

# **Insights from Statistical Trends and Patterns relating to Youth Justice: 1911 - 2021**

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## **Abstract**

The distinctive demographic characteristics of Māori during the 20th century have significantly influenced the impact on Māori of public policy in many fields. Although the focus of this paper is on imprisonment rates, the approach may have some relevance in health, education and housing in particular. By grouping birth cohorts to quantify the experiences of five generations of Māori over the 20<sup>th</sup> century, it is possible to identify where shifts in legislation and institutional practices, particularly of the Police and the Judiciary, coincide with the generational shifts that reflect societal and demographic change. In this paper, insights into intergenerational change have been based on birth cohort experiences estimated from 1911. The paper shows that young males under 20 are now less likely to enter prison than any generation over the last 100 years. Differences remain in the likelihood of apprehension and sentencing for offending between Māori and those of European ethnicity. This has persisted regardless of justice policy as it has shifted from being strongly punitive to emphasising prevention, diversion and rehabilitation. The impact on the prison population over the next twenty years will be substantial, as it will decline and be predominantly from older age groups.

**KEY WORDS:** Youth, Maori, Demographic Dynamics, Justice, Prison, Cohorts

## **How to Cite**

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## *Introduction*

The distinctive demographic characteristics of Māori during the 20<sup>th</sup> century have significantly influenced the impact on Māori of public policy for health, taxation, job creation, retirement provision and justice. The outcomes, as reflected in the enduring nature of the disparities between Māori and European populations, or between Māori and non-Māori, have been perhaps the most marked across the justice sector. Over the 20<sup>th</sup> century, each generation of Māori has had different experiences of the justice system by the time that they were twenty-five years old. Century long patterns of Māori imprisonment after 1860 were broken between 1961 and 1985 by quite extreme rates of sentencing of young men and state custody of children. A reversal of the intergenerational and life course impacts of this break from the past began just 20 years ago. We now see the annual sentencing rates of all young men tumbling to rates last seen before the Second World War. By the mid-1990s, the economic potential of Māori, as determined by age structure, had risen to the level first experienced by non-Māori long ago. For the next twenty years, the economic potential of Māori will decline by about 10 percent, while that for non-Māori will fall by around 30 percent.

Prison statistics show such a huge fall in the imprisonment of young men over the last decade that it is critical to knowing what and when of the many national and local initiatives has contributed to this. In the face of the sharp decline in the rate at which young men are being imprisoned, we need to assess its sustainability, and consequences for future imprisonment rates, both of later generations, and the current generation of young men when they are older. Given the weakness of the past statistical base, we can infer more about intergenerational change than life course effects. Imprisonment when young has been strongly associated with further prison over the lifetime, and such life course effects are also recognised through recidivism rates. We need to distinguish between causality and correlation. The simplified cohort analyses included in this paper provide a crude but powerful analytical basis for distinguishing when large shifts occurred in the patterns of imprisonment. This cannot be explained by change in the level of offending alone. My analysis suggests that changes in the punitive nature of the justice system for young men have probably been the biggest influence on the intergenerational effects that are discernible from demographic analysis. Given that this study is primarily based on published prisoner counts that are available within the published age ranges, the ability to derive statistical measures such as those obtained from the three known longitudinal studies is weak. Access to the Integrated Data Infrastructure is limited and analysis based on it only includes individuals born after 1980. The published counts that form the basis of my analysis do not distinguish between first time imprisoned and return prisoners.

That Māori have been so dominant amongst those institutionalised by the state has often caused questions about the fairness of the justice system, but much less about the role of methodology and evaluation for assurance of the integrity of policy and practice. Rarely does research in any of the sectors (Cook, 2022) referred to earlier take account of the nature and extraordinary dynamism of Māori demographic change, in contrast to that of the majority European population. Changing fertility, survivorship and internal migration along

with transitions in the size and nature of whanau have contributed to each generation of Māori since 1910 differing in population size, age structure or place, most readily observed in the share of the total urbanised New Zealand population that is Māori. Without taking account of the demographic and societal influences faced by each generation, neither intergenerational nor life course effects are likely to be adequately distinguished. Within any single generation, population changes will be less material in explaining shifts in imprisonment patterns.

In this paper, I have mainly sought to look at generational differences over the last century, drawing on the available range of information about sentencing rates and key policy shifts along with the key demographic influences and societal shifts in education, housing and employment. I place each generation of Māori in one of five pooled birth cohorts. These pooled birth cohorts have been determined by known breaks in the demographic and societal influences and by shifts in justice policy. In this paper I use the annual rate of being sentenced to prison (sentencing rate) of Māori males aged 17-19 years<sup>1</sup> as the most relevant proxy variable that signals change in the punitive nature of the justice system, when establishing the years spanned by the pooled birth cohorts. In a review of youth offending, Gluckman (2018, p 29) citing T Neil, notes that “*Young offenders (up to age20) who have been imprisoned are more likely than the general prison population to be re-imprisoned (42.5%) or reconvicted (62.6%) within 12 months of release from prison.*” Several constraints have shaped the nature of this study:

- a) Statistics on the size, characteristics, structure and dynamics of the population are the most well measured and readily available influences on long term national trends. They provide a consistent window on the current, past and prospective impact of past policies that resulted in incarcerating people on the population at large.
- b) The variation in the year-to-year interaction of groups within the population with the wider justice system and relevant public services is not captured in the regularly published summary measures. Nor do they typify or represent any particular region, community or element of community and public services. Many of the characteristics that influenced change at a particular time are not measured as consistently or comprehensively as population statistics have been throughout the 20<sup>th</sup> century.
- c) Māori past and future demographic dynamism has many distinctive aspects, and much of this analysis is primarily of Māori as a distinct population and not in relationship to the European population of New Zealand.
- d) The lengthy reference period puts a spotlight on the long reach of the justice system and recognises the life course and intergenerational effects that have resulted from unpardonable extremes in rates of imprisonment and state custody, and differences in the degree of systemic overrepresentation.
- e) Across the wider justice sector, data is missing, weakly integrated, definitions vary, all making long term comparisons fraught.

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<sup>1</sup> Between 1911 and 1886 aged 16-19 years.

## Materials and Methods

### The nature of cohorts

A cohort is a group of people who share an experience or characteristic over time. In this paper a cohort is a group of people born between two points in time. The majority of cohorts span 25 years. Birth cohorts will differ in the circumstances that they grow up in, and knowledge of these differences is based on qualitative information, most of which is not systematically captured over a century in official sources used in this study. Cohorts are derived from age, period and birth year information, so that the likely influence of relevant events and experiences that occur over time can be tested and compared with the experiences of other cohorts. For the whole period since 1911 it is not possible to derive birth cohorts from longitudinal sources, so that life course information is comparatively weak. However, they can be indirectly derived from cross sectional sources. This is the case with the birth cohorts in this paper that have been estimated from annual sentencing statistics. The period effects that are measured in cross-sectional data provide less information different life cycle stages, and their aggregate impact and differential outcomes can be informed by taking a cohort view. A longitudinal survey (e.g., Growing Up in New Zealand) is a survey where the cohort is the focus of measurement practices as well as analysis, as in where information is gathered for a number of periods from a group of people born during the same reference period. A complete cohort will have gone through all life cycle stages, and the chances of different outcomes at each transition can be measured from longitudinal sources, but not when cohorts are derived from cross sectional sources. Longitudinal surveys are rare in the justice sector. The three that are known to exist are used to validate the cohort analyses.

In the absence of longitudinal surveys, the cohort estimates in this paper have been derived from available aggregate measures of yearly sentencing rates of Māori males that are published for very broad age groups. Imprisonment rates have been calculated using period estimates of the population based on past censuses and official population estimates. The development of cohort measures in this way can yield approximate and highly aggregated cohort comparisons. By their very nature, cohorts facilitate connections with additional quantitative and qualitative information. These additional sources have informed the grouping of cohorts into the pooled birth cohorts used in this paper. They are informative because of the variety of change that they help explain.

### Life course and intergenerational effects

There are two significant ways that past imprisonment experience at any time can influence imprisonment at a later time. Where and why young men and women of each generation spend their formative years shapes their life course. Life course effects reflect the influence of an initial prison experience on the likelihood of a return to prison once released. In retrospect we estimate this from recidivism rates. (In a review of youth offending, Gluckman (2018, p 29) citing T Neil, notes that “*Young offenders (up to age20) who have been imprisoned are more likely than the general prison population to be re-imprisoned (42.5%) or reconvicted (62.6%) within 12 months of release from prison.*”). In the absence of measures of recidivism, life course effects may stand out if imprisonment rates of a particular birth cohort at older ages are correlated with the imprisonment rates of the same cohort when younger. This effect is particularly obvious for the cohorts who were aged 15-

19 between 1960 and 1985. The later imprisonment rates of these cohorts at ages 30-39 and 40-49 both show increases at the time when those ages were reached by those birth cohorts. The effect may be even sharper for the birth cohorts born between 1971 and 1990, however the evidence to confirm this is weak. Since the late 1980s, there has been considerable growth in the share of offences that are responded to by diversion, community sentencing or the downgrading of punishment for particular offences by imprisonment that occurred before the 1980s. Calculating recidivism rates for those who have been imprisoned only most likely understate reoffending to an unknown, and unknowable degree.

Intergenerational effects are most noticeable for the generation born between 1970 and 1990. Their age specific sentencing rates at younger ages were significantly lower than those of the previous generation, but at ages 30 and over they are at their highest ever rates. The punitive nature of the justice system reduced after 1986, influenced by when community sentences were introduced. However, the Justice LTIB (2022, page 74) notes that *“from the mid-1980s, community sentences acted as an adjunct rather than an alternative to imprisonment. While the proportion of charges resulting in imprisonment and community sentences has grown, the proportion of charges resulting in fines has declined. This implies that the arrival of additional community sentencing options in the 1980s led to net-widening, as those who would have previously received fines were sentenced to community sentences.”* When people reoffended or failed to comply with the restrictions of their community sentence, they were more likely to receive more serious sentences on account of being viewed as *“failing”* less serious options. The opposite view might be that giving a fine to someone without the resources to pay was likely to have them return to court as a payment defaulter.

#### Specification of the five pooled birth cohorts

The demographic dynamics of Māori over the 20<sup>th</sup> century have resulted in four major breaks in previously established patterns (1935, 1960, 1985, 2005), associated with the scale and variability of the connection of Māori of any age group to the justice system in New Zealand. They are confirmed by examining periods when changing demographic and social dynamics or major shifts in justice policy occurred near to the time of a trend shift in imprisonment rates for Māori males aged 17-19 outcomes. The disparity between Māori and European imprisonment rates has remained strong at all rates of imprisonment and has been examined in earlier papers.

The particular focus of this study is the comparison of the experiences of five pooled birth cohorts of Māori males imprisoned since 1911 (i.e. those born after 1892), taking account of what makes each pooled birth cohort different from those before it. The average imprisonment rates for all but one of the pooled birth cohorts in this study is based on 25 consecutive derived annual birth cohorts, identified by their birth years. They are also able to be described in this paper by the period when they were imprisoned when aged 16-19 years. Cohorts are affected in their demographic dynamics by the age, gender, period, fertility, survivability and. Place. Determining the boundary of the cohorts involves judgement about when trend shifts have occurred given the irregularity in annual sentencing rates. With birth cohorts as the focus of analysis, intergenerational influences of whanau structure, urbanisation, cohort size and period age structures can inform these

judgements. I show in this paper that what makes the period 1960-1985 unique is the importance of these elements of Māori demographic dynamics during the course of the 25-year period when Māori were at their most vulnerable to punitive policies targeted at the young.

While there is only a loose connection with breaks in demographic dynamics, shifts in the influence of policy, legislation, urbanisation and broader societal change tie in with significant shifts in the punitive nature of statutes and how they were administered. What is correlated with the transition from one cohort wave to the next has differed for each transition. Included in the five stages are epidemics, wars, extremes of state custody and record unemployment rates. The pooled birth cohorts spanning those sentenced since 1911 provide a simplified way of building on what we can glean from the available annual institutional statistics. Using a population cohort or generation lens in this way necessitates recognition of the constraints on the scope and uncertainty around inferences and insights caused by the limitations of available data and the validity of the judgements about when a new cohort wave is under way.

Measuring the economic potential of any age structure

Ogawa et al provide another relevant means of understanding the differences in the demographic dynamism of Māori and non-Māori in New Zealand. Their methods were developed in examining the population dynamics of twelve Asian economies that have experienced massive demographic change since the 1940s. However, the ability to calculate National Transfer Accounts (NTA) as has been done for these countries does not yet exist in New Zealand. The estimates in this paper are a comparatively crude simplification. They demonstrate the comparatively much greater impact on non-Māori of population ageing, compared to Māori. This results from the expanding Māori workforce and reduced share of young dependents. Investment in health, education and training underpins the size of the first demographic dividend. Such investments might be crowded out by policies that are a reaction to the economic burden of the growing share of non-Māori aged 65 and over. Increasing the employment capacity of those 65 and over leads to the third demographic dividend of Ogawa et al. The second demographic dividend described by Ogawa et al occurs when those of the working ages individually or collectively have sufficient resources during their working lives to save and invest for drawing down during retirement, and by doing so increasing the investment in productive capital.

The limitations of analytical methods in handling diverse influences

Accounting for ethnicity, gender, age, migration, period and cohort (or birth year) enriches the knowledge that is obtaining from analysing changes in the number and mix of prisoners, despite the need to consider other influences that bring less consistency in measurement. Court statistics include age group, gender and ethnicity of those sentenced to prison. These counts can be marched against the known population census or population estimates of the year most relevant to the period to which the sentencing statistics relate. The annual age specific imprisonment rates derived for each period, can then be examined over the whole 20th century. For each gender and ethnicity, when the rates change the distinct impact of period and age can be distinguished from each other. Key definitions and classifications used in the statistics that are available have changed over this period, in particular the classification of ethnicity, and the measurement of the prison population. Analysis of the

period and age statistics enables cohort effects to be crudely derived where they exist, when age and period changes are significant. Caution is needed when interpreting small changes or breaks when definitional changes have occurred. For example, by 1986, there were no males aged 16 sentenced to prison, so the denominator of the under 20 age group shifted from 16-19 to 17-19 years. In 1986, the classification of Māori was widened through moving to a self-identification method rather than biological ancestry. These changes had different effects, but it cannot be assumed that they offset each other. The analytical methods of Keddell and Davie (Keddell & Davie, 2018) explore the complex mix of factors which they have found to identify differences between ethnicities, places and other characteristics of children coming to the notice of care and protection have wider relevance for the justice system. Such methods should be part of any future evidence framework.

Statistical sources

A critical resource for this study is the yearly counts of people by age and ethnicity who have been sentenced to prison<sup>2</sup>. Regular counts of prisoners identify the significant periods when the propensity to be imprisoned has changed, often leading to large shifts in the age mix of prisoners. Prisoner counts provide a narrow view of the impact of the justice system on populations because they do not take account of when populations change. Without knowledge of the population groups that prisoners come from, we cannot see through statistics how the place of prison differs by generation, age group and sex in lives of different peoples – Māori, European, Asian and Pasifika<sup>3</sup>. Given that they are drawn from a significantly smaller population, the number and mix of Māori in prison at any time has had whanau and societal impacts that would have been larger and last longer than the much bigger European population would experience. MS-Excel was used for analysis. The statistical data on the StatsNZ website was augmented by extraction of information from the Annual Justice Statistics Reports (Department of Statistics) between 1911 and 1990.

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<sup>2</sup> Analysis of individual data using the Integrated Data Infrastructure (IDI) is possible only for the charts for Māori males and female birth cohorts from 1980.

<sup>3</sup> The imprisonment of Pasifika males follows a similar path to Māori males, albeit at a lower rate. Having reached a plateau in 2005 after rising continuously since 1981, the number of male Pasifika sentenced by the Courts to prison since 2017 has fallen steadily. The fall has been the result of fewer males being sentenced mainly at younger ages. In the peak year of 2010, 848 Pasifika males were sentenced to prison. In 2021, the number sentenced had fallen to 484, a drop of 43 percent. As with Māori, the decline in those aged under 25 has been significant starting around 2005/6.

## Results

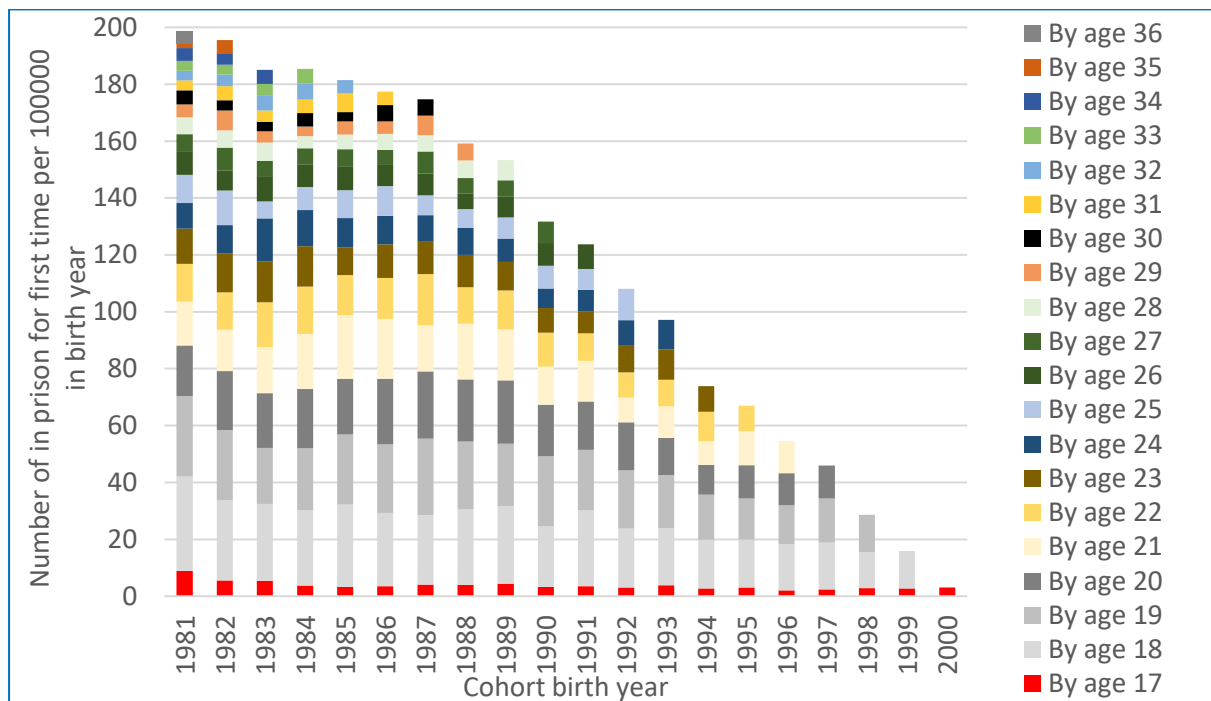
Determination of the five birth cohorts derived below is based on rates of imprisonment, but the qualitative information used to corroborate this has relevance to all people focused public services where disparity with European has become endemic.

Five pooled birth cohorts have been identified.

### 1. Generational Divergence [Born since 1990 and aged 15-20 years between 2005-2021]

This cohort group reflects the consistent reduction starting around 2005 in the annual rates of imprisonment for young men between 17-19, and 20-24 years. This cohort has grown up with a much enriched and pervasive awareness of the strong presence of Māori in all walks of life compared to any earlier generation in the 20<sup>th</sup> century. Reflected in education and income trends, and the strongest ever economic potential from its age structure, historically, and in comparison, to non-Māori. The Figure 1 below shows the break around 1990 in the rates at which Māori males were first sentenced to prison.

Figure 1: Age at which first sentenced to prison of Māori males born 1981 - 2002.



Source: Integrated Data Infrastructure of Statistics New Zealand, calculation by Ministry of Justice

Note: Rate per 100,000 in the stated age group of the birth cohort

2. **Aging the prison population [Born between 1971 and 1990 and aged 15-20 years between 1986 to 2005]** This cohort group is defined by the Imprisonment rates of young men under 25, which were generally steady from the late 1980s to 2000. Intergenerational effects are at their strongest in the imprisonment rates of those aged under 20 years.
3. **Institutionalisation of the young [Born between 1946 and 1970 and aged 15-20 years between 1961 and 1985]** This cohort group contains the young men, youths and children who were subjected to extreme rates of imprisonment of young adults, and the high rates of state custody of children, which wound down just at the end of the period. The impact of extreme imprisonment rates for males under 25 overwhelmed any previous intergenerational effects but was the key source of the same effects on the next generation.



Although intergenerational effects were swamped by changes in the punitive nature of the justice system, life course impacts have been very high for this cohort group. The vulnerable nature of the Māori population over this period resulted from its total size, age structure and family size. This resulted from the long period of very high fertility of Māori, and the significant effect on the growth in the number of infants as the survivability of babies increased over the previous two decades. The Māori population had a median age of 15 in 1966, so that half the Māori population at the time were within the jurisdiction and potential surveillance of the child welfare agency.

4. **Growing connection between urbanisation and prison [Born between 1921 and 1945 and aged 15-20 years between 1936 up to around 1960]** This cohort group covers the periods when migration proceeded slowly, mainly to urban areas, yet was a dominant contributor to demographic change.
5. **Māori generally lived in rural settlements with less connection to justice system than Europeans [Born between 1896 and 1920 and aged 15-20 years between 1911 up to around 1935]** This cohort group covers the periods when migration from rural areas was limited slowly, and a comparatively small contributor to demographic change.

### Distinguishing characteristics of the pooled birth cohorts

Figure 2

| Cohort boundary  | Demographic Characteristics  | Social/ economic characteristics  |
|--|--|---|
| <p><b>Born before 1920</b></p> <ul style="list-style-type: none"> <li>▪ Māori share of the prison population increased from 2 to 10 percent</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Birth rate continues at low levels from low survivability</li> </ul>  | <ul style="list-style-type: none"> <li>- 90% in Māori rural society (1926 10.1%), majority in quasi subsistence</li> <li>- Literacy/ schooling rate similar to European</li> <li>- Limited access to existing welfare</li> <li>- Māori led likely to be imprisoned than non-Māori</li> </ul>                      |
| <p><b>Born 1921-1945</b></p> <ul style="list-style-type: none"> <li>• Large scale closed adoption.</li> <li>• Disparity in Children’s Court outcomes</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Fertility rate doubles between 1925 and 1936</li> <li>▪ Infant death rates fall by 2/3</li> <li>▪ Urbanisation shift</li> </ul>   | <ul style="list-style-type: none"> <li>- Large Whanau Size</li> <li>- No Māori child in institutional care (1940)</li> <li>- Initial urbanisation mainly young single people</li> <li>- Community policing legacy</li> <li>- Growing adult disparity mirrored in the Children’s Court.</li> </ul>                 |
| <p><b>Born 1946-1970</b></p> <ul style="list-style-type: none"> <li>• Mazengarb report reaction</li> <li>• Institutionalisation as reforming tool</li> <li>• Extreme sentencing of young men</li> <li>• Large scale closed adoption.</li> <li>• Children as State Wards</li> <li>• Response to offending as focus of policing</li> </ul> | <ul style="list-style-type: none"> <li>▪ Infant survivability increase</li> <li>▪ Rapidity of Urbanisation</li> <li>▪ Population median age 15</li> <li>▪ Ratio Adults &gt;65: Children 25:1</li> <li>▪ Ratio Adults: Children &lt; 1</li> </ul> | <ul style="list-style-type: none"> <li>- Māori economic contribution ratio rises from lowest point.</li> <li>- Large Whanau Size</li> <li>- Enforced migration for jobs.</li> <li>- Very high unemployment 1986-1990s</li> <li>- Focus by Police and Courts on tough response to even minor offending,</li> </ul> |
| <p><b>Born 1971-1990</b></p> <ul style="list-style-type: none"> <li>• Rangihau report</li> <li>• CYPF Act 1989</li> <li>• Roper Report</li> <li>• Community sentences</li> <li>• Youth offending research.</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Ratio Adults: Children &gt; 1</li> <li>▪ Rapid decline in birth rate</li> </ul>   | <ul style="list-style-type: none"> <li>- Māori potential economic contribution ratio rises rapidly to peak, in face of very high unemployment rates.</li> <li>- Large fall after 1987 in scale of institutionalisation of children.</li> <li>- Reducing whanau size</li> </ul>                                    |

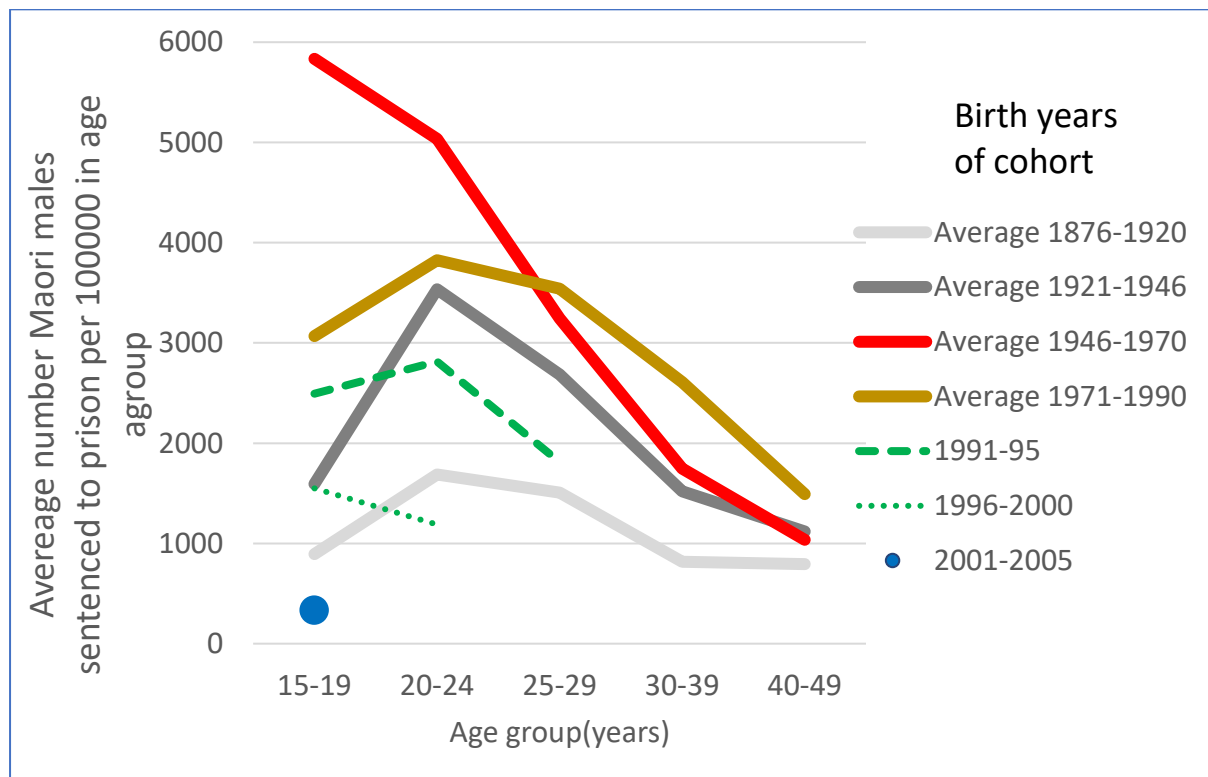
|   |   |  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Reverse onus provisions introduced in the Bail Act 2000</li> <li>• Women in prison increased in number and rate.</li> </ul>  |   | <ul style="list-style-type: none"> <li>- Shifting focus to crime prevention by Police and Courts.</li> <li>- Prison becomes a last resort option for property offenders.</li> <li>- Rise in serious violent and sexual offending (since 1985), and methamphetamine dealing (since 2003)</li> </ul>   |
| <p><b>Born after 1990</b></p> <ul style="list-style-type: none"> <li>• Consistent Youth Justice Strategy since 2001</li> <li>• Rangatahi Courts</li> <li>• Home detention</li> <li>• Parole Act 2002, Sentencing Act 2002. (1999 Citizen’s Referendum)</li> <li>• After 2002, people served a greater proportion of their sentence in prison prior to release.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Rising average age of mothers</li> <li>▪ Smaller whanau sizes and societal impacts</li> <li>▪ Reduced potential for negative cohort effects</li> </ul> | <ul style="list-style-type: none"> <li>- Span of Māori presence</li> <li>- Māori Economic contribution ratio has growing gap above non-Māori.</li> <li>- Occupation shift to professional jobs.</li> <li>- Strong education achievement</li> <li>- Adolescent behaviour trends (Ball)</li> <li>- Fewer children with parents in prison</li> <li>- Place of community reinforced (Keddell)</li> <li>- Lowest recorded imprisonment rates of young males</li> <li>- Similar experiences to Pacifica males</li> </ul> |

Sources: Bu, Douglas, Irwin, Mathews, Phillip, Justice LTIB

Pooled birth cohort sentencing rates throughout the 20th Century.

The Figure 3 below uses the average of the pooled birth cohort sentencing rates to discriminate between the experiences of the five groups of birth cohorts described above.

Figure 3: Comparison of average annual sentencing rates 1911-2021, by birth years of cohorts



Source: Stats.govt.nz, Annual Reports on Justice Statistics 1910 to 1990. Author calculations

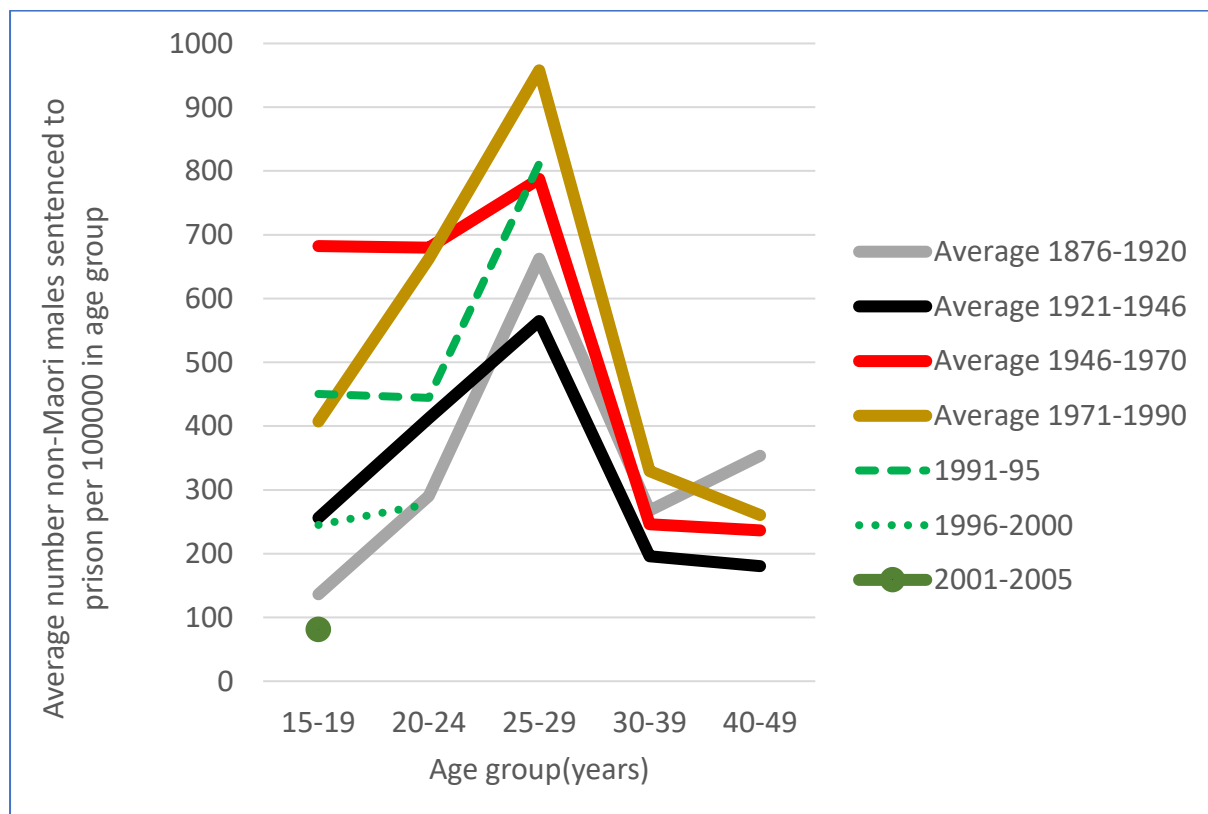
Notes: The statistics for 1910 to 1990 are of received prisoners. After 1991 they are the number sentenced by the Court. The sentencing rates of the pooled birth cohorts are the simple average of the sentencing rates of the birth cohorts contained in the range of birth years spanned by the pooled birth cohorts. When the birth cohorts are aggregated using

*Birth numbers as weights, the broad pattern is little changed.*

The differences seen in these averaged age-specific pooled sentencing rates for the five birth cohort groups are influenced by the selection of the break points of 1935, 1960, 1985, and 2005 that were corroborated by the information in Figure 2 above. Figure 3 shows that the average imprisonment rates experienced between 16 and 24 years by Māori males born between 1946 and 1970 greatly exceed the average sentencing rates from earlier periods. The proportion of this pooled birth cohort which first entered prison between 1960 and 1985 differs greatly from the pattern experienced by any of the birth cohorts. Those born after 1946 experienced higher imprisonment at all ages than those born before. Those born between 1971 and 1990 showed a pattern of increase which is similar at all ages to those born between 1921 and 1945, but at a higher rate. Between 1946 and 1970 imprisonment rates differed significantly from the life course pattern seen in the other cohorts, most particularly in the massive increase in imprisonment rates of those aged under 20, and the very large difference for those aged 20-24 years. For that cohort group, the imprisonment rates for those 25 and over were much lower than the extreme rates seen for those aged under 25.

For those born after 1990, the sentencing rates of those aged under 25 have fallen significantly. The sentencing rates of those under 25 have continued to fall and the most recent are at levels not recorded before.

Figure 4: Comparison of average annual sentencing rates 1911-2021, by birth years of non-Māori cohorts



Source: Stats.govt.nz, Annual Reports on Justice Statistics 1910 to 1990. Author calculations

Notes: The statistics for 1910 to 1990 are of received prisoners. After 1991 they are the number sentenced by the Court. The sentencing rates of the pooled birth cohorts are the simple average of the sentencing rates of the birth cohorts contained in the range of birth years spanned by the pooled birth cohorts. When the birth cohorts are aggregated using birth numbers as weights, the broad pattern is little changed.

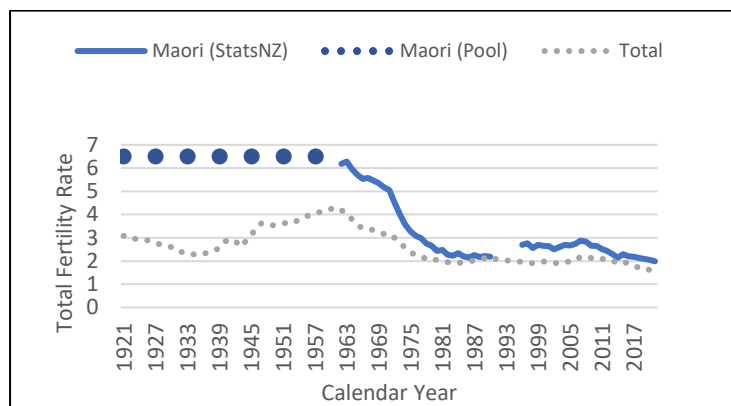
In comparison with Māori, non-Māori male sentencing rates ((Figure 4) for all comparable cohort groups peaked at ages 25—29, which was older than the peak ages for Māori. Non-Māori imprisonment rates were lower than before at ages 25 and over for those born between 1921 and 1946. Despite that exception, the general pattern of sentencing rates rising for consecutive pooled cohorts applied to non-Māori as well. For non-Māori as well, this long-term pattern has been broken for the birth cohorts born after 1995.

*Associated statistical trends.*

Fertility trends of Māori and age structural change

The patterns in the population charts (Figures 5-11) resulted from the combined effects of disparity in survivorship rates of Māori compared to non-Māori over the 20th century, leading to the acceleration in the number of infants. Infant survival rates increased faster than those at older ages after 1940 until the 1980s. The persistence of fertility rates that averaged just over 6 births per women over the 20th century until the late 1960s (Figure 5) saw average family sizes for Māori of around six children continuing through the 1980s.

Figure 5: Māori and Total Population Fertility Rates 1921-2019



Source: Stats.govt.nz, (Pool et al 2007)

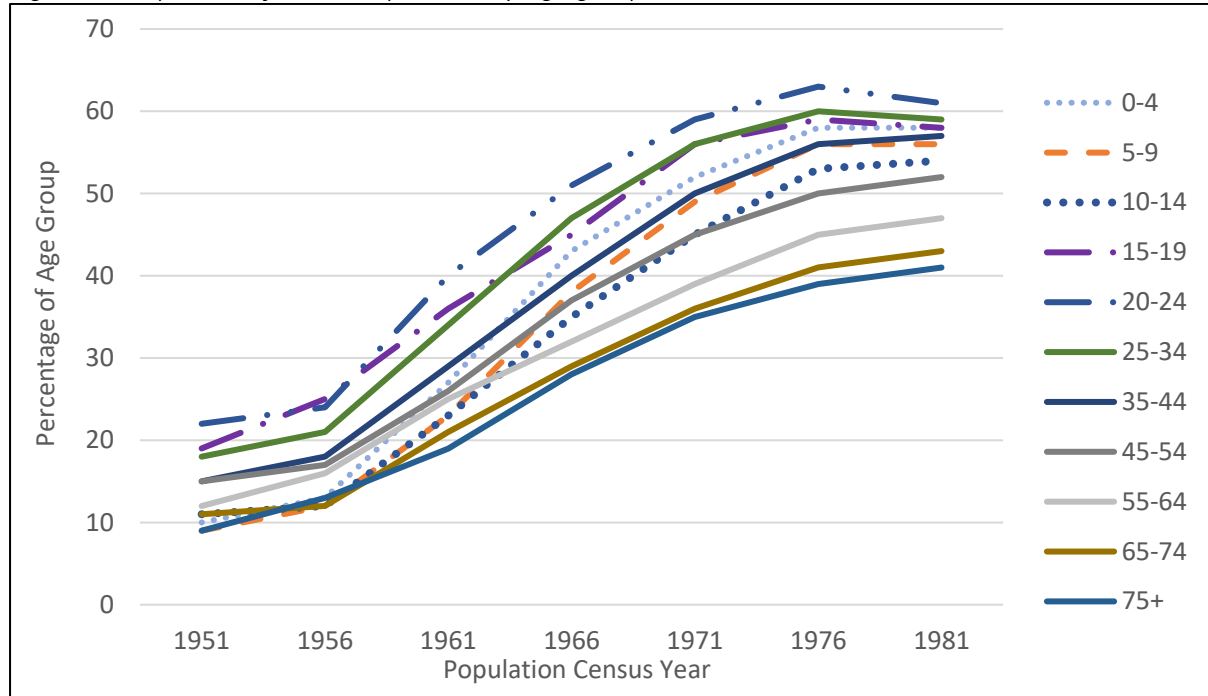
The severe effect on Māori whanau and community resources of such huge change in whanau and social structures would have been made even more severe through migration of the able young to industrial and forestry regions. The inverse youth dependency ratio divides the number aged 18-59 years by the number aged 0-17 years. It shows the growing strength of the demographic dividend from the youthful age structure of the Māori population.

**Māori urbanisation**

The urbanisation of Māori (Figure 6) after 1945 was rapid, and profound in scale and impact (Pool et al, 2007). Pool at al noted that “In 1945 just 26 per cent of the Māori population lived in urban areas, but by 1971 that had risen to 71 per cent”. The lack of opportunities at home for a fast-growing young population coincided with a need to fill gaps where the urban job market was growing faster than the European population, most particularly in

unskilled work. (Bu, 1993 page 36, 37). Now, Māori are highly urbanised, and make up a significant share of both young and working age populations, and a significantly smaller share of those aged 65 and over.

Figure 6: Proportion of Māori Population by age group in Main Urban Areas 1951-81

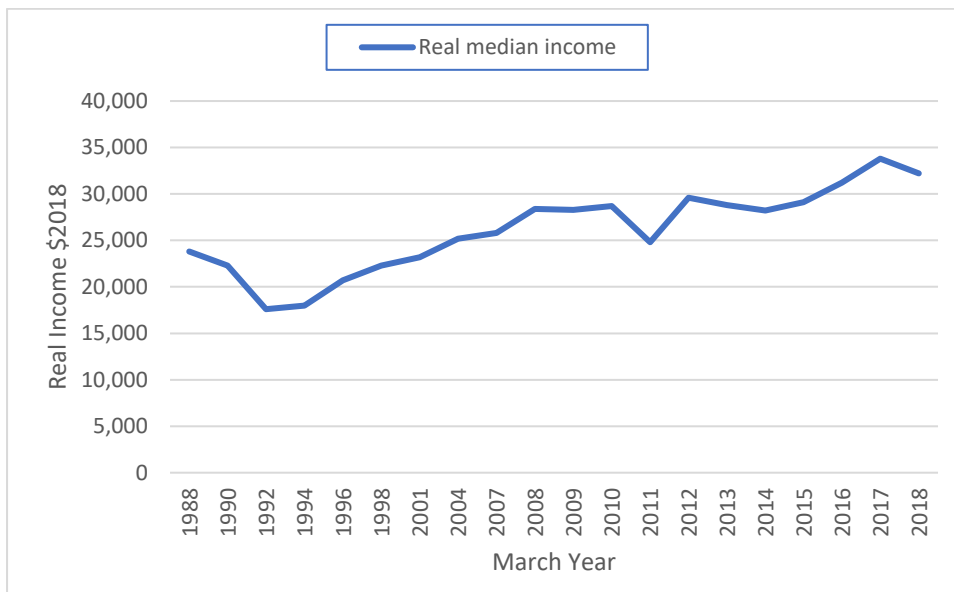


Source: Bu, 1999 page 97

By 2013 84 per cent of Māori were living in urban settings. By the time that large scale urbanisation began to tail off, fertility rates were declining dramatically, falling from some six babies per women in the fertile ages down to just over two in one decade. The combination of large-scale urbanisation and a dramatic fall in fertility over such a short period occurred at a high point in the place of the welfare state in New Zealand. While the number of Māori children under 15 had doubled between 1951 and 1966, the number of children living in urban areas quadrupled during that time. For Māori who did not migrate to cities, some of their rural environments were later gradually subsumed within an urban boundary.

The connection of Māori to the labour market and employment potential  
Age structure is a very important determinant of the potential labour force, which includes both the unemployed and employed. Unemployment has generally been higher for the youngest and oldest in the labour force, regardless of the overall rate of unemployment. Cohort size also influences the impact of unemployment, as was experienced for over a decade from the late 1970s by Māori generally. This accelerated in the late 1980s particularly affecting those born after 1975. A large share of the unemployed during those years would have been the children of the cohorts that faced extreme rates of imprisonment or as state wards.

Figure 7: Māori Real median household income



Source: Perry, B. *Household Incomes in New Zealand 1988 to 2018*  
See appendix note re definitions.

At all ages younger than 35, Māori are a larger share of the total population than they are in the population overall. By 2013, 84 per cent of Māori lived in urban settings. The youthfulness, potential productivity and achievements of Māori are a significant source of New Zealand's future wealth creation, and they bring investment and innovation in a wide range of endeavour. Between 1961 and 1986 the number of Māori aged between 15-64 increased by 129 percent. Nearly 40 percent of those in this age group were age 15-24, and this age mix changed little over this 25-year period. The share that was aged 45-64 remained at 18 percent over that period as well. Given that total employment began to fall around 1986, it is no surprise that the disproportionate impact of the increased unemployment that began then severely affected Māori. In the previous two decades, the structural shift in occupations (Bu, page 120) that occurred between 1961 and 1986 resulted in a smaller share of employed Māori being involved as Agriculture and related workers, falling from 22% to 11%, (6.3% in 2006) and an increase in the share who were clerical workers, from 3% to 11% (9.6% in 2006).

In outlining the change in the sectors employed by Māori cohorts born from 1897-1906 to 1962-71, Bu (Bu (page 140) ) shows the path by which Māori of all ages moved from the primary sector to the secondary sector, then from the secondary to the tertiary sector. The adaption by following cohorts was faster at older ages. However, the decline in New Zealand's economic position from the mid-1980s saw Māori real equivalent median household income fall between 1988 and 1994 (Figure 7) and did not return to the 1988 level until 2001 and has continued to grow with some year-to-year variation since.

#### Growing divergence between the experiences of young and older Māori males

The fall in imprisonment rates for young men since 2005 has not been mirrored in the trends in annual sentencing rates of older Māori males. These have continued at historically high levels for some twenty years. Māori males aged 25 and over were forty percent of all

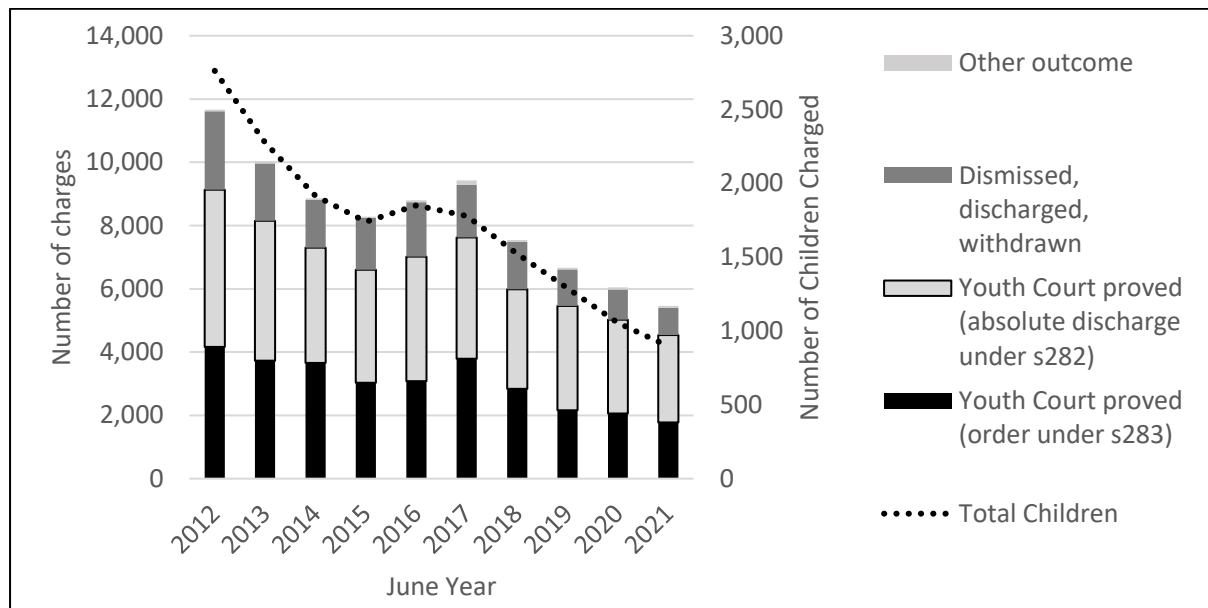
males who were sentenced to prison in 2021. Disparities in imprisonment rates can be calculated after taking account of the effects of changing age structures and differences in demographic dynamics. The disparity in imprisonment rates between Māori and non-Māori continues, with the excess number of Māori males remaining at around 3,500 since 2006 (Cook, 2021,2). The three major breaks in trends for Māori occur at the same time for non-Māori.

In 2021, some 3.6 percent of Māori males aged 25-39 were in prison in 2021 as either sentenced or as remand prisoners that had exited remand after more than three months (Cook, 2021,1). For Māori males from the age groups 30-39 and 40-49, their imprisonment rates since 2006 have been significantly above the rates which existed over most of the previous 75 years. Consequently, the average age of the Māori male prison population has risen since 2005 from just over 30 years to 34 years and seems likely to continue to increase. The average age in 1981 was 24 years. While all ethnic groups have experienced falls in the sentencing rates of young men, it is especially significant for Māori because of the much larger absolute decline in the share of the population sentenced at these younger ages.

The rates at which Māori males at ages 30 and over have been sentenced to prison increased over the 20<sup>th</sup> century, and this accelerated with the aging of the cohorts who were taken into custody at extreme rates after 1960, and of the generation following. For the group aged 30-39 years, that increase in sentencing rates began around 1986, and it was about 1996 that the sentencing rates for the age group 40 and over began to rise. New Zealand has a more stringent parole regime than most comparable jurisdictions. These age groups may have been affected by changes in the Parole Act 2002. The Justice LTIB notes that *“Despite most prisoners on sentences over two years being eligible for release after serving one-third of the imposed sentence, in 2021/22 around a quarter of prisoners served at least 95% of their sentence in prison”*. (Justice LTIB, 2022, page 35, 36).

At youngest ages there are two diverging trends. Charges finalised in Youth Court for children 10-16 years show a persistent decline (Figure 8) similar to that seen for young men and women aged 17-19 since 2012, the first year that the courts were in action.

Figure 8: Charges finalised in Youth Court on children aged 10-16 years by outcome.



Source: Ministry of Justice

The growth in the share of the prison population on remand  
 Remand populations reached unprecedented numbers after 2015, limiting the comparability of the sentenced prisoner trends to an unknown extent. These trends become more difficult to interpret since 2015, particularly those who exit remand after three or more months. Given the limited support for remand prisoners compared to those who have been sentenced for a fixed term, the long-term consequences of this expansion of the remand population can have little upside. Because the length of time on remand reduces the share of the period of imprisonment served as a sentenced prisoner, the Justice LTIB, page 44) notes that *“Reductions in the time spent as a sentenced prisoner means that people have less time available to complete rehabilitation programs”*. The Justice LTIB (2022, page 8) notes *“The growth of the remand population since 2014 was primarily driven by practice and technological improvements that caused more people who offended on bail or failed to comply with their bail conditions to spend time on custodial remand. Remand population growth was also affected by cases taking longer to progress through the court system”*. The Justice LTIB also notes *“..... the reverse onus conditions relating to offending on bail which contributed to remand growth have had a greater impact on the Māori remand population”*.

#### The expansion of state wards between 1960 and 1985

For over 25 years following the second world war, New Zealand experienced one of the longest post-war baby booms in the world, yet the generations born then also experienced punitive and extreme policies and practices involving babies, children and young men and women. Closed adoptions, child removals and imprisonment of adolescent young men by the Courts finally reached a peak in the early 1970s. This is described in Cook (2020, pages 21-25), Cook (2021,2). They remained at high levels until the late 1980s.

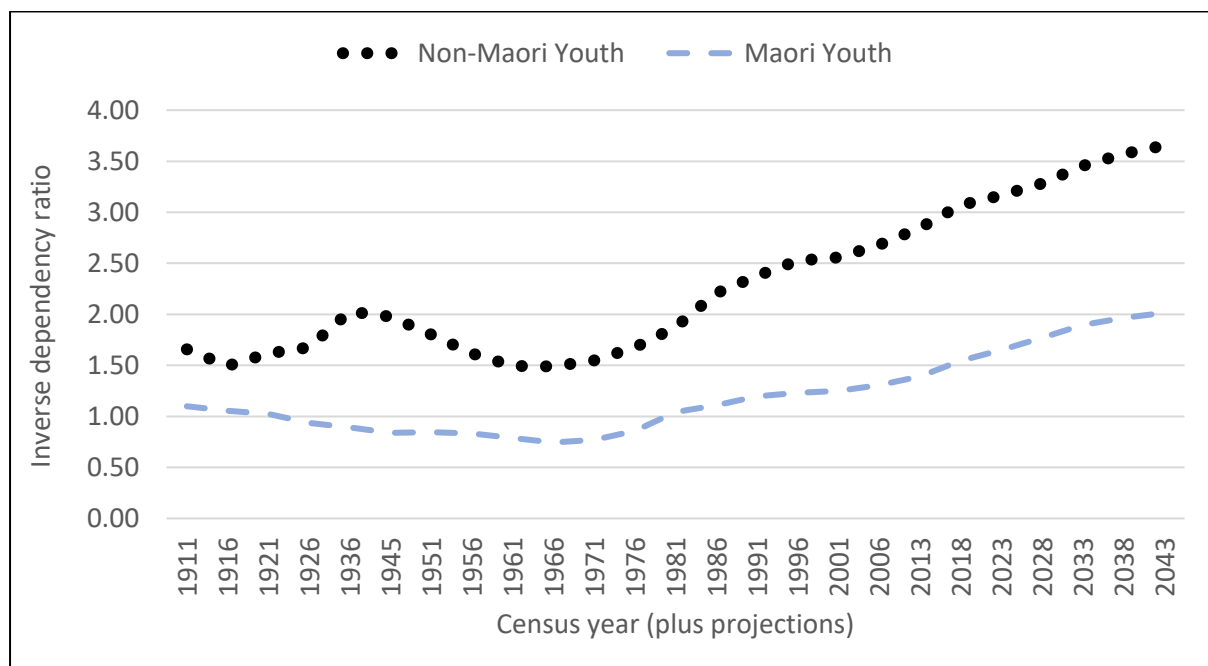


Insights about future prospects from current trends and selected research

Social and demographic determinants

Given the much earlier ages of Māori mothers and of the fathers of their children, the significant decline in imprisonment rates of Māori males aged under 25 can be expected to bring a decreasing likelihood of young children having absent fathers, or fathers with prison experience, with the limitations in future options that this brings. Smaller family sizes, greater employment opportunities, along with continued rises in educational attainment will be likely to expand the prospects of each consecutive birth cohort. What Covid-19 will do to constrain these changes is not yet knowable. By 1996, the economic strength implicit in the age structure of the Māori population had reached historically its highest point, as measured with existing statistical sources. Given the age structures implicit in population projections to 2043, this economic potential will drop about 15 percent between 1996 and 2043. For the non-Māori population, before 2006, its economic potential was consistently higher than Māori. After 2006 this will keep falling, dropping by a third between 2006 and 2043. This will lead to significant lift in the relative economic potential of the Māori workforce, and the return on any investment in education and training of Māori.

Figure 9: Inverse Youth dependency ratios: Māori non- Māori



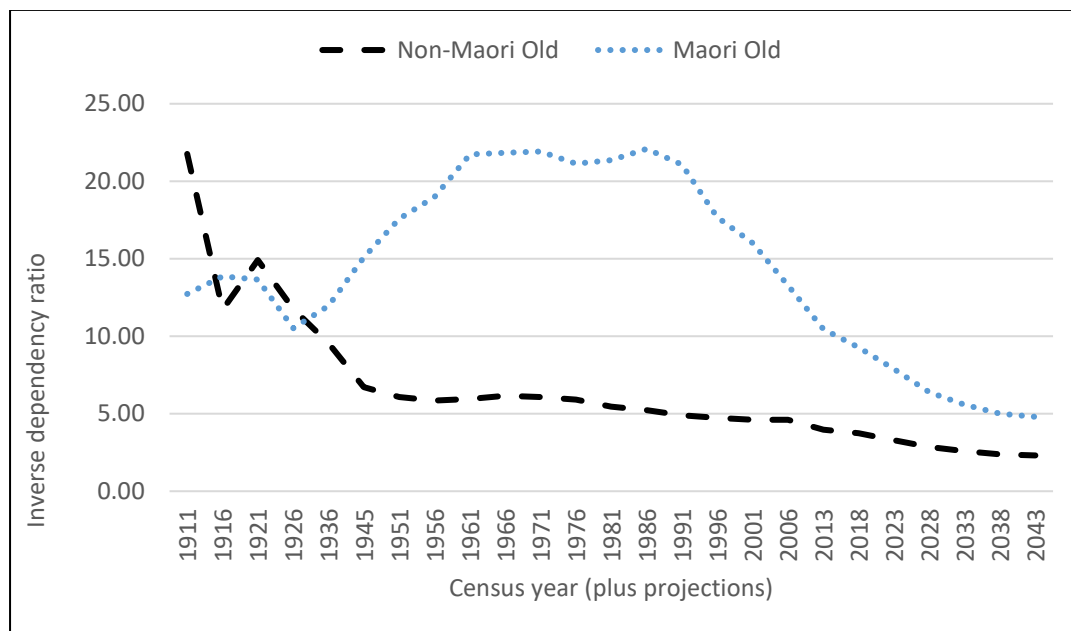
Source: Statistics New Zealand. Censuses of Population and Population Projections. Calculations by Author

The inverse youth dependency ratio shows that the male working age population is currently close to 1.5 times the number of young aged under 18 (Figure 9). By 2043 the ratio will rise and that there will be 1.9 Māori males aged 18-59 for every male under 18. In 1981, the number of Māori males aged 18-59 rose to reach the number who were aged under 18 for the first time since 1926. The period from 1960 to 1980 was the high point in the demographic renaissance of Māori, but also a period of heightened vulnerability both economically and to adverse policies involving the young and their families and whanau. The two decades to 2043 will see the age distribution of the Māori population place them

the strongest economic position compared to non-Māori since colonisation. The share of the population of usual workforce age will be rising throughout this period. By 2043, there will be 6 people aged between 18-59 for every 3 Māori aged under 18 years. The current ratio is 4:3 while in 1966 the ratio was at its lowest of 2:3.

The inverse age dependency ratio divides the number aged 18-59 years by the number aged 65 and over. Figure 10 highlights the structural imbalance of the Māori population through the peak period of the demographic renaissance. Given that a smaller share of Māori aged 65 and over migrated to urban areas, the structural imbalance would have been even greater in rural places.

Figure 10: Inverse aged dependency ratios: Māori & non-Māori



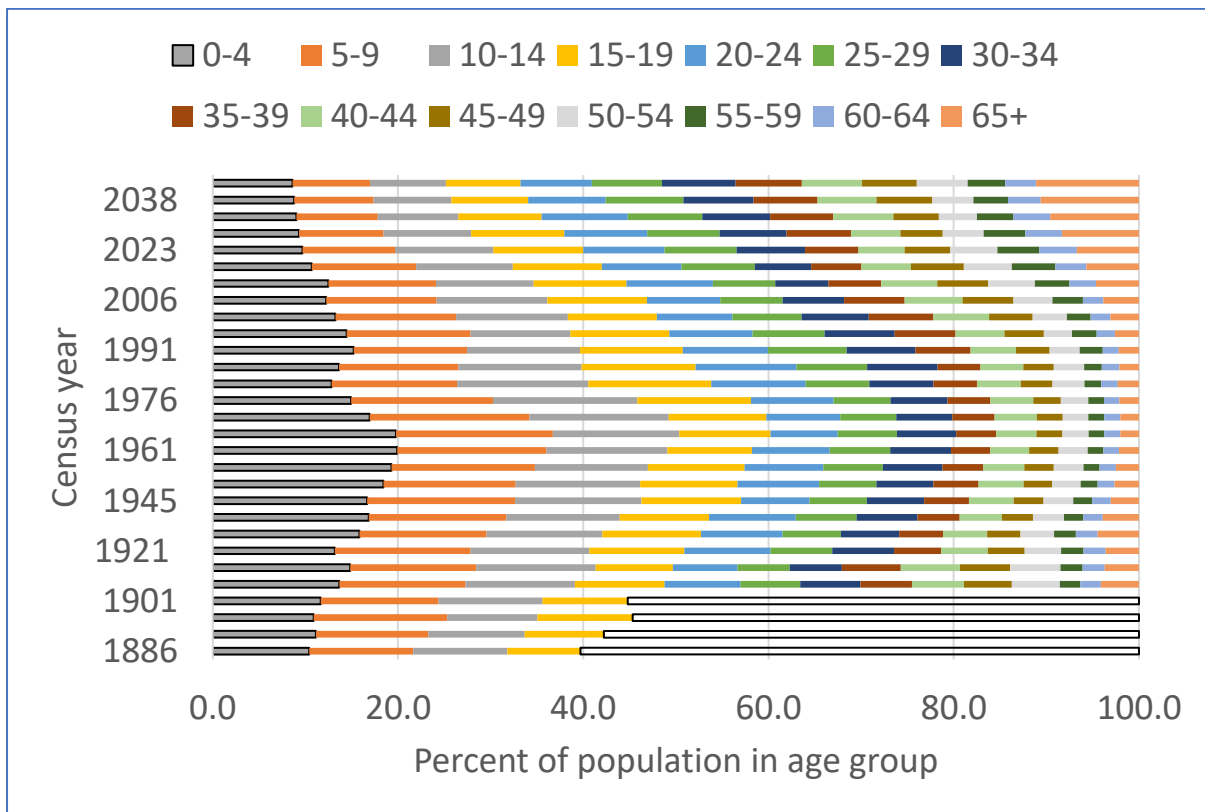
Source: Statistics New Zealand. Censuses of Population and Population Projections. Calculations by Author

The imbalance declines sharply as those born after 1945 reach 65, but the inverse age dependency ratio remains at nearly twice that of non-Māori for the next two decades. These statistical changes in age structure foreshadow deeper change to whanau and other social structures.

#### Long term shifts and systemic change in the Māori age structure

In 1966, one half of the Māori male population was aged under 15 years, but the share of the population who were children under 15 years had fallen to 32.4 percent in 2018 (Figure 11). This share will fall to 25 percent by 2043. Māori males aged 25-50 years will be 35% of the Māori population in 2043 compared to 30.4% in 2018.

Figure 11: Age Distribution of Māori male Population 1886 to 2043

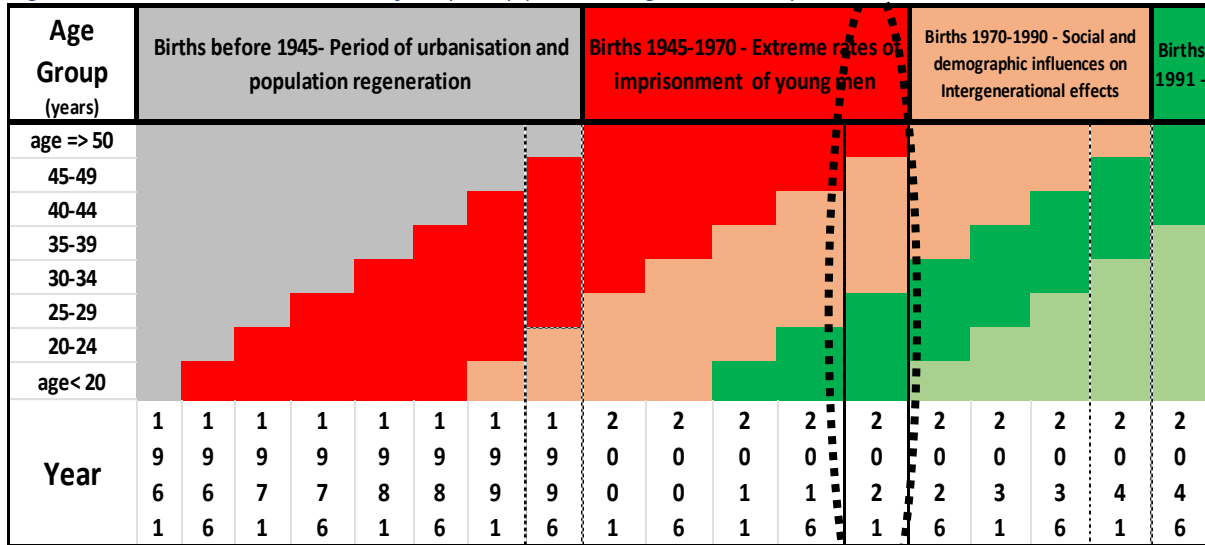


Source: Statistics New Zealand. Censuses of Population and Population Projections. Calculations by Author

Demographic projections point to an economically stronger future for Māori than they faced in 1896 when the population was at its lowest point, with an estimated size of 40,000 persons. High fertility and improving survivability have driven Māori demographic dynamism and its consequent effects on age distribution, gender and urbanisation, during any period and for each cohort. This dynamism cannot be ignored when examining past and prospective trends not only in justice, but also health, education, employment and housing, as well as retirement provision.

The Figure 12 below indicates which of the pooled cohort groups could be present in the prison population in any of the selected years. Future changes in the age mix of the prison population can be inferred, depending on judgments of age specific offending rates for first offenders. The cohorts are represented in the Figure 12 below by the colour of the columns.

Figure 12: Cohort contribution to five-yearly prisoner age mix each year 1961-2046



Source: calculations by the author based on Census counts and population projections

### The potential economic contribution ratio

#### Distilling a complex array of determinants

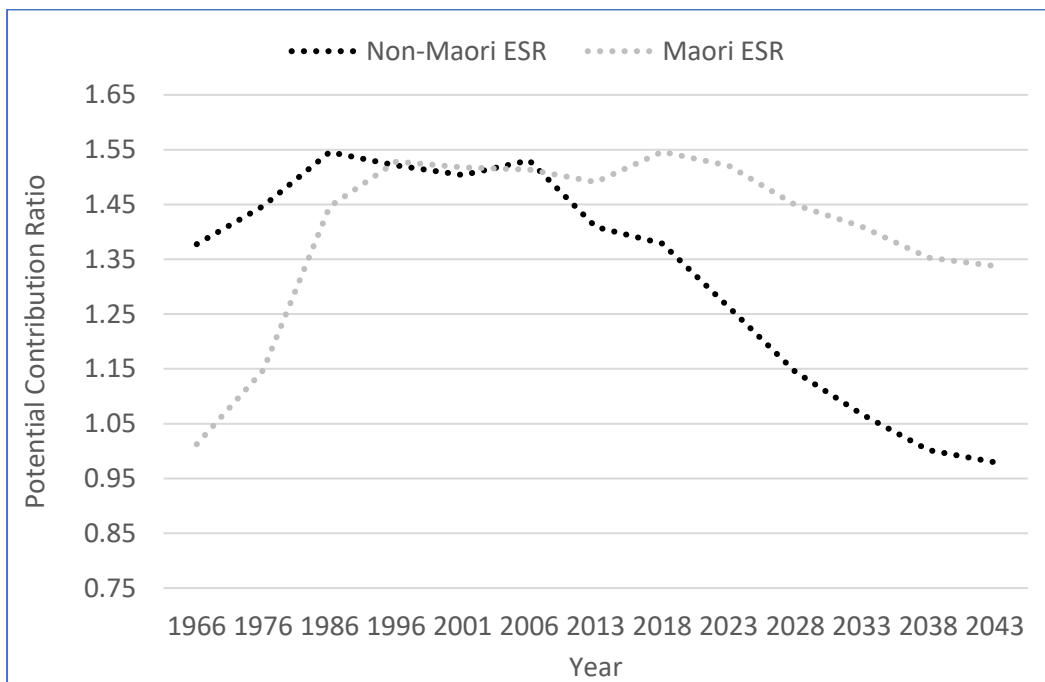
The youthfulness, potential productivity and achievements of Māori have become an essential source of New Zealand’s future wealth creation, to be recognised as a force in public policy, investment and innovation in a wide range of endeavour. Since reaching its lowest point in the late 1960s, the potential workforce as a proportion of the total population of Māori has continually increased, and Māori are increasingly gaining a significant demographic dividend from their young age structure and increase in education. Irwin et al (2011) describe changes for wāhine Māori and note the significant shift that occurred over just one decade between 1997 and 2006 in their enrolment in tertiary institutions. For those aged 18-19, the rate rose from 18.6% to 39.2%, and for those aged 20-24, the change went from 13.9% to 34.8%. This is consistent with other differences between the pooled birth cohort born before 1990, and that born later. The Māori dependent population over the next two decades will be predominantly in the younger ages rather than retired, compared to non- Māori.

Employment is the prime means by which changes in the age cohort mix of a population have an influence on potential economic and social welfare. The crude potential contribution ratio (Figure 13) is an approximate measure that can compare the changing impact over time of the potential contribution from the age structure of the reference period. I have compared the potential contribution for Māori and non-Māori populations, reflecting their distinct demographic dynamics. The contrast between the potential economic contribution resulting from current age structure of Māori and that projected for the following few decades, with the declining potential contribution of the European population, will affect all sectors of public life and stimulate investment that could build on the consequential demographic dividends.

Application of the methodology of Ogawa to Māori and non-Māori age structures Ogawa et al (2022, p 55) noted that “Demographic transformations simply define possibilities, and the outcome is heavily dependent on a large number of non-demographic factors”. The Māori population could face a wider range of outcomes than non-Māori, because of its comparative youthfulness and remaining fertility potential, compared to that of the much older non-Māori population. Because of the dominant size of the non-Māori population, the alternatives that the Māori population will face could be constrained by policies shaped by the needs and preferences of non-Māori. The non-Māori population will have to adapt to a much greater change in its age structure.

The crude potential contribution ratio indicates the future competitive advantage that Māori will have compared to the non-Māori population. Its relevance presumes that policies would be focused on realising that potential. The non-Māori ratio provides insights into why government and business often prefer immigration as a short-term response, and also assume that migrants will primarily counter rather than exacerbate aging at a population level.

Figure 13: Crude Potential Contribution Ratio: Māori Non-Māori - 1966 to 2043



Source: Statistics New Zealand. Censuses of Population and Population Projections. Calculations by Author

### Analysing the persistence of offending when young

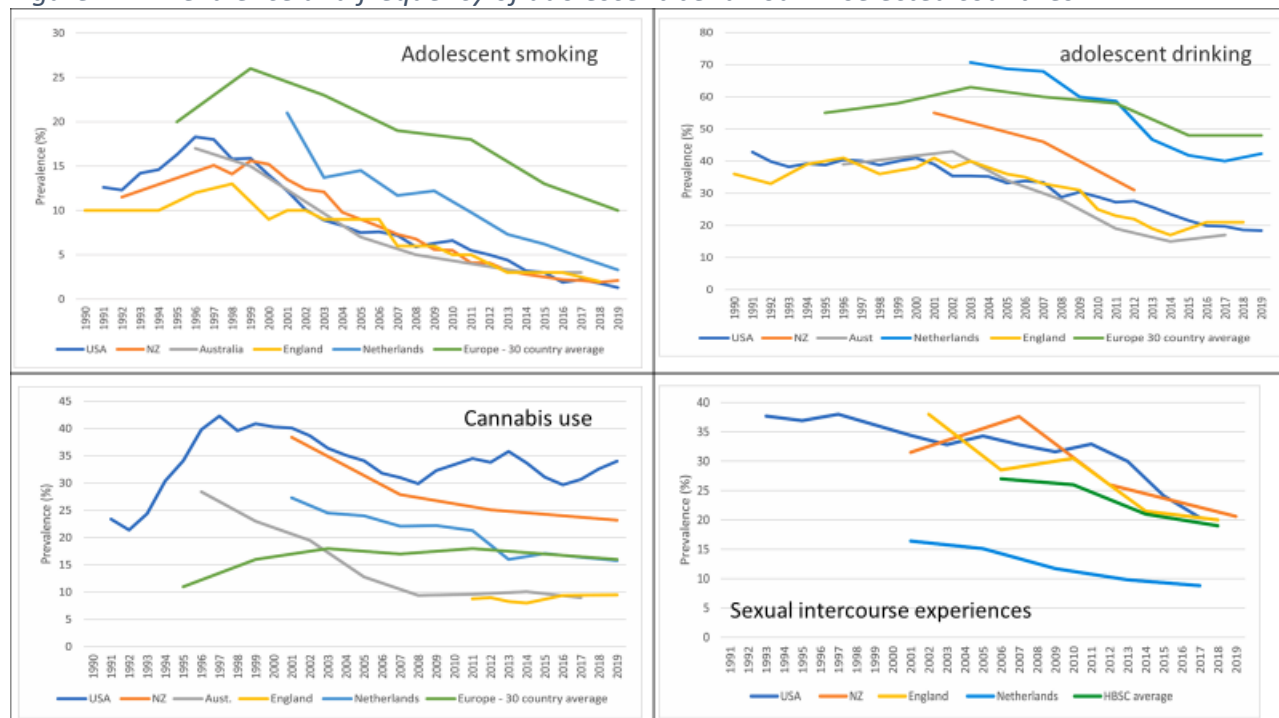
Social research examining antisocial behaviour has found that most young men who appear before the Courts are one-time offenders, and that the consequences of their imprisonment may increase the chance of becoming repeat offenders (Moffitt, 1990). Moffitt argues that most antisocial behaviour is temporal and situational. These findings have hugely challenged the thinking up to that time, whereby borstals and prisons were seen as creating opportunities of a short sharp lesson for delinquents. While borstals ceased operating in 1981, there was scant evidence for either their opening or closure. Predicting how to categorise a first offender has become a challenge for modelling and algorithms. Possibly

the most recent New Zealand contribution on this (Lambie et al, 2022) argues that the Integrated Data Infrastructure (IDI) of Statistics New Zealand can be used to identify when very young those who are most at risk of being “Life Course Persistent”. This paper points to a range of factors which have led to imprisonment, many of which need richer study to complement the subset of relevant variables on the IDI, which is based on the administrative records kept by the government. Earlier work (Cook, 2021,1) noted that without recognising the significance of the structural shifts and dynamism in sub-populations, then interventions to support high-risk, high-cost populations may not have the effectiveness and efficacy required to justify their use. Some of the target populations, who themselves can be vulnerable groups, may be in the custody of the state. Furthermore, all statistical sources and models have imprecise elements, limiting the certainty that screening processes will efficiently identify conditions of concern and provide for the effectiveness and efficacy of services. Young (Young 2017) has used child welfare services as an example of where the benefits of sound interventions will not only be spread well outside the justice sector but will of necessity involve co-ordination with sectors such as education and health, which have long had a reluctance to engage with at-risk youth. In foreseeing the long-term potential of targeted interventions, Young comprehensively reviews the ways in which such interventions would require a substantive rethink but notes how much perceived political needs usually trump evidence-based decision-making in the justice area.

### A generation in transition?

Using a range of statistical sample surveys, Ball et al (Ball et al, 2023) investigated the changing attitudes to risk behaviours among adolescents aged less than 16. In particular, they find that experience with alcohol, cigarettes and sexual activities are reducing among the most recent birth cohorts. These results are consistent with trends in adolescent offending.

Figure 14: Prevalence and frequency of adolescent behaviour in selected countries



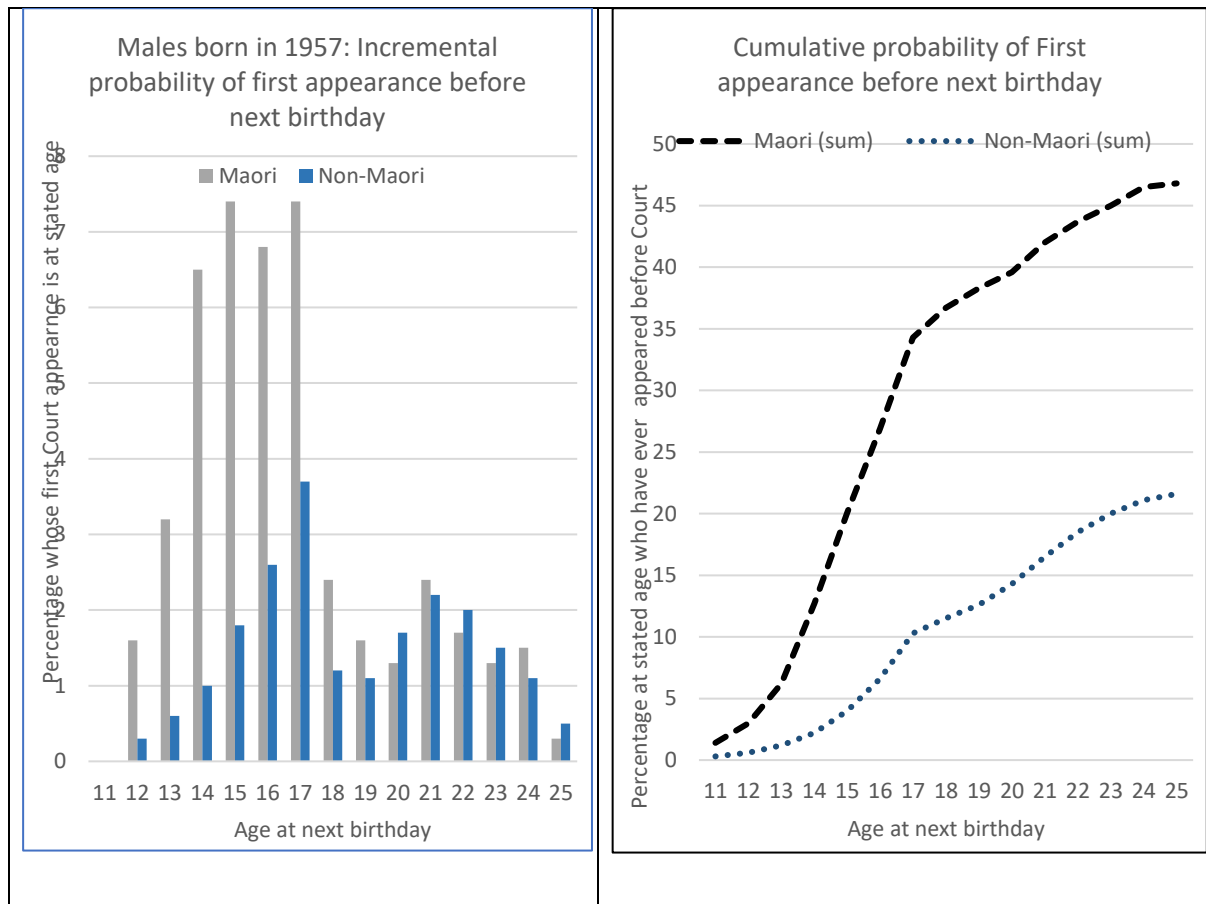
Source: Ball et al (2023)

## Discussion

### The shifting visibility of Māori in public policy

There is much about the world of a young Māori now that should be more enabling compared to that which their grandparents would have faced at a similar age fifty years ago. The collective strength of Māori at Iwi, hapu and whanau levels now has spanned legal, political and societal change, community leadership, the nationwide visibility of Māori in commerce, community and public life and the calling out of racism (Durie, 2005). These now shape cultural and social affairs across New Zealand. Māori leadership of critical initiatives in health, housing, education and Iwi, hapu and whanau development has expanded alongside the constitutional, political and legal visibility of Māori. Because a significant proportion of Māori in the birth cohorts between 1960 and 1985 experienced the child welfare and justice system, few of the next generation of young men coming before the Courts, between 1985 and 2005 would not have had a close relative who had such experience, potentially with whanau whose life course was affected by imprisonment. It is most likely that a good majority of whanau would have had to engage with the Court.

Figure 15: Age at first appearance at Court for Māori and non-Māori boys born in 1957.



Source: One in Four: Offending from age ten to twenty-four in a cohort of New Zealand males. Lovell & Norris, 1990

Figure 15 highlights the younger age at which Māori boys became state wards, and the scale and comparatively young ages their families and whanau became involved with the justice system. This scale of connection to the justice system after the 1960s made many Māori vulnerable to direct or indirect forms of disproportionate surveillance and selection whenever the focus was on age, at risk family connections or neighbourhood. In New Zealand those population groups that are smaller than that of European New Zealanders have long had different age structures, and a different demographic history and dynamic. The potential for peer pressure and cohort effects is higher. For those born after 1990, the intergenerational consequences of the extreme period after 1960 have been mirrored less and less in recent cohort imprisonment rates.

Youths quickly become young adults, and fathers and mothers. Family and whanau are not disconnected from these experiences, nor are the children of the next generation. A range of demographic and societal factors are pivotal to intergenerational transmission, the scale of which is unique to the period between 1986 and 2006. High fertility, whanau size, the speed of urbanisation, high mortality, all have in combination led to huge differences between Māori and non-Māori age structures, and the speed with which they change. Intergenerational transmission is likely to be modified by short-term changes in the response to offending, changes in education and employment, and the impact of welfare. The general effect of being poor on the propensity to commit crimes to improve welfare is influenced by employment opportunity, education and financial stress. Given that the number of jobs in New Zealand changed little between 1985 and 1999 while the number at younger working ages grew, this would have exacerbated the rise seen in poverty levels seen since that time.

Over a long period, comparisons are greatly affected by earlier demographic dynamism of Māori, which is not always connected to that of the larger European population. By analysing Māori as a distinct population, rather than in relationship to the European population of New Zealand, the very significant influence of past, present and future Māori demographic dynamics on the trends in imprisonment rates becomes more apparent. When contemplating prospective sentencing numbers to 2043, it is essential to reflect the shifting age distribution of the Māori population and the reduced likelihood we now see of being imprisoned when young.

Māori male imprisonment would have had a severe impact on Māori women over the whole of the 20th century, but even more so after 1960. Māori women encounter the justice system as children, and as mothers, as well as through being recipients of benefit processes, and disproportionately as victims of family violence. The imprisonment of women and men during the stages of life when they are or would be parents brings unacknowledged responsibilities to the State for the children in their care. It was not until 1973/74 that a solo parent with a partner in prison and children would have been eligible for a social welfare benefit. Offences involving relationships that the state could deem to be in the nature of marriage has caused some shifts in the number of women in prison. Until 1970, it was rare for Māori women to be imprisoned. Between 1970 and 1990 the annual average was around 200. From 1990, there was near continuous growth until peaking in 2004 at just under 1,000.



Pool (Pool et al, 2006) has noted that New Zealand's demographic dynamics will make prediction of demand and planning for any population related services fraught and less reliable if ignored. This was a result of the size of the post war baby boom, historical fertility rates and the later sharp falls. He argued that:

*" ..... New Zealand has moved over recent years from trends and patterns of population dynamics and patterns that were essentially growth-driven – the volumes of people being born, dying and migrating – to one of change being composition driven. Today, of mounting importance are shift-shares in demographic structures, such as in variations in the proportions in different cohorts, age groups, regions, ethnic groups or employment categories. Of singular significance in this regard are momentum effects coming from age-structural transitions, which are discussed below. These propel growth but also determine a restructuring of the society and of its human capital".*

*"For policy and planning, the fertility rates per se are of less interest than shifts in the sizes of the birth cohorts. The fluctuations in these are of critical importance, with troughs in the 1930s, bi-modal peaks in 1960 and 1970, then a trough, and finally another peak around 1990 – about 60,000 births for each of the recent peaks".*

The Māori birth cohorts born after 1990 are the first of those born in the 20th century which did not lose a significant share of the potentially active population or age group through having lives taken or seriously marred in early adulthood by pandemic, war, unemployment or institutionalisation. Most would have been born into smaller families as a result of the sharp fall in fertility after the late 1960s. Given that some now in prison could have first been in front of a Court some fifty years ago, then attitudes, events and practices further in the past will be among the explanations for changes to the trends in imprisonment rates over recent decades.

#### Laws, policy and practices across the justice system

The justice system is wide ranging and complex in structure. The statutory independence of many key parts potentially limits coherence across policy and operational domains. Operational practices involve complex judgments in contexts which are often highly pressured. Perceptions of risk appear to vary, with less risk aversion among those making decisions that influence outcomes for young men and in youth justice, compared to those about older males with a known past in the justice system, and in child protection (Keddell & Hislop, 2019). In these last two situations, the occasional visibility of highly negative outcomes is more likely to generate public outcry. Youth justice is one of the few areas of public administration where commonality in purpose at a strategic level has been articulated for over two decades, with a clear impact on imprisonment rates of young men (Justice, 2013). The scope and scale of Māori led initiatives that developed momentum from the late 1980s occurred before the political change. Law changes by Parliament can be erratic and punitive, especially when it results from a need to satisfy public angst after the heinous elements of just one highly publicised crime seem to need a political response. Public sentiment rarely generates a spirit of leniency on matters of imprisonment, and operational practice can be influenced even when statutes are not.

## *Conclusion*

The extent to which the unique demographic dynamics of Māori have played a part in the severity and endurance of their connection to the justice sector has yet to be fully recognised. Demographic analysis shows that the scale and persistence of the increase in economic capacity of Māori up to now and during the next two decades should benefit many aspects of Māori life, including the many faceted dimensions of justice. We are at a significant turning point for Māori and the justice system. Examining demographic dynamics in order to assess the association with the other knowable influences on the sentencing of young males over a whole century cannot be exact. As noted earlier, the impact of any single influence is difficult to isolate. The complexities and limitations of any analysis founded on statistical data will reflect the varied life span of laws, institutions and practices, and limits to the relevance of not only what is counted, but what meaning can be gleaned from it. The Justice LTIB (2022, page 43) provides a rich overview of the many changes since 1960 that have led to frequent changes in the length of time and conditions under which people are sentenced to prison, and the shifting grounds for imprisonment. In establishing the connection of males of different generations to the justice system through the lens of prison statistics is akin to driving a car through the rear vision mirror. None of the statistical series which span the full period of these comparisons is measured consistently. Less obvious are the effects that social and demographic change cause in the comparability over very long periods of standardised age groups, and of the distinction between Māori and non-Māori (Kukutai, 2007). Because the prime use of statistics across the justice sector has been the oversight of the administrative performance of individual agencies, commonality of measures and long-term sector wide relevance of concepts has been weak across the sector.

The impacts of quite extreme policies that carried on for some 25 years after 1960 were amplified by the vulnerability from the very young age structure, large whanau size and small population numbers in a Māori population then in the midst of one of the most rapid migrations ever recorded. This created the most significant break with earlier rates of institutionalisation for Māori. The two later breaks around 1985 and 2005 signal a reducing imprint for following generations of those extreme policies, and the drop off in the visibility of intergenerational effects for the generation born after 1990. Life course effects are leading to the ageing of the Māori prison population. Rehabilitation has been inadequate in reducing life course effects of those cohorts that faced high sentencing rates in younger years.

Elsewhere (Cook, 2021,2), disparities in the impact of the justice system for Māori compared to European over the 20<sup>th</sup> century and since have been analysed. Although Māori have a comparative advantage in the next two decades from the potential economic contribution of its current and projected age structure, there are as yet no indications of a reversal of longstanding disparities. One significant influence on the future prison population will be the consequences of the aging of the generations currently aged under 25, because their experiences as young men with prison have been markedly fewer than earlier generations.

For some, the decline may be a deferment of the age of first entry to a prison. The aging and probable higher death rate of those who first entered prison before the mid-1980s point to a more rapid decline in the number from those birth cohorts who remain in prison than those never imprisoned from the same age groups in the population will experience. The smaller the share of each birth cohort that is imprisoned when young, the more marked will be the future reduction in imprisonment of older Māori males, as these younger cohorts themselves age. Evidence that can support predictions of the likely outcomes for most of the older age groups currently in prison will need a more integrated approach to managing information across the whole justice sector than occurs at present. The combination of continued societal change, advances in policy and practice and the unpredictability of swings in public and political sentiment will be no less likely than in past periods to alter the path of established trends. Swings continue in various forms between increasing the punitive nature of penalties versus investing in being more effective in offender rehabilitation.

Two decades of a Youth justice strategy will have contributed to persistence and focus on shaping attitudes to risk of each of the key workforces within the justice system. However, this appears to have contributed little for the rehabilitation of those already imprisoned. As noted in the Justice LTIB (page 84), “..... levels of reoffending have not altered significantly over time despite significant changes in the underlying composition of the prison population. In the last 30 years, reoffending rates have fluctuated, with between 33 percent and 48 percent of those leaving prison being resentenced to a Corrections sentence within 12 months of release, and between 25 percent and 30 percent of people being reimprisoned within 12 months of leaving prison”. Death or declining health may be the dominant determinant of this large group of men, some of whom would find reintegration to a normal lifestyle beyond them without strong whanau or community support which they may have become detached from.

#### Acknowledgements

I am particularly grateful to those with knowledge of Māori and the justice system, those who have to live with a legacy that I can only describe in statistical terms. They have helped me challenge and pursue further what each stage of the statistical analysis has uncovered. I have had no personal experience in the justice system, which is why my process has been quite exploratory and interactive.

This paper is strongly anchored in thinking by others about New Zealand demography, particularly of Māori. I especially acknowledge the significant debt we all owe to Professor Ian Pool and Te Kohu (Ted) Douglas from Waikato University for the knowledge we now have about the very distinct demographic dynamism of Māori. Both have recently died. They leave us richly placed to assess the impact of policy on populations and they have raised awareness of why that knowledge should influence policy, whenever we make use of it.

*Moe mai ra, e hoa.*

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*Appendix: Statistical classifications, definitions and assumptions*

*Prisoner counts.*

In this paper, the preference for analysing the population in any year is that of those sentenced to prison by the Courts, rather than the population found within the prison service in any year has been based on the availability and accessibility of Court statistics of sentencing since 1910.

We have ready access to the number in prison at any time only since 1999. While both series report sex, ethnicity and age by group, the prison service counts report age in more detail, and enable analysis of sentence length. Prison counts of the muster at appoint in time are net of arrivals and departures, whereas the counts of those sentenced by the Courts measure all arrivals in the system and are a less biased measure of the scale of imprisonment of any birth year. These counts still only measure part of the effect of imprisonment on the population, while a birth cohort analysis provides the most complete estimate of the impact of prison on an age group.

The characteristics of the prison population at any time provide one means for assessing the current, past and prospective impact across the population of past laws, public policies and practices which have resulted in incarcerating people. Those in prison at any time are a mix of individuals whose prison sentence could have begun over twenty years ago, or last month. The difference between those serving sentences, and those who have been sentenced to prison reflect offending at any time, and the length of the sentences determined by the Court in previous periods.

Administrative counts of children in the custody of state have been the main measures published up to 2017, while the main institutional counts published since 2017 by Oranga Tamariki are of entrants to care. These two measures are both needed, and they present different views of the place of the State in the custody of New Zealand children. The ethnicity of children in the care of the welfare system has been regularly available since 2000. For earlier periods the analysis of ethnic differences is limited to that available from annual reports of appearances at the Children's Court, and the ad-hoc studies referred to above. Administrative counts of those imprisoned by the state are published by the Department of Corrections, and its predecessors. Statistics before 1960 are available in fragments in government publications, with Māori able to be separated. Court statistics are similarly available.

*Ethnicity classifications - From Cook, L. (2020).*

Ethnicity is not able to be measured consistently over the period spanned by this paper. A biological definition of race predominated until the mid-1980s, when a measure based on cultural affiliation was introduced into the 1986 Census of Population. The mid-1980s produced highly problematic ethnicity data, exacerbated by prioritisation for all but people of Māori ethnicity (Didham, 2005), however for people of Māori ethnicity – the topic of this paper – the issue relates more to limitations in data coverage and biases in recording practices than definition. Administrative records changed gradually after that time, but in terms of consistency data prior to 1981 and from 1996 are reasonably comparable. Justice sector statistics are probably more beset by problems of measuring ethnicity than others

for two reasons. First the numerators may systematically overstate the number of people recorded as Māori. Second, the estimated base population, dependent on census counts, severely undercounted young males, and this appears to be more severe for Māori. This will overstate the prevalence of Māori offending, relative to non-Māori, offenders in that population. While this was clearly an issue during the 1980s and early 1990s, there may now be an increasing tendency for young men to describe themselves as Māori when at court or when they reach prison, in the belief that there is an advantage to do so. The denominator and numerator, thus, both continue to be problematic.

*Comment re table 18, (Perry) "Ethnicity of individuals aged 15 and over is as reported by the individual, and children under 15 are attributed with the ethnicity of the survey respondent. If a respondent reports more than one ethnicity, the ethnicity attributed is determined according to a hierarchical classification of Māori, Pacific Island, Other and then European/Pākehā.<sup>53</sup> The household's equivalised disposable income is attributed to the individual for ranking purposes, just as it is for analysis by age."*

#### *Fragmentation of data sources*

Building a coherent picture of the interaction of Māori with the justice system over the last 100 years necessitates the piecemeal gathering of disparately organised and ordered information. Elements of which have approximate definitions in common and do not span the whole period need to be retrospectively connected. Population statistics involve changing definitions of Māori, and administrative statistics often respond to changed definitions with some delay. Criminal court statistics provide information for the longest time periods, as do prison statistics. In periods before the 1940s, Court reporting only occasionally provides age analyses and then not with any consistency. The Hunn report contains a valuable mix of statistics from 1935 to 1958. Child welfare agency (DSW and MSD) records of children in custody are weak before the 1970s. Finding official statistics about the justice sector before 1980 is patchy, and even more recent series on official websites are subject to arbitrary changes in categories and curtailing of series length. Before the late 1990s some of the statistics available for those imprisoned and for State wards are limited to simple counts.

#### *Institutional names*

Over the period from 1860 to 2020 the departmental arrangements, titles and roles have changed, the most recent being the formation of Oranga Tamariki (Ministry for Children) out of the Child, Youth and Family Agency in 2017. The original agency set up in 1925 was the Child Welfare Division of the Department of Education, which in 1971 merged with the Social Security Department to form the Department of Social Welfare. Between 1971 and 2017 there were a mix of titles and agency structures. When comparing counts of children in custody over long periods, different forms of custody appear to be involved, although this is not obvious from the definitions presented by the child welfare agency of the time. In 1995 the Prison Service which was then part of the Department of Justice became a stand-alone Department of Corrections. When the reference period of the subject matter spans several different agencies with the same general purpose, I use the terms "prison service" and "child welfare agency". When identifying the source of information, the usual reference is to the name of the organisation or legislation during the relevant period. Reference to State custody of children mean taken into the care and protection of the child welfare



agency. Children in the custody of the State were formerly referred to as wards of the State. “Care and Protection” is the term used in the various forms of Child Welfare legislation, although how it is given effect has changed over time.

#### *Terminology*

Young men, women or young adults are terms I have used to identify those whose offending is dealt with by the criminal courts. It often refers to those aged 17-24 years, but it is used explicitly for those aged 17-19. Before 1986, the age range spanned 16-19 years. Youths are taken as males and females aged 10-16 when relating to information sources and institutions. It is occasionally used imprecisely to include those 17-19.

Children refers to those 16 and under, although its use in this way generally refers to the period before 1989.

#### *Population measurement*

In a study that spans over a century, different data sources, definitions and classifications have had to be connected to enable some continuity in the basic concepts being measured. The breaks in series are generally small, and do not distort the trends that are estimated. Analyses of rates of custody and imprisonment result from relating the administrative records of the state, generally from the courts, prison service and child welfare, to the relevant population age groups at the time. The Population statistics are either from the Census of Population and Dwellings of the time, or from intercensal population estimates. Where official intercensal estimates are not available, these have been interpolated by the authors. There were step changes in 1986 then 2011 that resulted from change in the statistical definitions, while the population continued to grow through declining mortality at older ages and as Māori fertility exceeded that of Pākehā and Asian New Zealanders. Inaccuracy from changes at these points occurring at different times in the population and court statistics remains in the statistics.