

# **Applied demography and its awesome ability to throw light on pressing issues**

**Dr Natalie Jackson\***

**Session presentation, PANZ Conference**

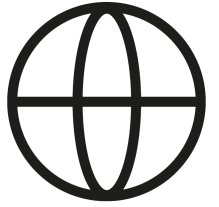
**Wellington – June 20<sup>th</sup>, 2019**

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**\*Director, Natalie Jackson Demographics Ltd;**

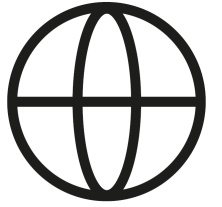
**\*Research Associate, NIDEA, University of Waikato**

# Outline



1. Applied demography
2. ... and labour supply
3. ... and housing demand





# Applied demography

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The application of basic demography (age/life-stage/sex/fertility/survivorship) to any social issue; problem solving with demography

*Applied demography 'exhibits the value-orientation and empirical characteristics of a decision-making science while [basic demography] exhibits the value-orientation and empirical hallmarks of a basic science*

Swanson, Burch, Tedrow (1986) *Population and Development Review* 15(5-6): 403-418.

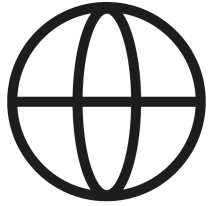
# ***Applied demography and labour supply***

***[attention employers and local councils – Immigration NZ has largely got it]***

**Regional focus for new immigration skills shortages**

Hon. Lees-Galloway (08.05.2019)

# Total employed workforce 1996 and 2013



## Number

1996: 1.6 million

2013: 2.0 million (+23%)

## 55+ years

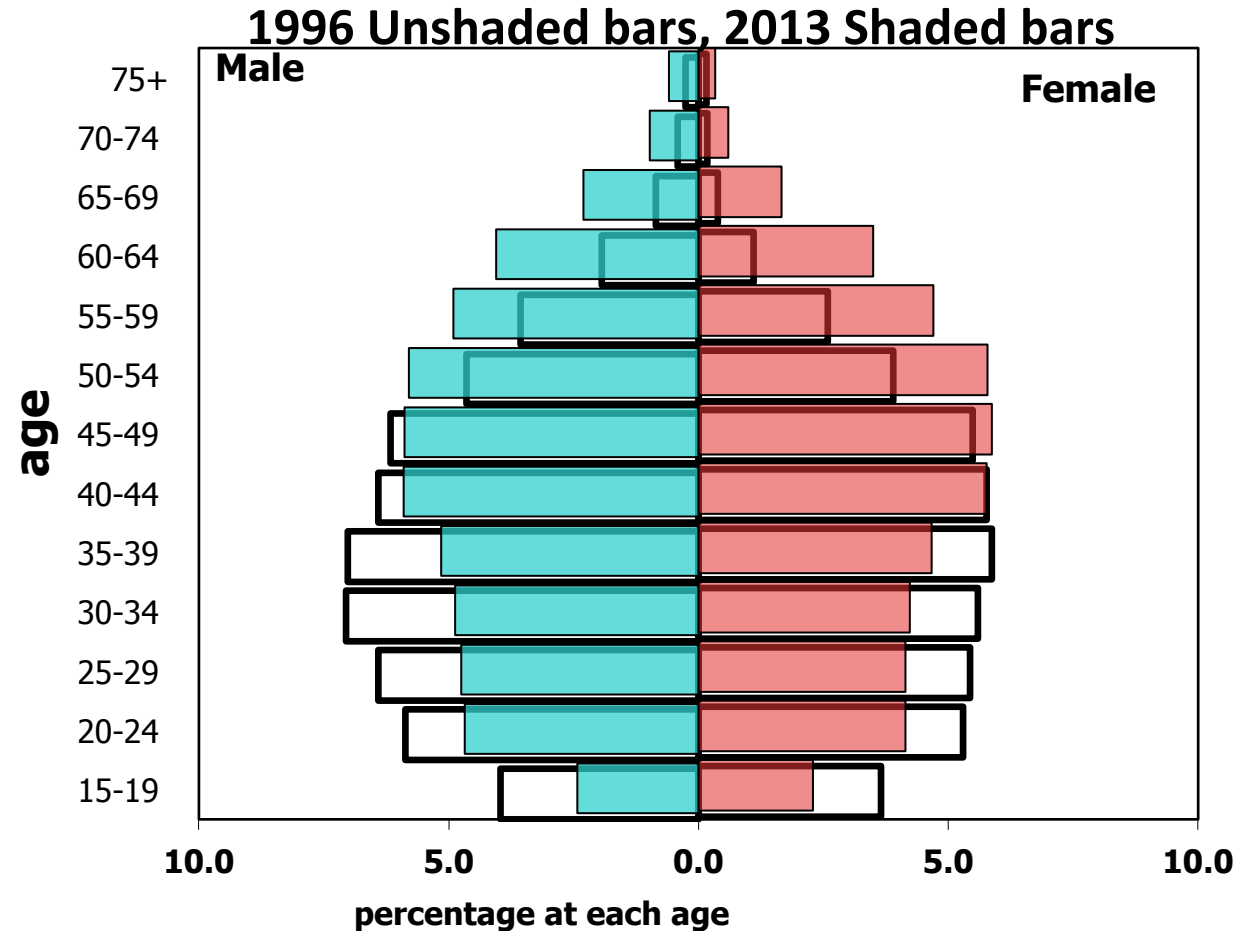
1996: 11.5%

2013: 23.6%

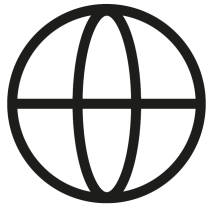
## Ratio 15-29: 55+ years

1996: 27:10

2013: <10:10



Attrition Rate 55-59 to 65-69 yrs = 59%



# Registered Nurses 1996 and 2013

## Number

1996: 22,863

2013: 33,102 (+45%)

## 55+ years

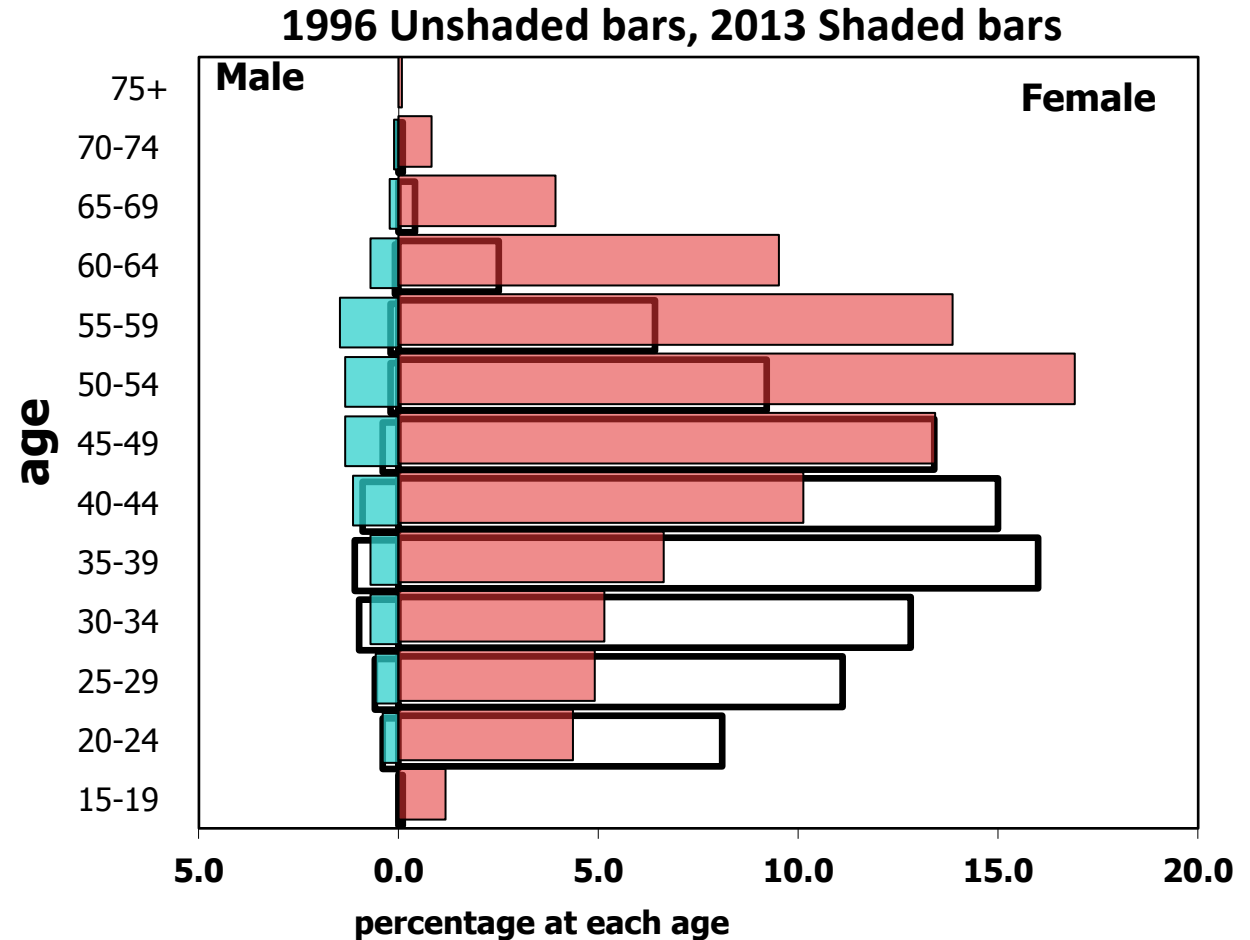
1996: 9.6% (11.5%)

2013: 25.4% (23.6%)

## Ratio 15-29: 55+ years

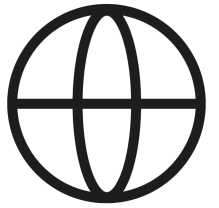
1996: 21:10 (27:10)

2013: 6:10 (9.5:10)



Attrition Rate 55-59 to 65-69 yrs = 72%

# All Other Nurses 1996 and 2013



## Number

1996: 6,699

2013: 6,579 (-1.8%)

## 55+ years

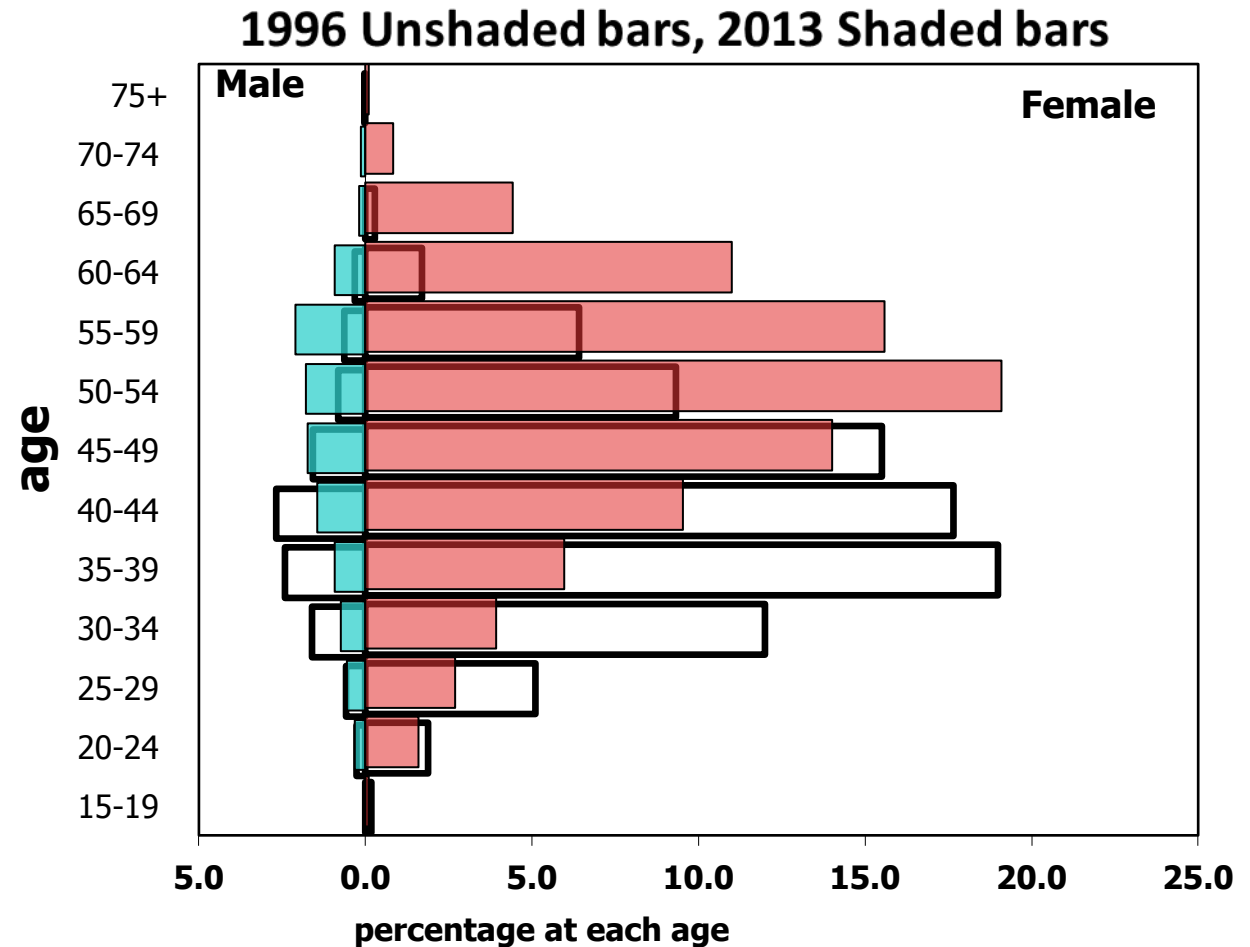
1996: 9.4% (11.5%)

2013: 35.2% (23.6%)

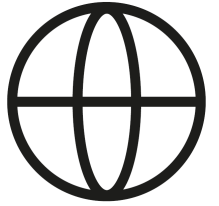
## Ratio 15-29: 55+ years

1996: <9:10 (27:10)

2013: <2:10 (9.5:10)



Attrition Rate 55-59 to 65-69 yrs = 74%



# Primary School Teachers 1996 and 2013

## Number

1996: 23,949

2013: 30,021 (+25%)

## 55+ years

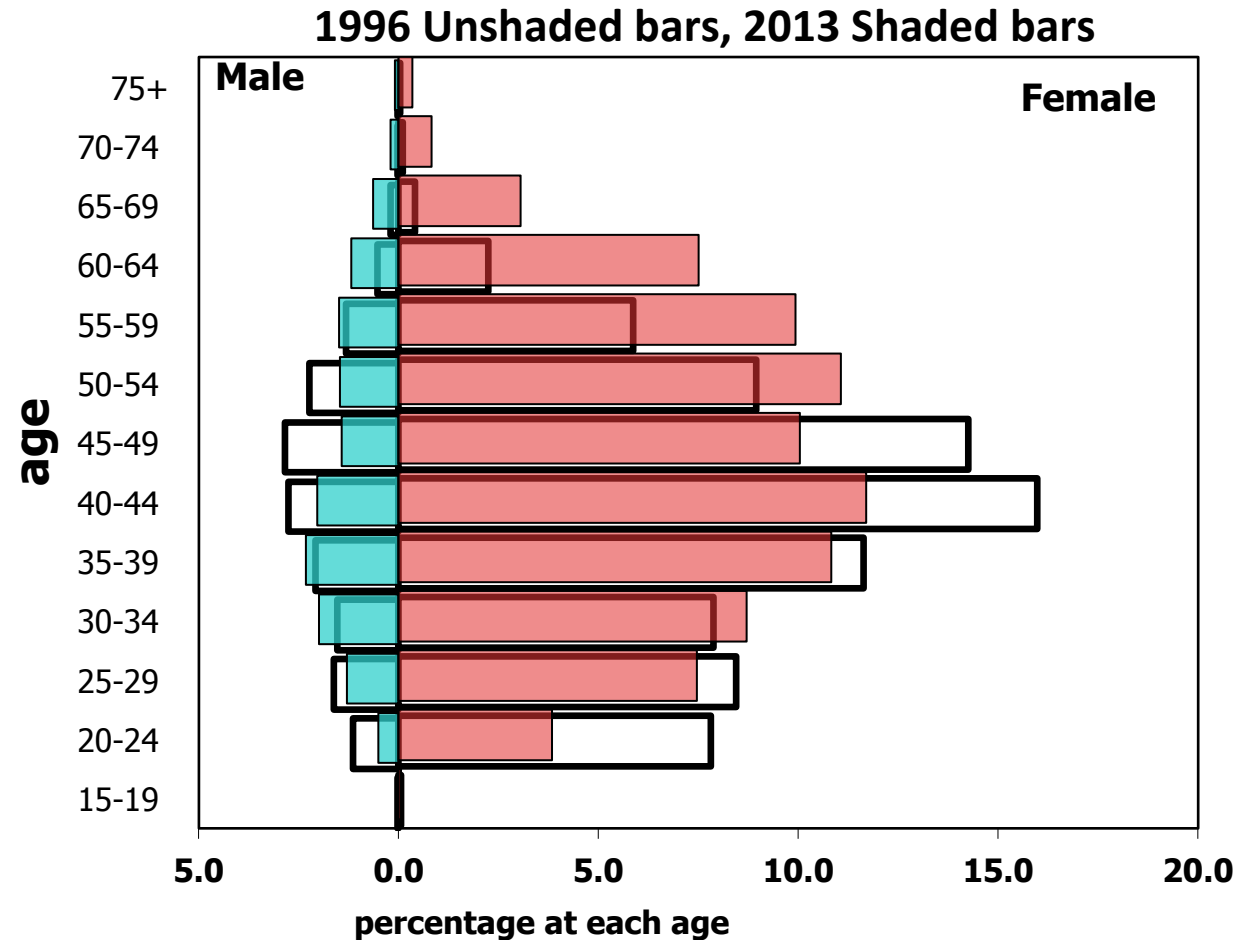
1996: 10.7% (11.5%)

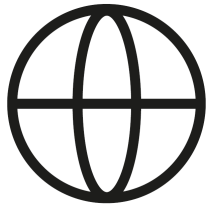
2013: 25.3% (23.6%)

## Ratio 15-29: 55+ years

1996: 18:10 (27:10)

2013: 5:10 (9.5:10)





# Secondary School Teachers 1996 and 2013

## Number

1996: 16,605

2013: 21,768 (+31%)

## 55+ years

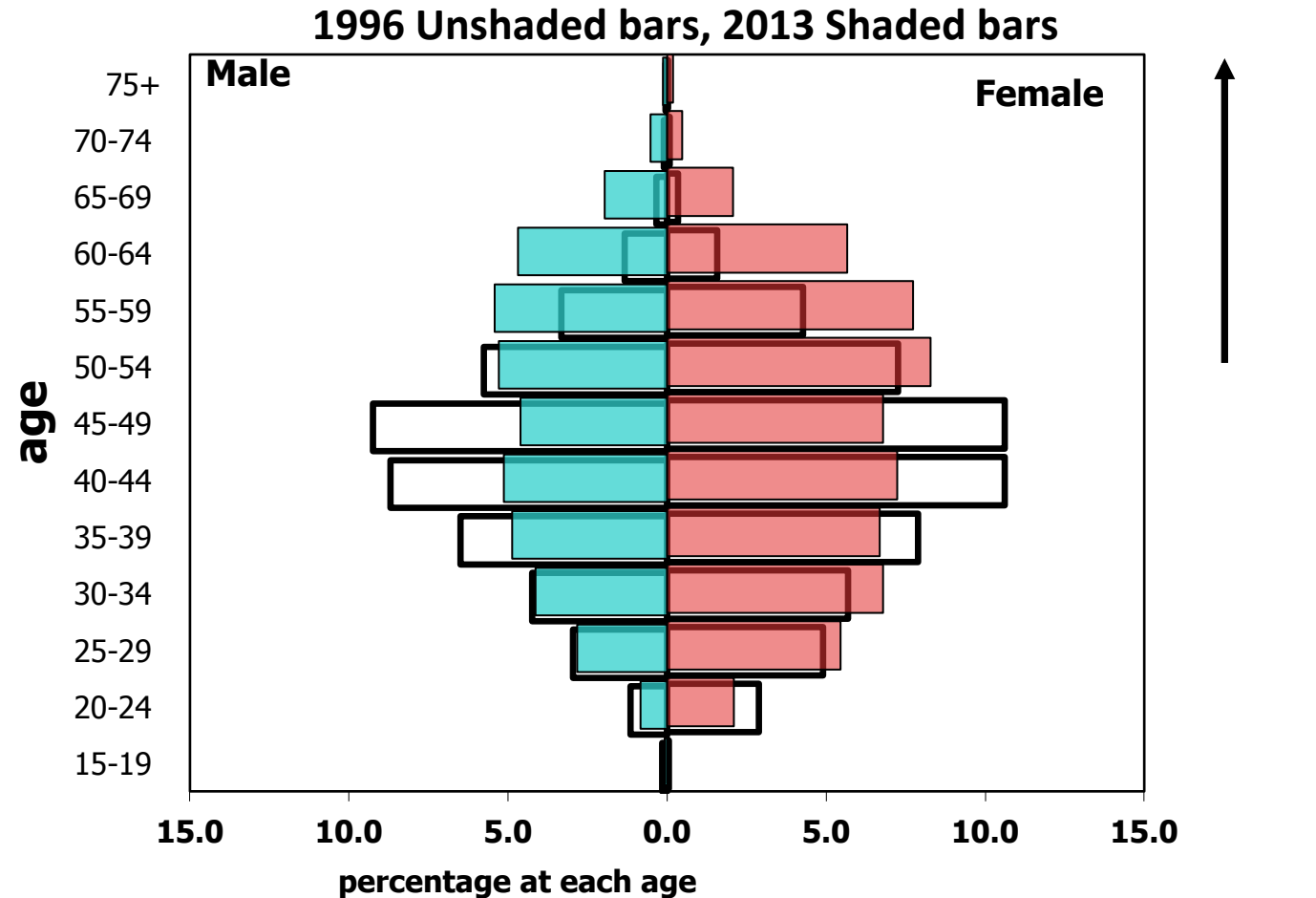
1996: 11.4% (11.5%)

2013: 28.9% (23.6%)

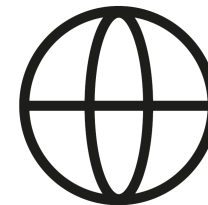
## Ratio 15-29: 55+ years

1996: <11:10 (27:10)

2013: <4:10 (9.5:10)



# Physicians 1996 and 2013



## Number

1996: 885

2013: 1,980 (+124%)

## 55+ years

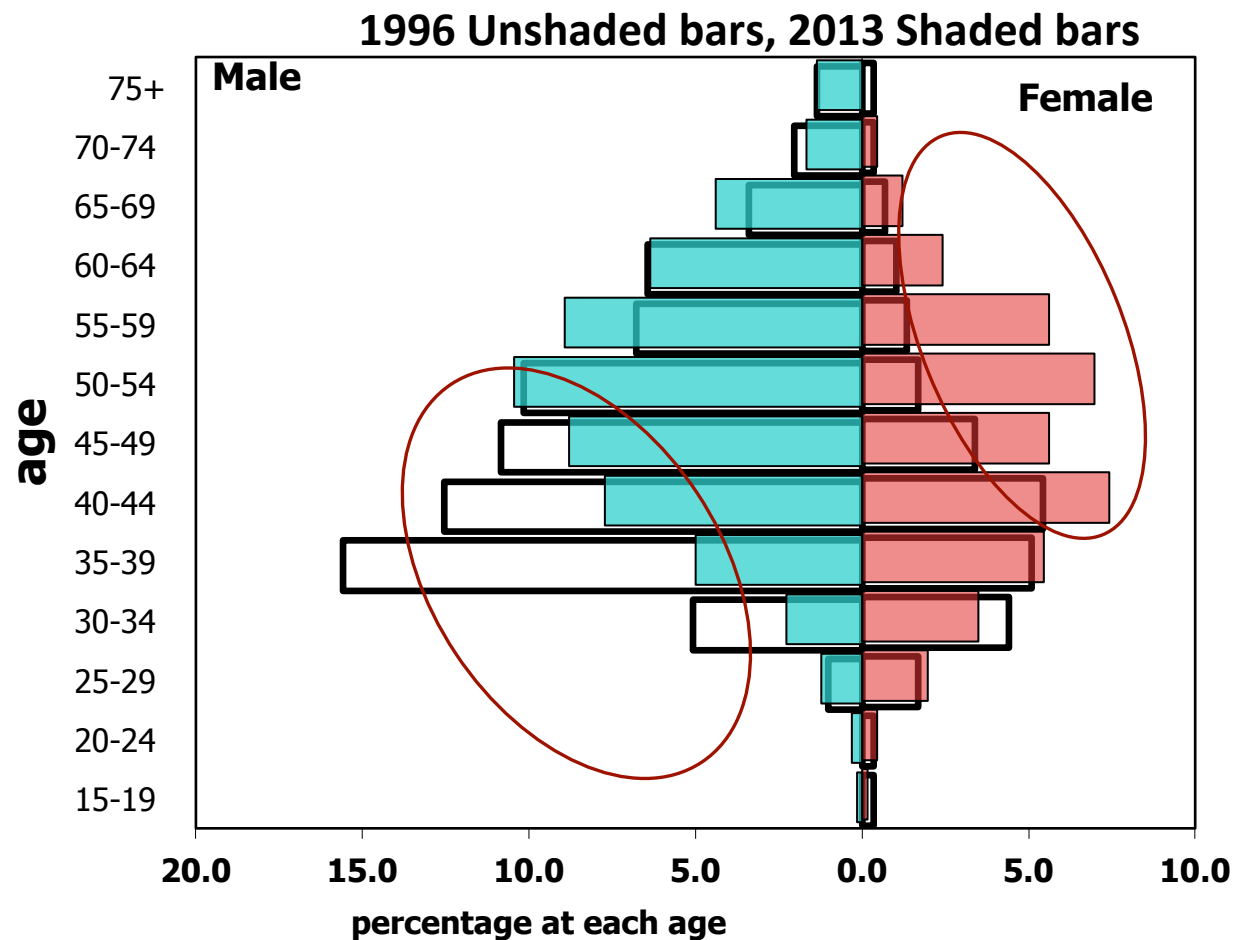
1996: 23.7% (11.5%)

2013: 32.4% (23.6%)

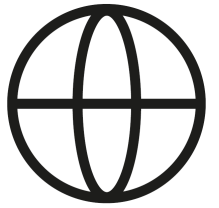
## Ratio 15-29: 55+ years

1996: 1.4:10 (27:10)

2013: 1.3:10 (9.5:10)



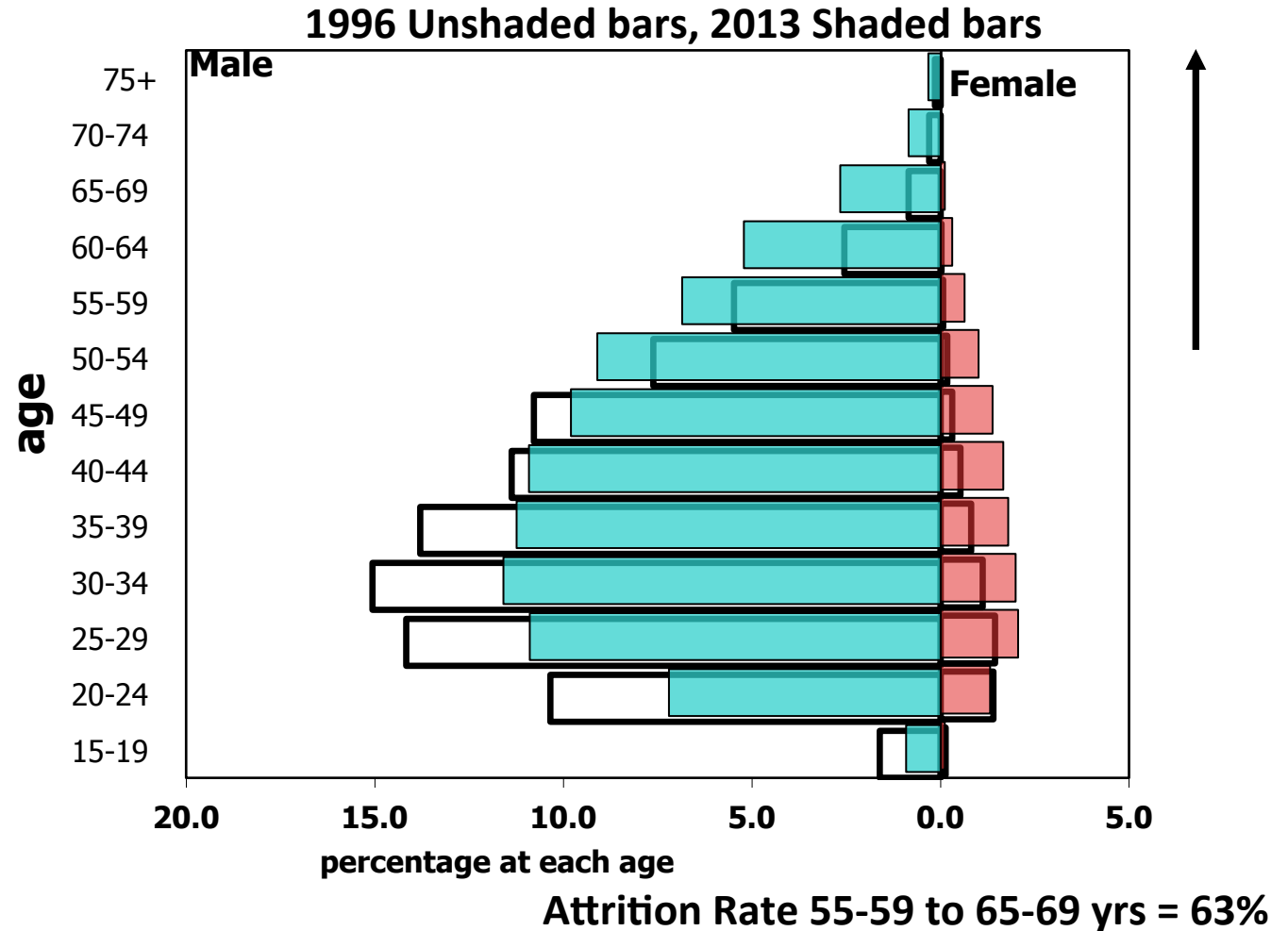
# Engineers (of all description) 1996 and 2013



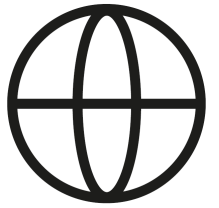
**Number**  
 1996: 27,612  
 2013: 55,383 (+101%)

**55+ years**  
 1996: 9.4% (11.5%)  
 2013: 17.0% (23.6%)

**Ratio 15-29: 55+ years**  
 1996: 31:10 (27:10)  
 2013: 13:10 (9.5:10)



# Computer Programmers\* 1996 and 2013



## Number

1996: 14,049

2013: 29,553 (+110%)

## 55+ years

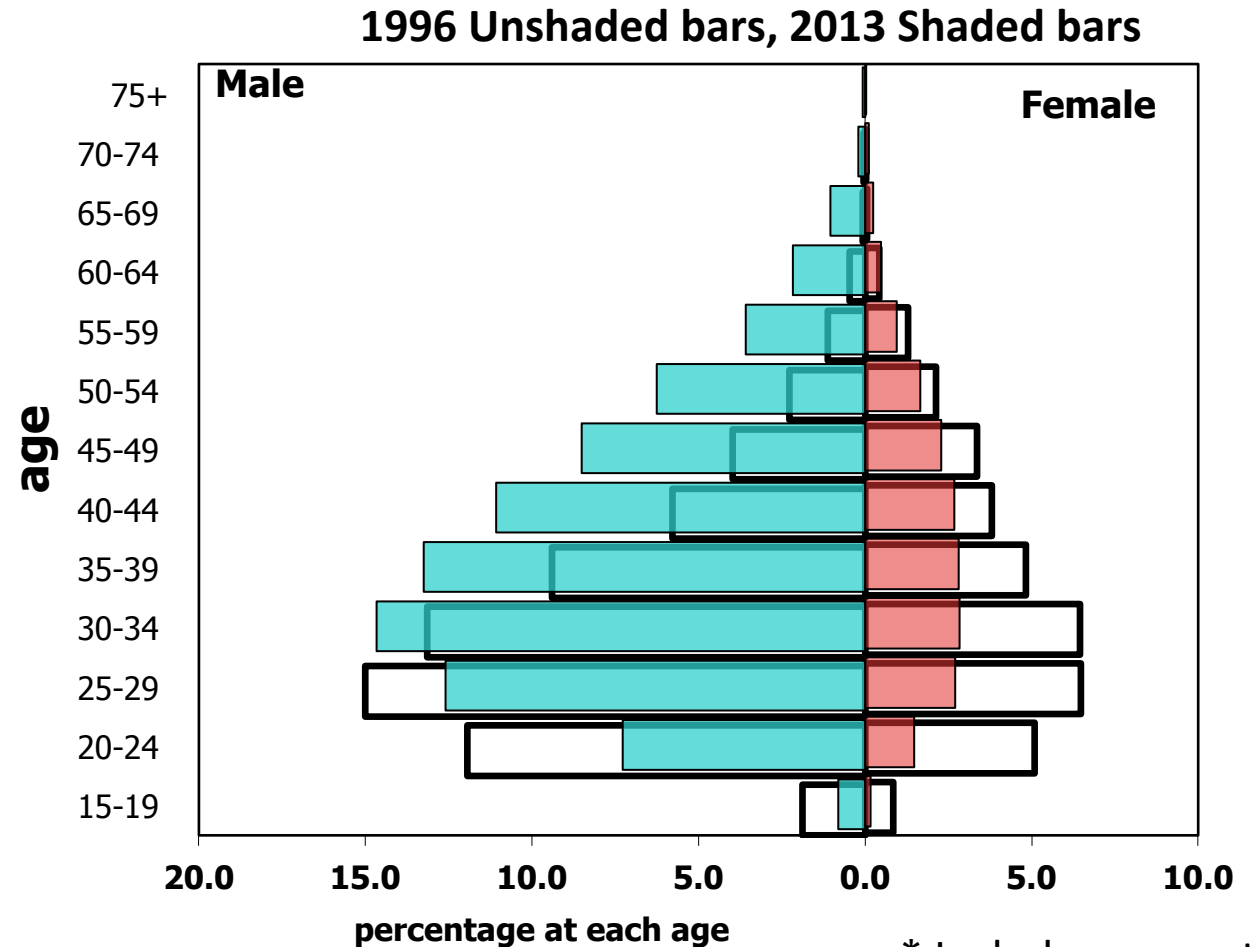
1996: 3.5% (11.5%)

2013: 8.9% (23.6%)

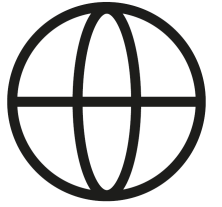
## Ratio 15-29: 55+ years

1996: 118:10 (27:10)

2013: 28:10 (9.5:10)



\* Includes computer technicians and engineers  
**Attrition Rate 55-59 to 65-69 yrs = 71%**



## Responding to our rapidly ageing labour force

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- ❑ Simple occupational age profiles are an excellent evidence base for planning and policy development – *should be done subnationally by all councils, employers, organisations*
- ❑ Be aware that even ‘young’ occupations are ageing and there is growing *lateral competition*

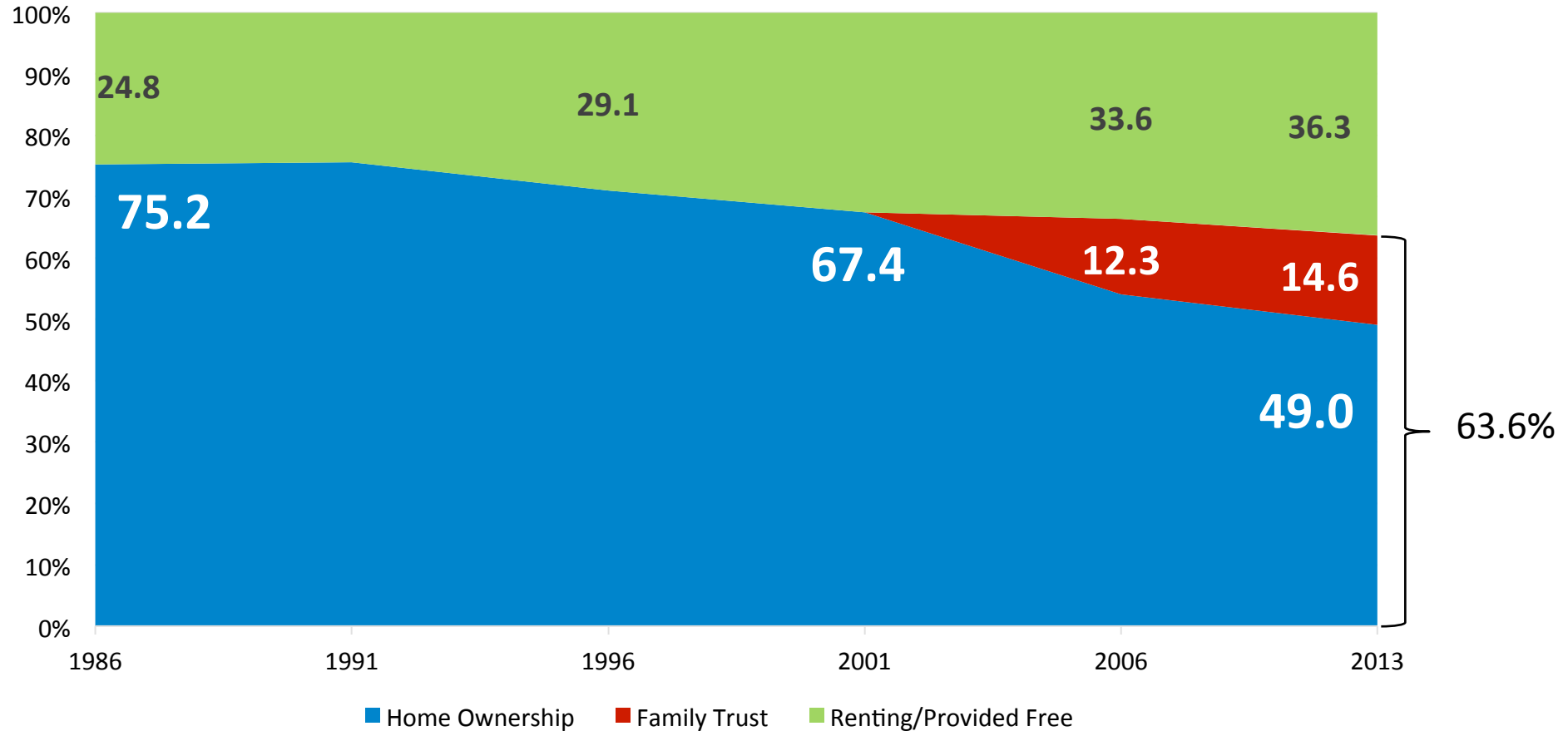
# *Applied demography and housing*

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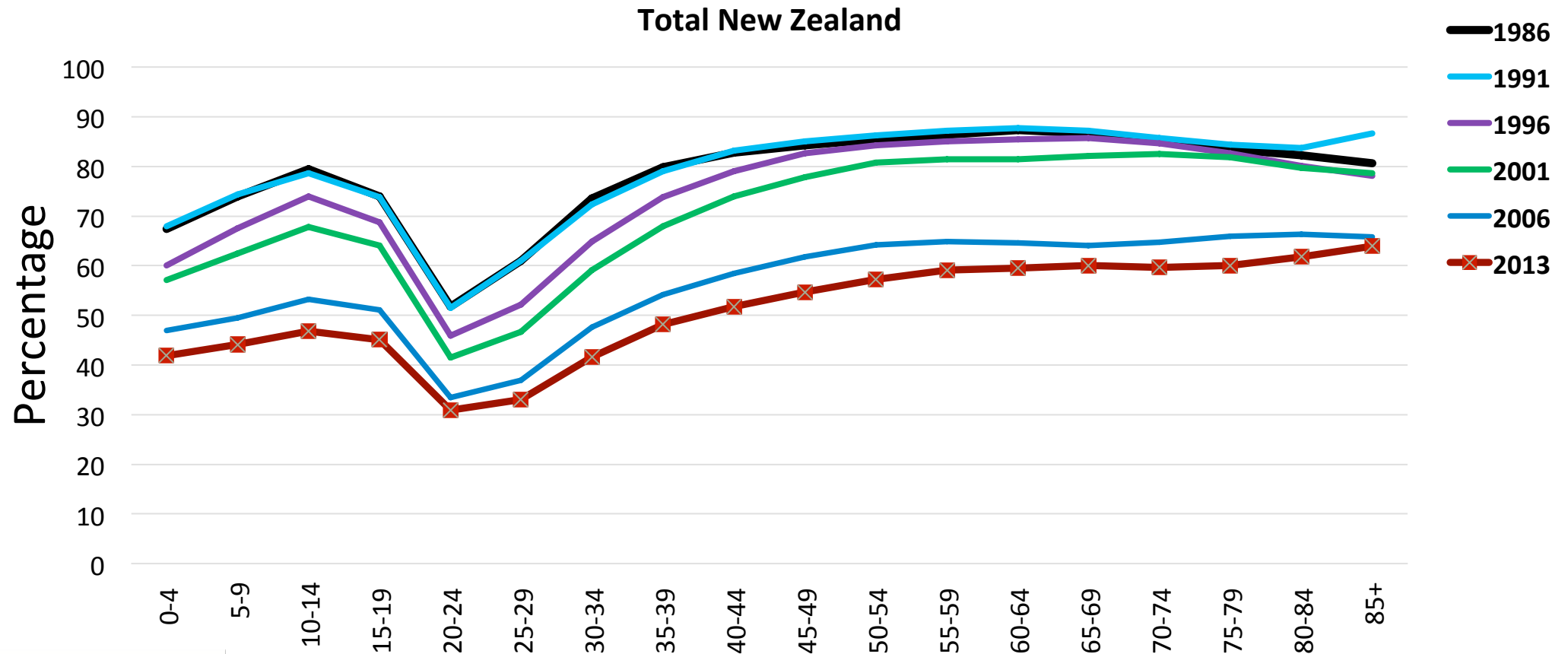
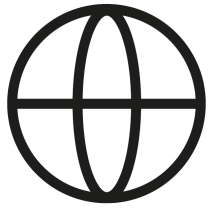


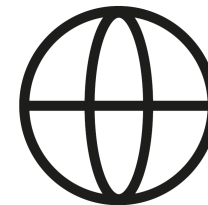
# The descent of home ownership, 1986-2013

Total New Zealand 1986-2013

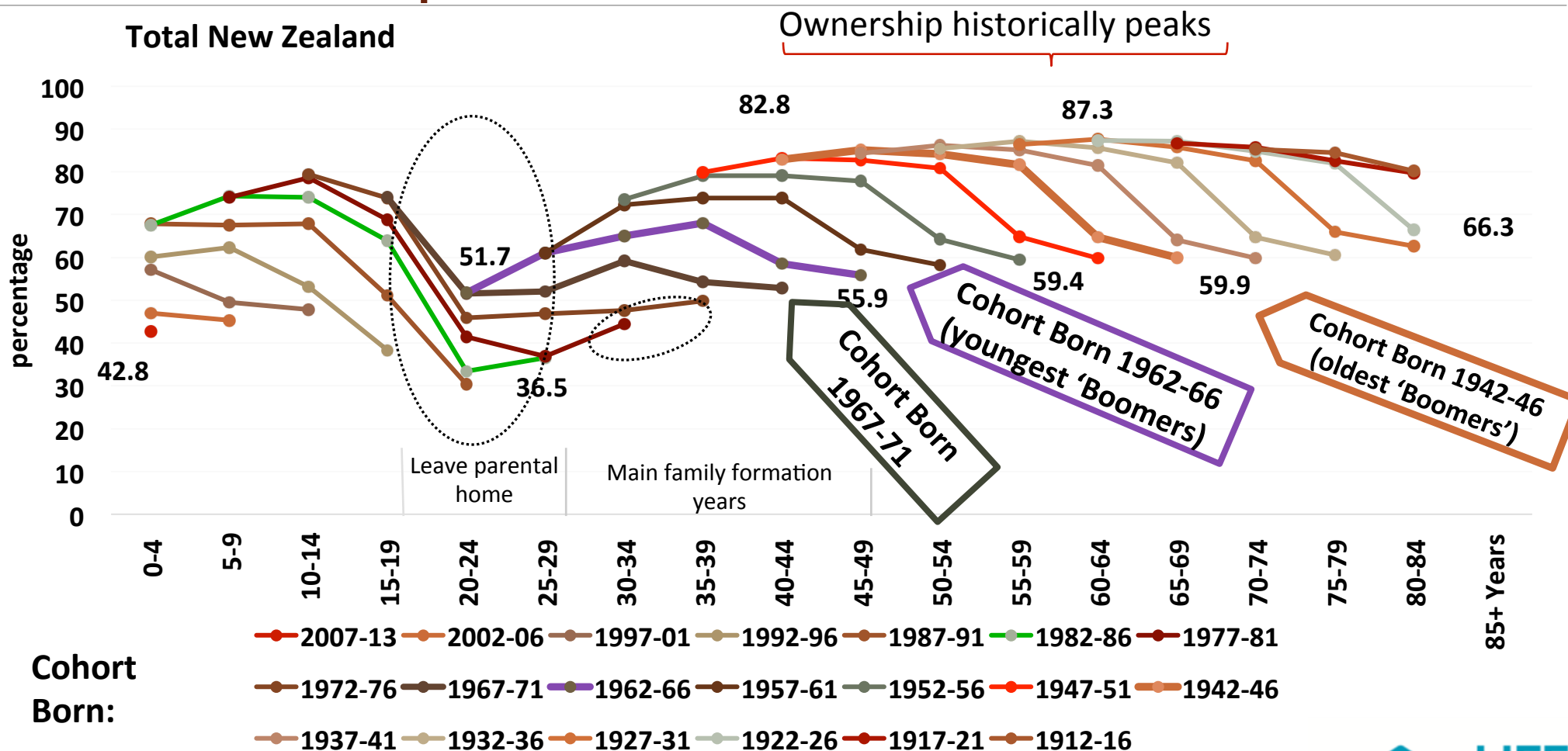


# Home ownership has fallen for all age groups, 1986-2013



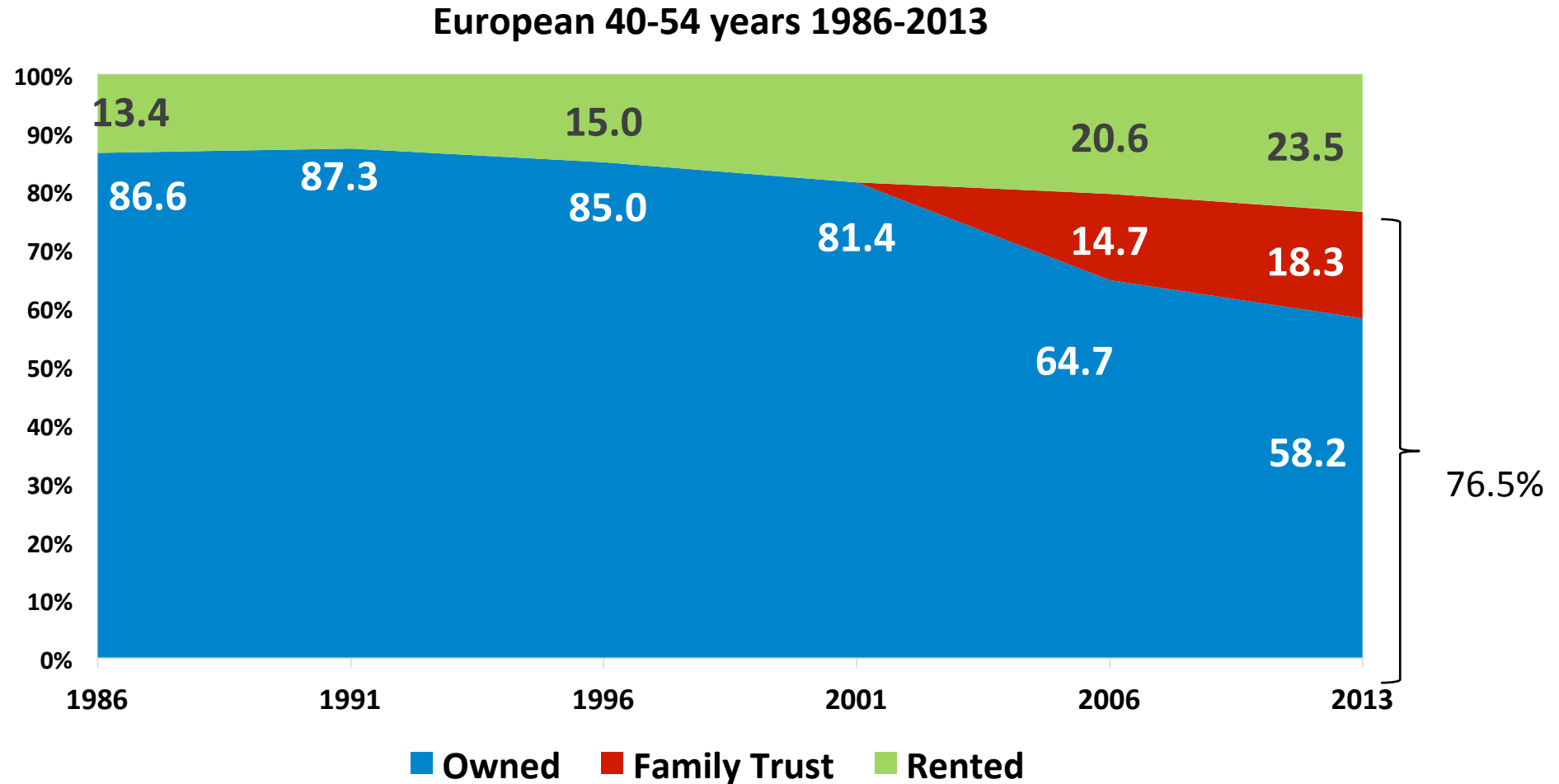


# Home Ownership has fallen for all birth cohorts\*



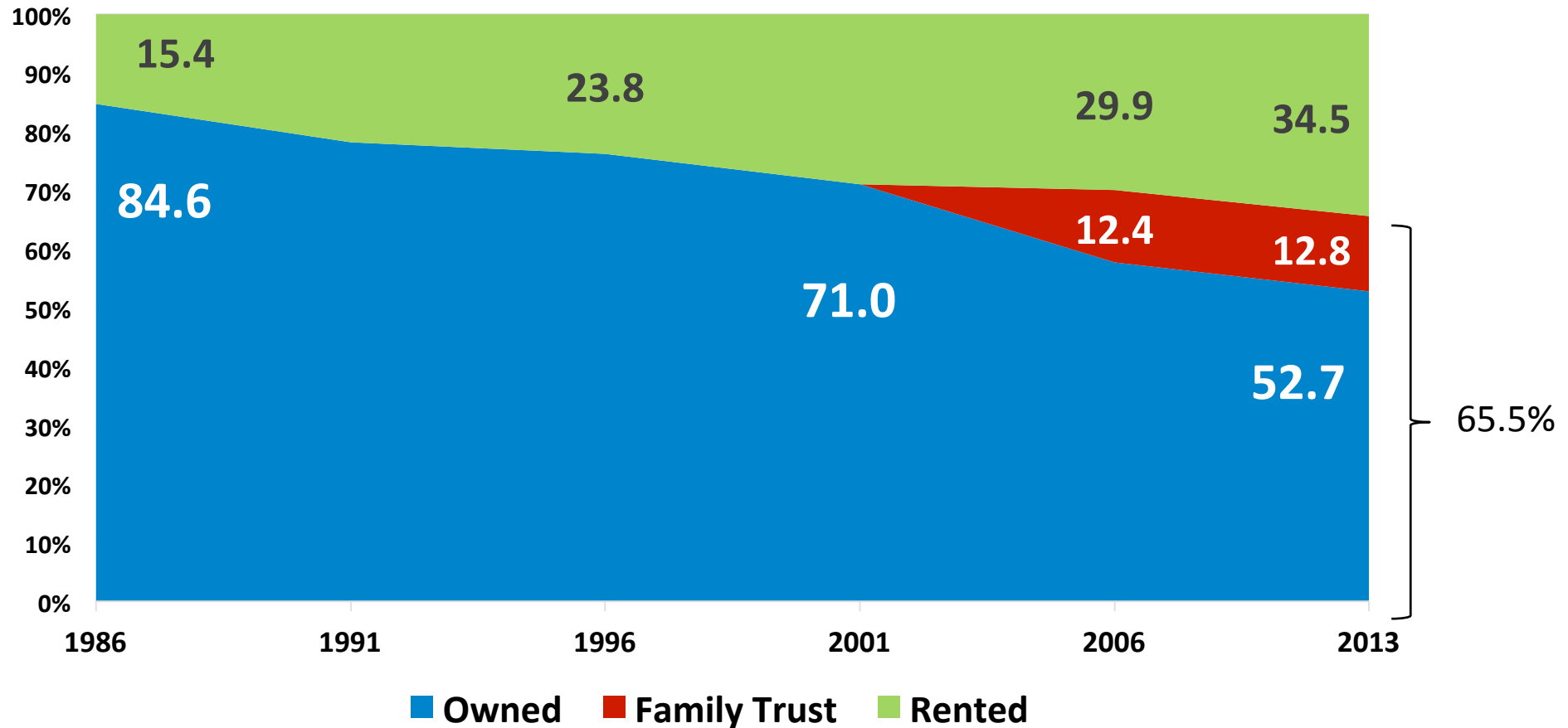
\* final observation for each cohort is +2 years, due to 7-year gap between 2006 and 2013 censuses

# European aged 40-54 years, 1986-2013



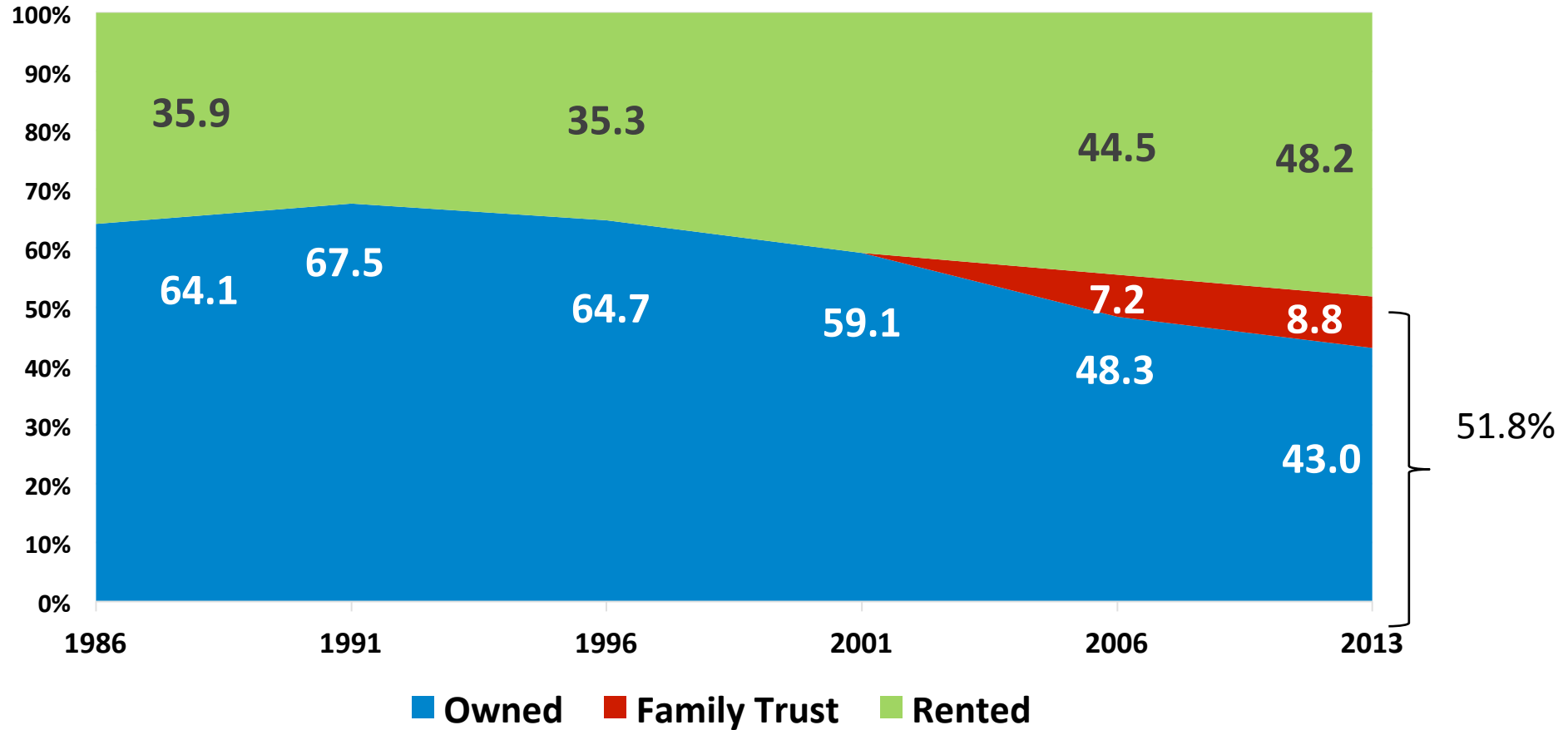
# Asian aged 40-54 years, 1986-2013

Asian 40-54 years 1986-2013



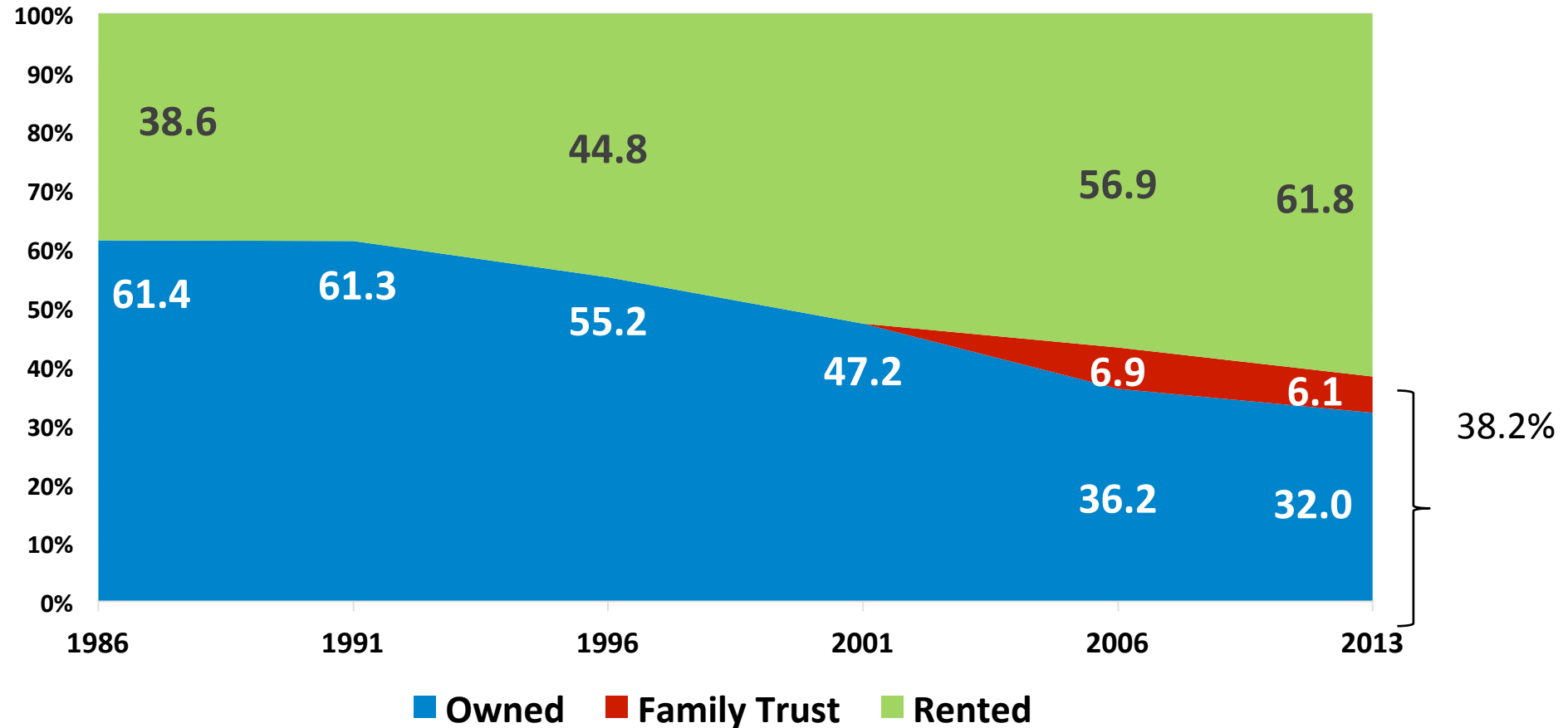
# Maori aged 40-54 years, 1986-2013

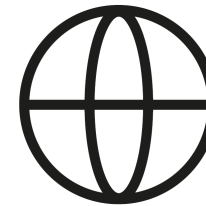
Maori 40-54 years 1986-2013



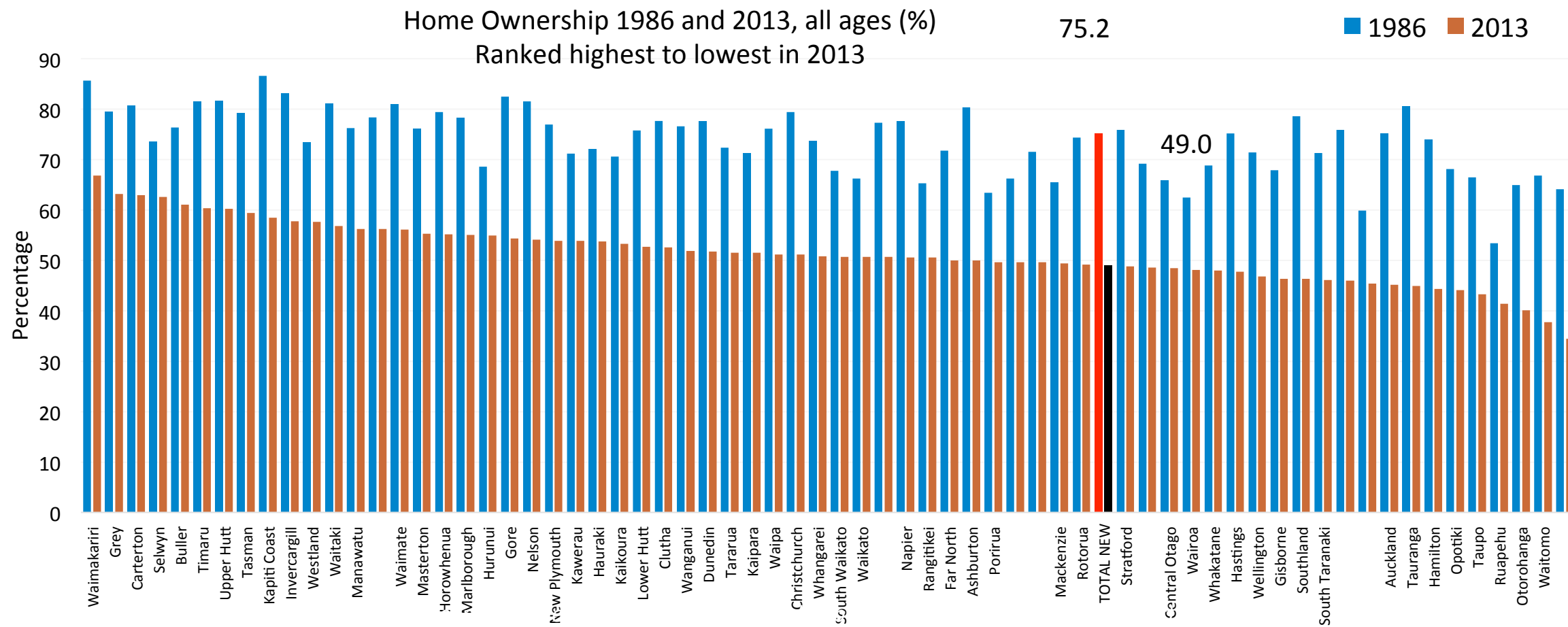
# Pacific People aged 40-54 years, 1986-2013

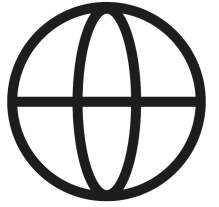
Pacific People 40-54 years 1986-2013





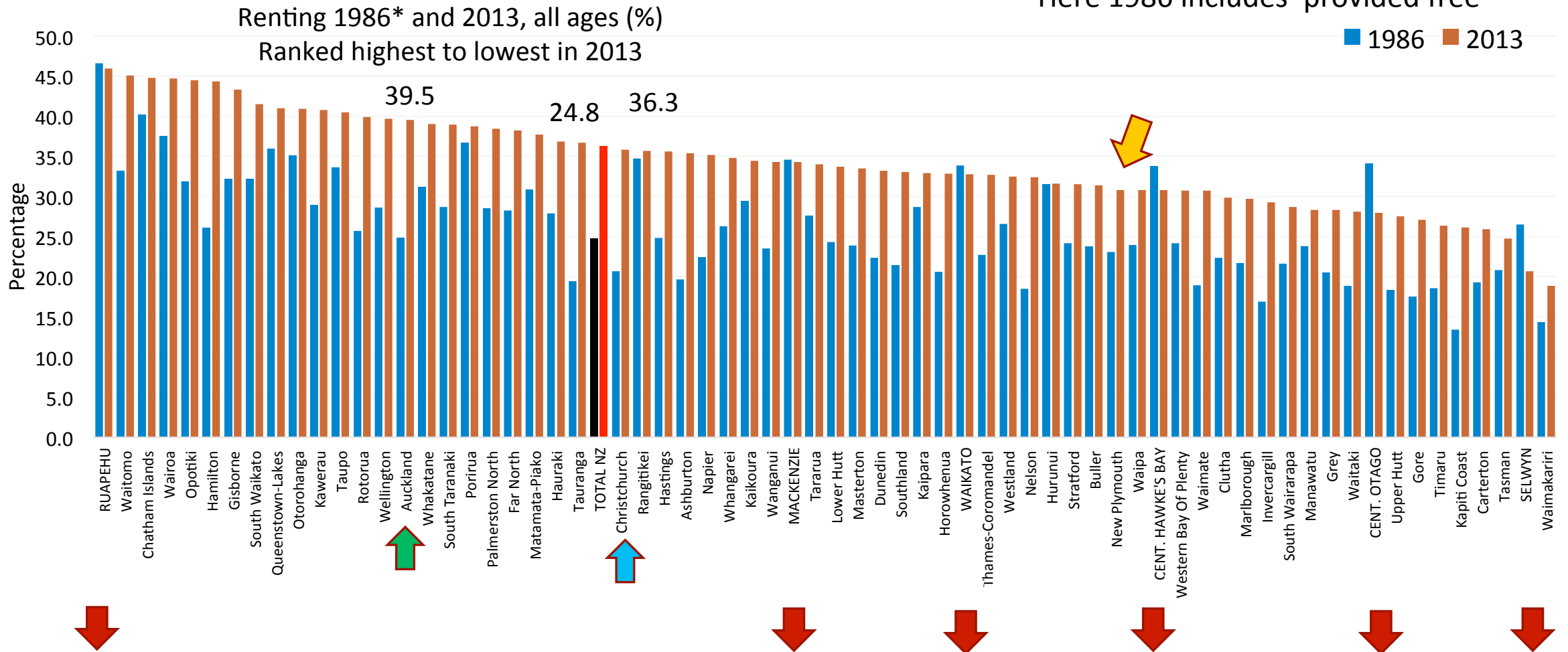
# Home Ownership has declined in every TA





# Renting has increased in all but six\* TAs

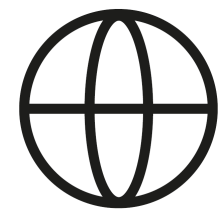
\* Here 1986 includes 'provided free'



***Short of a major disruption to the status quo, prepare for much more renting, especially at older ages, and especially among Maori and Pacific Peoples***

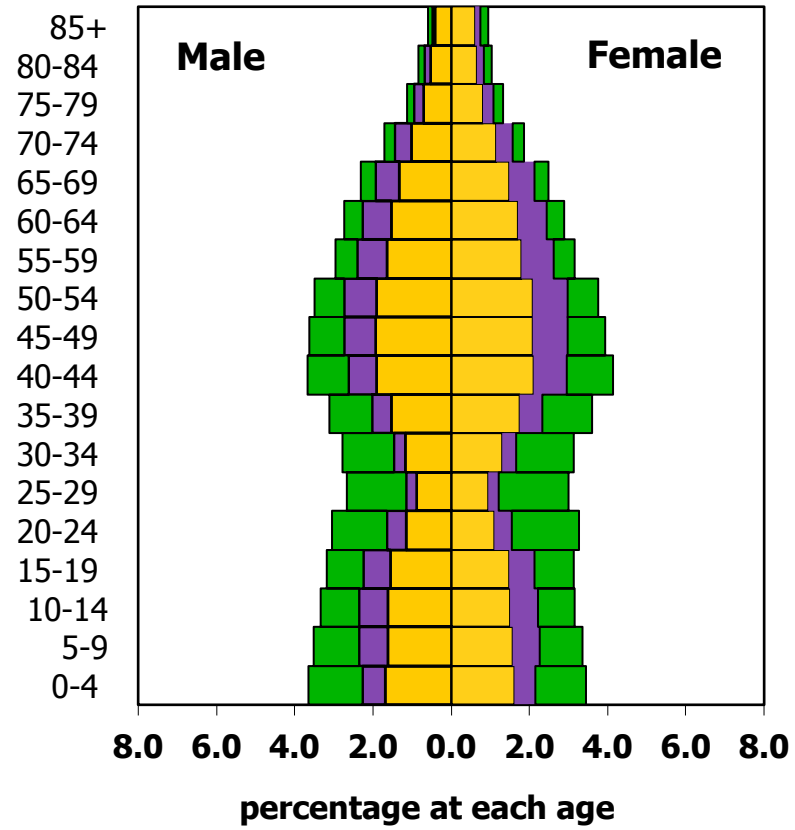
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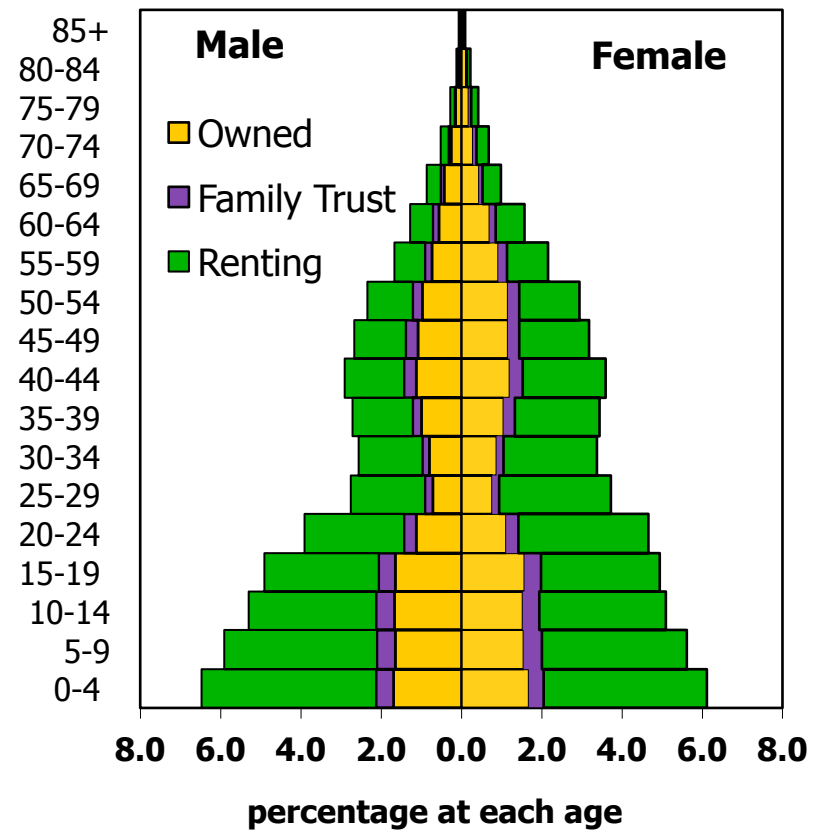
# Visualising housing demand by age and ethnic group – AKL 2013

## European



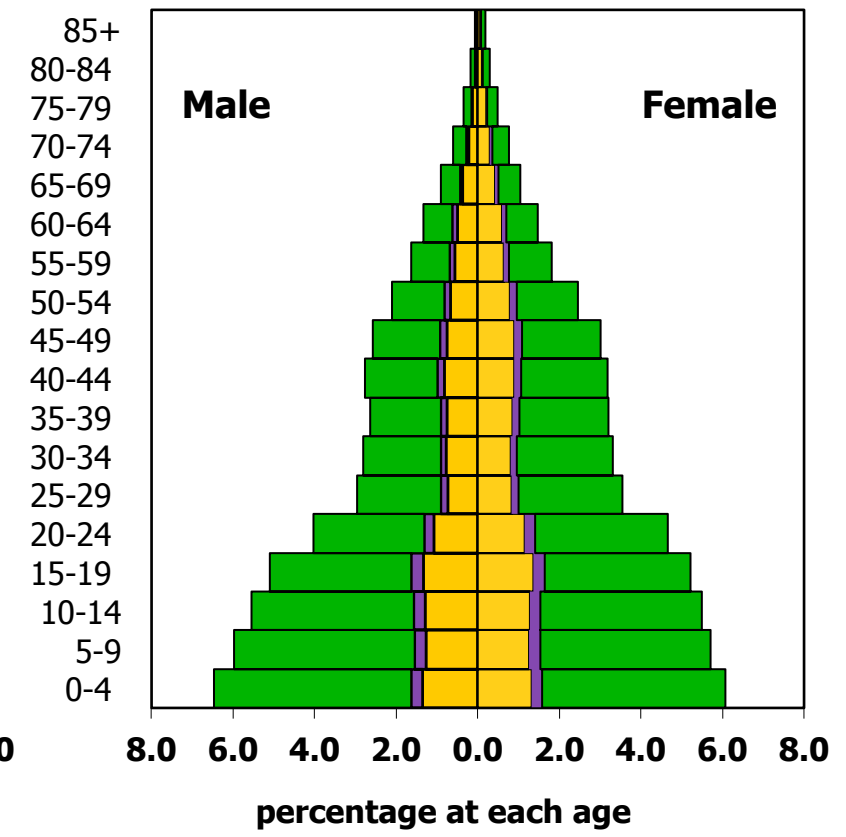
20-49 yrs = 39.9%

## Maori

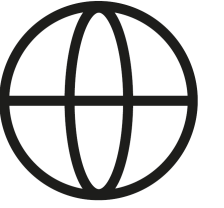


20-49 yrs = 39.6%

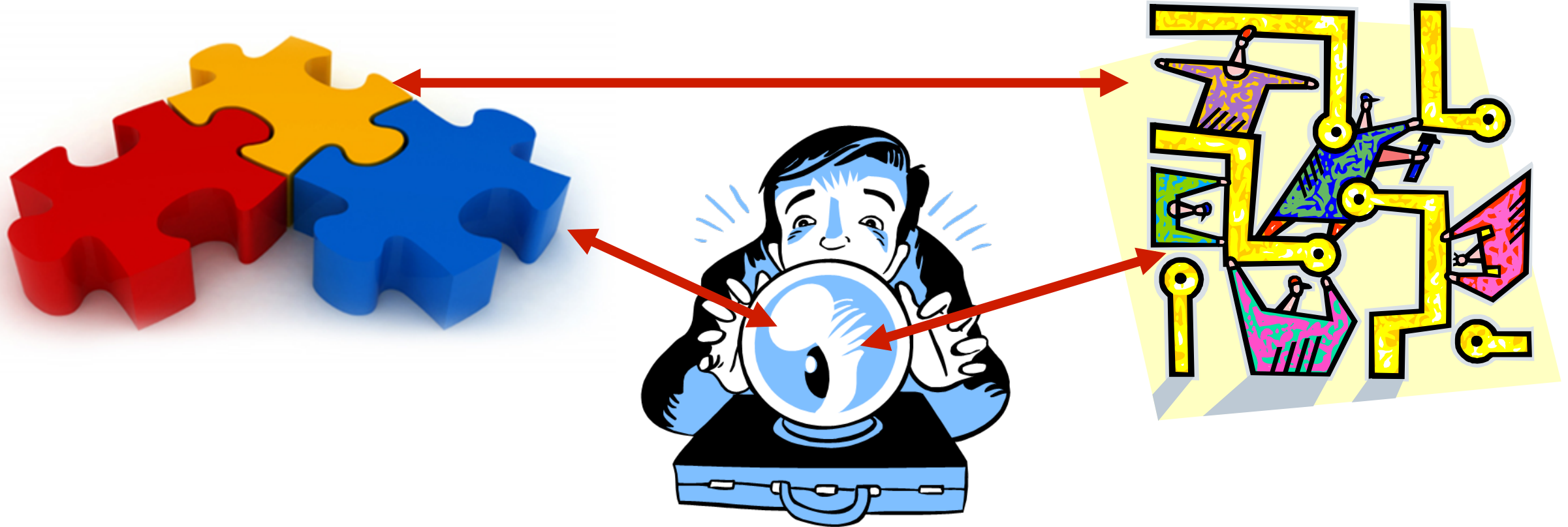
## Pacific People



20-49 yrs = 38.7%



# Applied Demography





*Planning for a  
changing world*

Thank you - enquiries welcome

Email: [demographics@nataliejackson.net](mailto:demographics@nataliejackson.net)

Website: [www.nataliejackson.net](http://www.nataliejackson.net)

