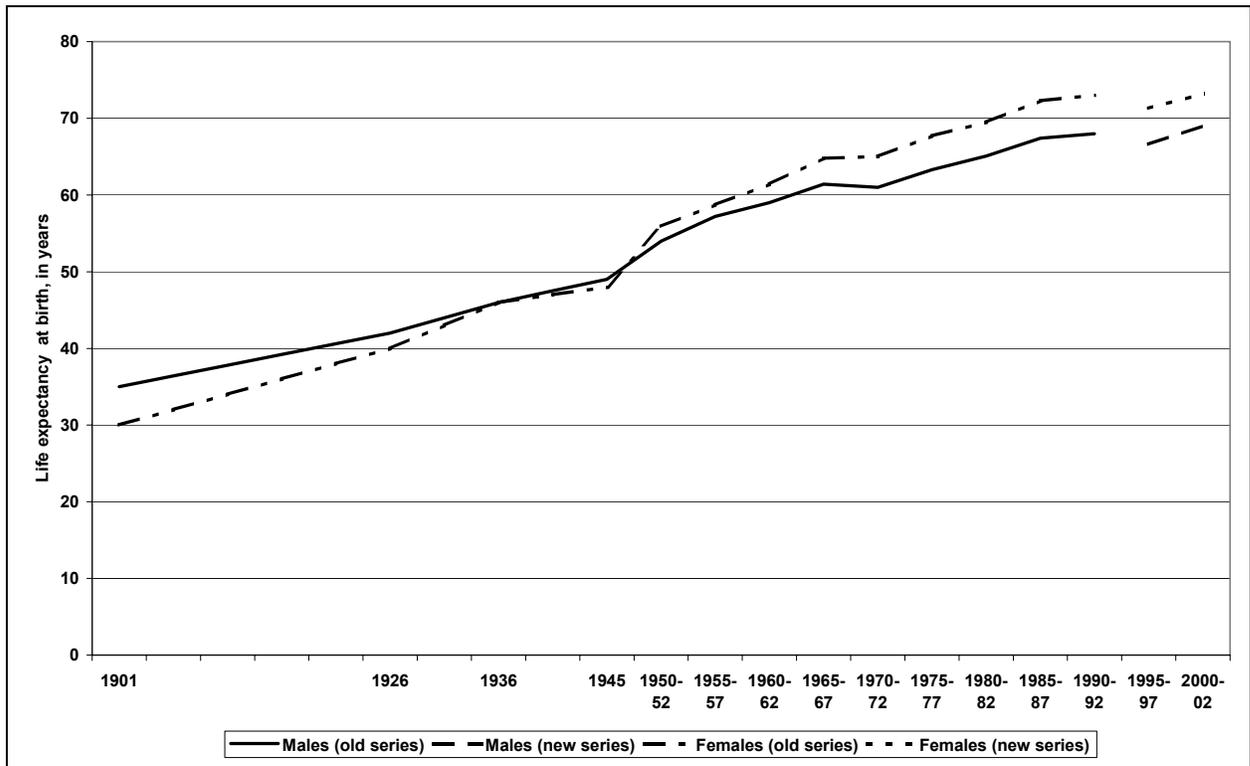
Notes: A number of important changes in Census collection methods led to discontinuities in these population series. Statistics New Zealand (2004b) and Pool (1991) describe some the main changes.

Figure 1: Māori population – 1858-2001



For sources and notes, see footnotes to Table 2.

Figure 2: Māori life-expectancy at birth – 1901-2002



Sources: Estimates for 1901 - 1945 are from Pool (1991, p. 114). Estimates for 1950 onwards are from Statistics New Zealand (2004a, Table 2.01, p. 23), Table 2.01, p. 23.

Notes: There is a significant break in the series between 1990-92 and 1995-97 due to a change in methods. For 1995-97 onwards, an adjustment factor has been applied to adjust for the underreporting of Māori deaths relative to the Māori population. Interpolation was used to fill in breaks in the series before 1945. Points on the horizontal axis that are labelled with dates represent real observations.

Table 3: Female to male and children to adult population ratios, 1858-2001

	Females per 100 males	Children per 100 adults (15+)
1858	76.7	24.8
1874	83.5	42.7
1881	81.5	44.0
1891	84.1	51.8
1901	87.5	58.0
1911	88.7	66.5
1921	89.0	66.5
1936	92.1	81.4
1951	95.0	86.5
1961	96.6	97.0
1971	97.8	96.3
1981	99.6	66.6
1991	102.8	60.0
2001	104.4	59.6

Source: Population censuses. The figures for 1991 and 2001 are based on an ethnic measure of Māori. Previously, Māori was measured in descent terms.

Table 4: Urbanisation of Māori – 1926-2001

	1926	1936	1945	1956	1966	1976	1986	1996	2001
	%								
Urban	16	17	26	35	62	76	79	83	84
Rural	84	83	74	65	38	24	21	17	16

Source: Pool (1991) for 1926-86. 1991 and 2001 from published SNZ tables.

Table 5: Statistical Indicators of Māori Development – 1951-2001

	1951	1961	1971	1981	1991	2001
	%	%	%	%	%	%
Health						
Infant mortality rate						
Deaths of children under 1 year old per 1000 live births		49.7	26.5	15.4	13.8	8.5*
Education						
School leavers with no qualification						
Males			76.0	65.5	40.0	37.0
Females			74.8	61.8	34.0	29.9
School leavers with Sixth Form certificate or above						
Males			12.6	16.0	34.8	37.1
Females			11.2	17.6	40.0	44.2
People in the full-time labour force with no secondary or tertiary qualification						
Males			93.3		57.7	46.4
Females			88.2		47.5	35.4
People in the full-time labour force with a university degree						
Males			0.3		2.9	5.4
Females			0.1		2.9	8.7
Labour market						
Full-time employment rate						
Males	81.0	83.3	82.7	73.7	47.8	51.3
Females	22.5	25.5	33.0	33.6	29.5	36.0
Unemployment rate						
Males	2.5	2.3	3.5	12.4	24.9	18.1
Females	1.9	2.9	9.2	17.4	28.3	24.1
Self-employed as a proportion of all full-time workers						
Males	12.8	7.4	5.1	5.1	11.2	12.5
Females	4.7	1.6	1.4	2.2	5.2	6.4
Professional, technical and related occupations as a proportion of all full-time workers						
Males		1.7	2.4	3.0	11.3	14.3
Females		10.0	8.0	8.2	20.2	27.1

Sources: New Zealand Health Information Service (1992) and New Zealand Health Information Service (2001); New Zealand. Department of Education (1992); 2001 School Leaver Statistics compiled by the Ministry of Education; Statistics New Zealand (1986); SNZ, 1951, 1971, 1981, 1991 and 2001 Census of Population and Dwellings volumes.

Notes: * Figure for 2000. The method of classifying ethnicity in mortality records changed between 1981 and 1991. All labour force measures in this table use the historical (pre-1981) definition of the labour force, which comprised persons working in paid jobs of 20 or more hours per week and the unemployed. Employment rates and unemployment rates calculated in this manner do not match the official estimates for 1991 and 2001, which use contemporary concepts and measures. There is a break in the 'professional and technical' series between 1981 and 1991, due to changes in the occupational classification.

Table 6: Age and sex distribution of the Māori population – 1926-2001

	1926	1945	1956	1966	1976	1986	1996	2001
	%	%	%	%	%	%	%	%
Males								
0-4	16	17	19	20	16	12	14	13
5-14	26	28	28	31	31	23	25	26
15-24	20	18	19	17	21	24	19	17
25-44	22	22	22	22	22	27	28	27
45-64	12	11	10	8	9	12	12	13
65+	5	3	3	2	2	2	3	3
Females								
0-4	17	17	19	20	15	11	13	12
5-14	27	28	28	31	30	23	23	23
15-24	20	19	20	17	21	24	19	17
25-44	22	23	23	22	22	28	30	30
45-64	11	9	9	9	10	12	12	13
65+	4	3	2	2	2	3	3	4

Sources: Pool (1991) for 1926-86. 1991 and 2001 from published SNZ tables.

Table 7: Industrial structure of Māori employment – 1926 – 2001

	1926	1936	1945	1956	1966	1976	1986	1996	2001
	%	%	%	%	%	%	%	%	%
Males									
Primary sector	76	64	52	34	23	14	14	14	12
Secondary	17	31	34	45	53	58	48	38	37
Tertiary	8	5	14	21	24	28	38	48	51
Females									
Primary sector	80	74	39	11	10	7	7	7	6
Secondary	1	2	11	23	36	39	31	17	14
Tertiary	19	24	50	66	54	55	62	76	80

Sources: Pool (1991) for 1926-86. 1991 and 2001 from published SNZ tables.

Notes: Figures include full-time workers only, defined as those working 20 or more hours a week. The primary sector includes agriculture, forestry, fishing and mining. The secondary sector includes manufacturing, construction and utilities.

Table 8: Estimated value of Māori land and businesses, 2001

	Total Assets (\$ million)
Maori Trusts	1,522
Maori Trustee land assets	177
Maori organisations	1,354
Iwi Treaty settlements	86
Maori Trust Boards	145
Maori businesses	5,708
Total	8,992

Source: Te Puni Kokiri (2003)

References

- Adas, Michael. 1974. *The Burma Delta: Economic Development and Social Change on an Asian Rice Frontier, 1852-1941*, Madison: University of Wisconsin Press.
- Ballara, Angela. 2004. "A Brief History of the Maori Language," Ministry for Culture and Heritage, Wellington, New Zealand. Available online at <http://www.nzhistory.net.nz/Gallery/tereo/history.htm>. Last accessed 10 November 2005.
- Beaglehole, Ernest and Pearl Beaglehole. 1946. *Some Modern Maoris*, Christchurch: New Zealand Council for Educational Research.
- Belich, James. 2001. *Paradise Reforged: A History of New Zealanders from the 1880s to the Year 2000*, Auckland: Allen Lane and Penguin Press.
- Benton, Richard. 1979. *Who Speaks Maori in New Zealand?*, Wellington: New Zealand Council for Educational Research.
- Brown, Paul G. 1983. "An Investigation of Official Ethnic Statistics," *Occasional Paper 5*, Department of Statistics, Wellington, New Zealand.
- Butterworth, Graham Victor. 1972. "A Rural Maori Renaissance? Maori Society and Politics 1920 to 1951," *Journal of Polynesian Studies*, 81:2, pp. 160-95.
- Butterworth, Graham Victor and Dennis Rose. 1967. *The Maori in the New Zealand Economy*, Wellington: Department of Industries and Commerce.
- Chapple, Simon. 2000. "Why There Were More Maori Men than Maori Women and What Changed It," *New Zealand Population Review*, 26:1, pp. 45-66.
- Davidson, Janet M. 1992. "The Polynesian Foundation," in *The Oxford History of New Zealand*, second ed., Geoffrey W. Rice (Ed.) Auckland: Oxford University Press, pp. 3-27.
- Durie, Mason. 1998. *Te Mana, Te Kawanatanga: The Politics of Maori Self-Determination*, Auckland: Oxford University Press.
- Firth, Raymond. 1959. *Economics of the New Zealand Maori*, second ed., Wellington: R.E. Owen, Government Printer.
- Floud, Roderick. 1994. "The Heights of Europeans Since 1750: A New Source for European Economic History," in *Stature, Living Standards, and Economic Development: Essays in Anthropometric History*, John Komlos (Ed.) Chicago and London: University of Chicago Press, pp. 9-24.
- Gibson, John K. and Grant M. Scobie. 2004. "Wealth and Ethnicity: Evidence from the Household Savings Survey," *Paper presented to the 7th Labour Econometrics Workshop, University of Auckland, August 2004*.
- Grigg, Michele Christina. 2000. "Tikanga Oranga Hauora," *Whakapakari 4*, Te Puni Kokiri, Wellington, New Zealand. Available online at <http://www.tpk.govt.nz/maori/education/tohtrend.pdf>. Last accessed 10 November 2005.
- Hargreaves, R. P. 1960. "Maori Agriculture After the Wars (1871-1886)," *Journal of Polynesian Studies*, 69:4, pp. 354-67.
- Hargreaves, R. P. 1961. "Maori Flour Mills of the Auckland Province 1846-1860," *Journal of Polynesian Studies*, 70:2, pp. 227-32.
- Hargreaves, R. P. 1962. "Maori Flour Mills South of the Auckland Province 1847-1860," *Journal of Polynesian Studies*, 71:1, pp. 101-5.
- Hargreaves, R. P. 1963. "Changing Maori Agriculture in Pre-Waitangi New Zealand," *Journal of Polynesian Studies*, 72:2, pp. 101-17.
- Hawke, Gary. 1985. *The Making of New Zealand: An Economic History*, Cambridge: Cambridge University Press.

- Houghton, Philip. 1980. *The First New Zealanders*, Auckland: Hodder and Stoughton.
- Houghton, Philip. 1996. *People of the Great Ocean*, Cambridge: Cambridge University Press.
- Hunn, Jack Kent. 1961. "Report on the Department of Maori Affairs, with Statistical Supplement, 24 August 1960," *Appendices to the Journal of the House of Representatives, G.10*, Government Printer, Wellington.
- King, Michael. 1981. "Between Two Worlds," in *The Oxford History of New Zealand*, first ed., W. H. Oliver (Ed.) Wellington: Oxford University Press, pp. 279-301.
- King, Michael. 1996. *Maori: A Photographic and Social History*, revised ed., Auckland: Reed Books.
- King, Michael. 2003. *The Penguin History of New Zealand*, Auckland: Penguin Books.
- Kukutai, Tahu. 2003. "The Dynamics of Ethnicity Reporting: Maori in New Zealand," *A discussion paper prepared for Te Puni Kokiri*. Available online at http://www.tpk.govt.nz/publications/research_reports/tahu_report.pdf Last accessed 10 November 2005.
- Merrill, Robert S. 1954. "Some Social and Cultural Influences on Economic Growth: The Case of the Maori," *Journal of Economic History*, 14:4, pp. 401-8.
- Morris, Morris David. 1979. *Measuring the Condition of the World's Poor: The Physical Quality of Life Index*, New York: Pergamon Press.
- New Zealand Health Information Service. 1992. *Mortality and Demographic Data 1991*, Wellington: The Service.
- New Zealand Health Information Service. 2001. *Mortality and Demographic Data 2000*, Wellington: The Service.
- New Zealand Institute of Economic Research. 2003. "Maori Economic Development: Te Ohanga Whanaketanga Maori," *Report prepared for Te Puni Kokiri*, NZIER, Wellington. Available online at http://www.tpk.govt.nz/publications/docs/economics/mdr_final.pdf. Last accessed 14 November 2005.
- New Zealand. Department of Education. 1992. *Education Statistics of New Zealand 1991*, Wellington: The Department.
- New Zealand. Ministry of Education. 2005. "Maori in Tertiary Education: A Picture of the Trends," *Report prepared for Hui Taumata*, Ministry of Education, Wellington. Available online at http://www.minedu.govt.nz/web/downloadable/dl10244_v1/hui-taumata-web-pdf.pdf Last accessed 8 November 2005.
- New Zealand. Parliament. House of Representatives. 1873. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives G.1*, Government Printer, Wellington.
- New Zealand. Parliament. House of Representatives. 1880. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives G.4*, Government Printer, Wellington.
- New Zealand. Parliament. House of Representatives. 1881. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives G.8*, Government Printer, Wellington.
- New Zealand. Parliament. House of Representatives. 1883. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives, G.1A*, Government Printer, Wellington.
- New Zealand. Parliament. House of Representatives. 1884. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives, G.1*, Government Printer, Wellington.

- New Zealand. Parliament. House of Representatives. 1885. "Reports from Officers in Native Districts," *Appendix to the Journals of the House of Representatives, G.2*, Government Printer, Wellington.
- New Zealand. Parliament. House of Representatives. 1886. "Census of the Maori Population," *Appendix to the Journals of the House of Representatives G.12*, Government Printer, Wellington.
- Pool, Ian. 1991. *Te Iwi Maori: A New Zealand Population Past, Present and Projected*, Auckland: Auckland University Press.
- Rice, Geoffrey W. (Ed.), 1992. *The Oxford History of New Zealand*, second ed., Auckland: Oxford University Press.
- Sorrenson, Maurice Peter Keith. 1956. "Land Purchase Methods, and Their Effect on Maori Population, 1865 -1901," *Journal of the Polynesian Society*, 65:3, pp. 183-99.
- Sorrenson, Maurice Peter Keith. 1992. "Maori and Pakeha," in *The Oxford History of New Zealand*, second ed., Geoffrey W. Rice (Ed.) Auckland: Oxford University Press, pp. 141-66.
- Statistics New Zealand. 1986. *Maori Statistical Profile 1961-86*, Wellington: Social Reporting Section, Statistics New Zealand.
- Statistics New Zealand. 1994. "New Zealand Now: Māori," Statistics New Zealand, Wellington.
- Statistics New Zealand. 2002a. "2001 Survey on the Health of the Maori Language," *Key Statistics*, May 2002, pp. 9-13.
- Statistics New Zealand. 2002b. *The Net Worth of New Zealanders: A Report on Their Assets and Debts*, Wellington: Statistics New Zealand.
- Statistics New Zealand. 2004a. *New Zealand Life Tables 2000-02*, Wellington: Statistics New Zealand.
- Statistics New Zealand. 2004b. "Report of the Review of the Measurement of Ethnicity, June 2004," *Unpublished report*. Available online at <http://www.stats.govt.nz/NR/rdonlyres/330AC1F7-72DB-4CDA-A8ED-C29E7BB03DDD/0/RME2004.pdf>. Last accessed 10 November 2005.
- Statistics New Zealand. 2005. "Maori Population: Looking Out to 2021," *Report for Hui Taumata 2005*, Statistics New Zealand, Wellington.
- Steckel, Richard H. 1983. "Height and Per Capita Income," *Historical Methods*, 16:1, pp. 1-7.
- Steckel, Richard H. 1995. "Stature and the Standard of Living," *Journal of Economic Literature*, 33:4, pp. 1903-40.
- Sutch, William. 1966. *The Quest for Security in New Zealand, 1940-1966*, Wellington: Oxford University Press.
- Te Puni Kokiri. 2000. "Progress Towards Closing Social and Economic Gaps Between Maori and Non-Maori: A Report to the Minister of Maori Affairs," Te Puni Kokiri, Wellington, New Zealand.
- Te Puni Kokiri. 2002. *Maori in the New Zealand Economy*, third ed., Wellington: Te Puni Kokiri. Available online at http://www.tpk.govt.nz/publications/docs/minzec_3rdEd/minze.pdf. Last accessed 8 November 2005.
- Te Puni Kokiri. 2003. "The Maori Commercial Asset Base," *Policy Working Paper*, Economic Opportunities Team, Te Puni Kokiri, Wellington, New Zealand. Available online at http://www.tpk.govt.nz/publications/docs/economics/maori_asset_base.pdf. Last accessed 10 November 2005.
- Thorns, David and Charles Sedgewick. 1997. *Understanding Aotearoa/ New Zealand: Historical Statistics*, Palmerston North: Dunmore Press.
- Walker, Ranginui J. 1992. "Maori People Since 1950," in *Oxford History of New Zealand*, second ed., Geoffrey W. Rice (Ed.) Auckland: Oxford University Press, pp. 498-519.

Motu Working Paper Series

- 05–12. Maré, David C, “Concentration, Specialisation and Agglomeration of firms in New Zealand”
- 05–11. Holmes, Mark J and Arthur Grimes, “Is there long-run convergence of regional house prices in the UK?”
- 05–10. Hendy, Joanna and Suzi Kerr, “Greenhouse Gas Emission Factor Module: Land Use in Rural New Zealand–Climate Version 1”.
- 05–09. Poland, Michelle and David C Maré, “Defining Geographic Communities”.
- 05–08. Kerr, Suzi, Joanna Hendy, Emma Brunton and Isabelle Sin, “The likely regional impacts of an agricultural emissions policy in New Zealand: Preliminary analysis”.
- 05–07. Stillman, Steven, “Examining Changes in the Value of Rural Land in New Zealand between 1989 and 2003”.
- 05–06. Dixon, Sylvia and David C. Maré, “Changes in the Māori Income Distribution: Evidence from the Population Census”.
- 05–05. Sin, Isabelle and Steven Stillman, “The Geographical Mobility of Māori in New Zealand”.
- 05–04. Grimes, Arthur, “Regional and Industry Cycles in Australasia: Implications for a Common Currency”.
- 05–03. Grimes, Arthur, “Intra and Inter-Regional Industry Shocks: A New Metric with an Application to Australasian Currency Union”.
- 05–02. Grimes, Arthur, Robert Sourell and Andrew Aitken, “Regional Variation in Rental Costs for Larger Households”.
- 05–01. Maré, David C., “Indirect Effects of Active Labour Market Policies”.
- 04–12. Dixon, Sylvia and David C Maré, “Understanding Changes in Maori Incomes and Income Inequality 1997–2003”.
- 04–11. Grimes, Arthur, “New Zealand: A Typical Australasian Economy?”
- 04–10. Hall, Viv and C. John McDermott, “Regional business cycles in New Zealand: Do they exist? What might drive them?”
- 04–09. Grimes, Arthur, Suzi Kerr and Andrew Aitken, “Bi-Directional Impacts of Economic, Social and Environmental changes and the New Zealand Housing Market”.
- 04–08. Grimes, Arthur, Andrew Aitken, “What’s the Beef with House Prices? Economic Shocks and Local Housing Markets”.
- 04–07. McMillan, John, “Quantifying Creative Destruction: Entrepreneurship and Productivity in New Zealand”.
- 04–06. Maré, David C and Isabelle Sin, “Maori Incomes: Investigating Differences Between Iwi”
- 04–05. Kerr, Suzi, Emma Brunton and Ralph Chapman, “Policy to Encourage Carbon Sequestration in Plantation Forests”.
- 04–04. Maré, David C, “What do Endogenous Growth Models Contribute?”
- 04–03. Kerr, Suzi, Joanna Hendy, Shuguang Liu and Alexander S.P. Pfaff, “Uncertainty and Carbon Policy Integrity”.
- 04–02. Grimes, Arthur, Andrew Aitken and Suzi Kerr, “House Price Efficiency: Expectations, Sales, Symmetry”.
- 04–01. Kerr, Suzi; Andrew Aitken and Arthur Grimes, “Land Taxes and Revenue Needs as Communities Grow and Decline: Evidence from New Zealand”.

- 03–19. Maré, David C, “Ideas for Growth?”.
- 03–18. Fabling, Richard and Arthur Grimes, “Insolvency and Economic Development: Regional Variation and Adjustment”.
- 03–17. Kerr, Suzi; Susana Cardenas and Joanna Hendy, “Migration and the Environment in the Galapagos: An analysis of economic and policy incentives driving migration, potential impacts from migration control, and potential policies to reduce migration pressure”.
- 03–16. Hyslop, Dean R. and David C. Maré, “Understanding New Zealand’s Changing Income Distribution 1983–98: A Semiparametric Analysis”.
- 03–15. Kerr, Suzi, “Indigenous Forests and Forest Sink Policy in New Zealand”.
- 03–14. Hall, Viv and Angela Huang, “Would Adopting the US Dollar Have Led To Improved Inflation, Output and Trade Balances for New Zealand in the 1990s?”
- 03–13. Ballantyne, Suzie; Simon Chapple, David C. Maré and Jason Timmins, “Movement into and out of Child Poverty in New Zealand: Results from the Linked Income Supplement”.
- 03–12. Kerr, Suzi, “Efficient Contracts for Carbon Credits from Reforestation Projects”.
- 03–11. Lattimore, Ralph, “Long Run Trends in New Zealand Industry Assistance”.
- 03–10. Grimes, Arthur, “Economic Growth and the Size & Structure of Government: Implications for New Zealand”.
- 03–09. Grimes, Arthur; Suzi Kerr and Andrew Aitken, “Housing and Economic Adjustment”.
- 03–07. Maré, David C. and Jason Timmins, “Moving to Jobs”.
- 03–06. Kerr, Suzi; Shuguang Liu, Alexander S. P. Pfaff and R. Flint Hughes, “Carbon Dynamics and Land-Use Choices: Building a Regional-Scale Multidisciplinary Model”.
- 03–05. Kerr, Suzi, “Motu, Excellence in Economic Research and the Challenges of 'Human Dimensions' Research”.
- 03–04. Kerr, Suzi and Catherine Leining, “Joint Implementation in Climate Change Policy”.
- 03–03. Gibson, John, “Do Lower Expected Wage Benefits Explain Ethnic Gaps in Job-Related Training? Evidence from New Zealand”.
- 03–02. Kerr, Suzi; Richard G. Newell and James N. Sanchirico, “Evaluating the New Zealand Individual Transferable Quota Market for Fisheries Management”.
- 03–01. Kerr, Suzi, “Allocating Risks in a Domestic Greenhouse Gas Trading System”.

All papers are available online at http://www.motu.org.nz/motu_wp_series.htm