



**MINISTRY OF BUSINESS,  
INNOVATION & EMPLOYMENT**  
HIKINA WHAKATUTUKI

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# Unpacking the higher NEET rate for Māori and Pacific peoples using administrative data

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Oranga Tamariki Evidence Centre Seminar  
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# Disclaimer

The results in this presentation are not official statistics They have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand.

The opinions, findings, recommendations, and conclusions expressed in this presentation are those of the author, not Statistics NZ or the Ministry of Business, Innovation and Employment

Access to the anonymised data used in this study was provided by Statistics NZ under the security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this presentation have been confidentialised to protect these groups from identification and to keep their data safe.

Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from [www.stats.govt.nz](http://www.stats.govt.nz).

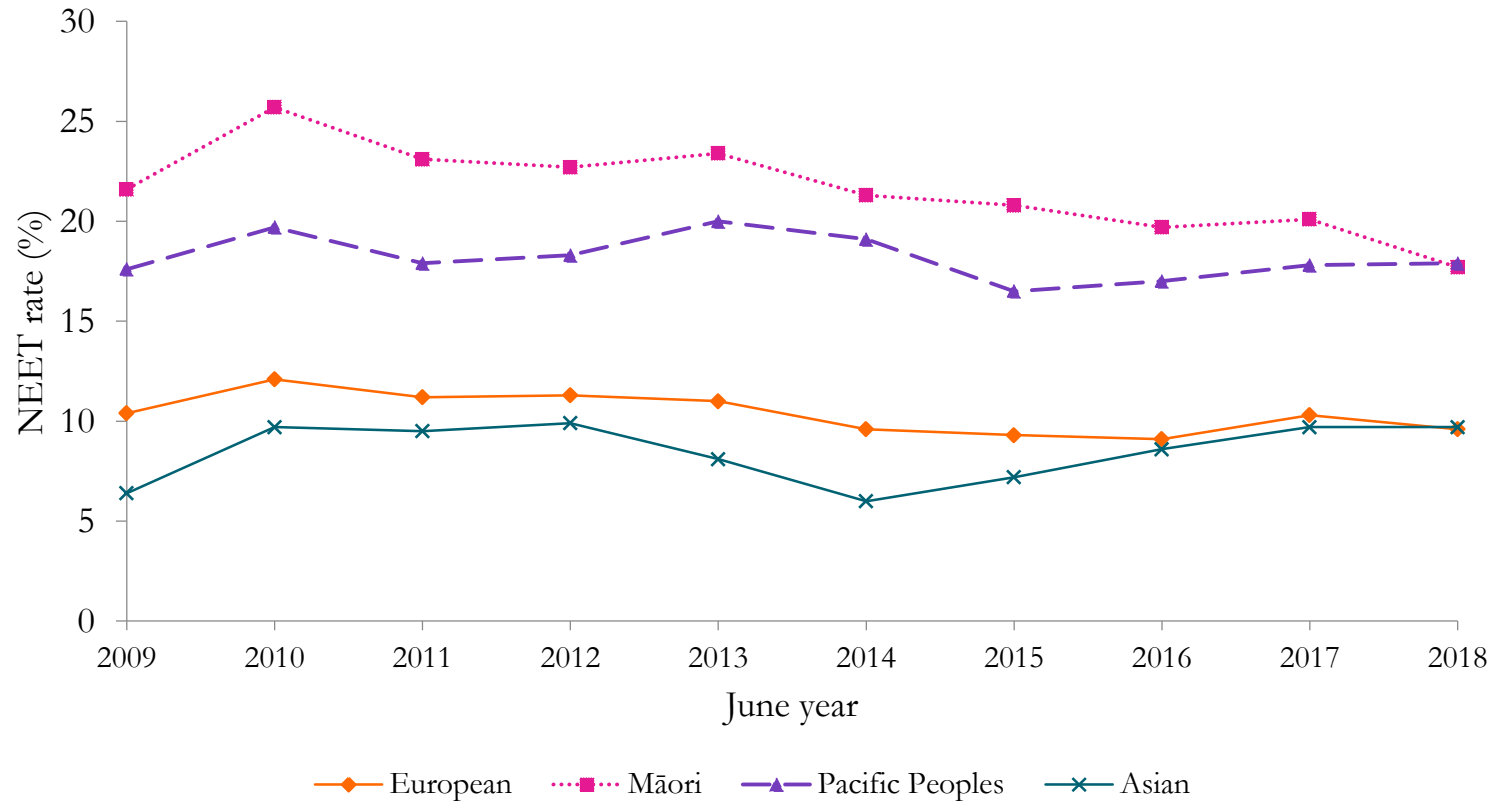
The results are based in part on tax data supplied by Inland Revenue to Statistics NZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to Inland Revenue for administrative or regulatory purposes.

Any person who has had access to the unit record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.



# Why should we care?

Annual NEET rate (June) by ethnic group



# What drives the greater rates?

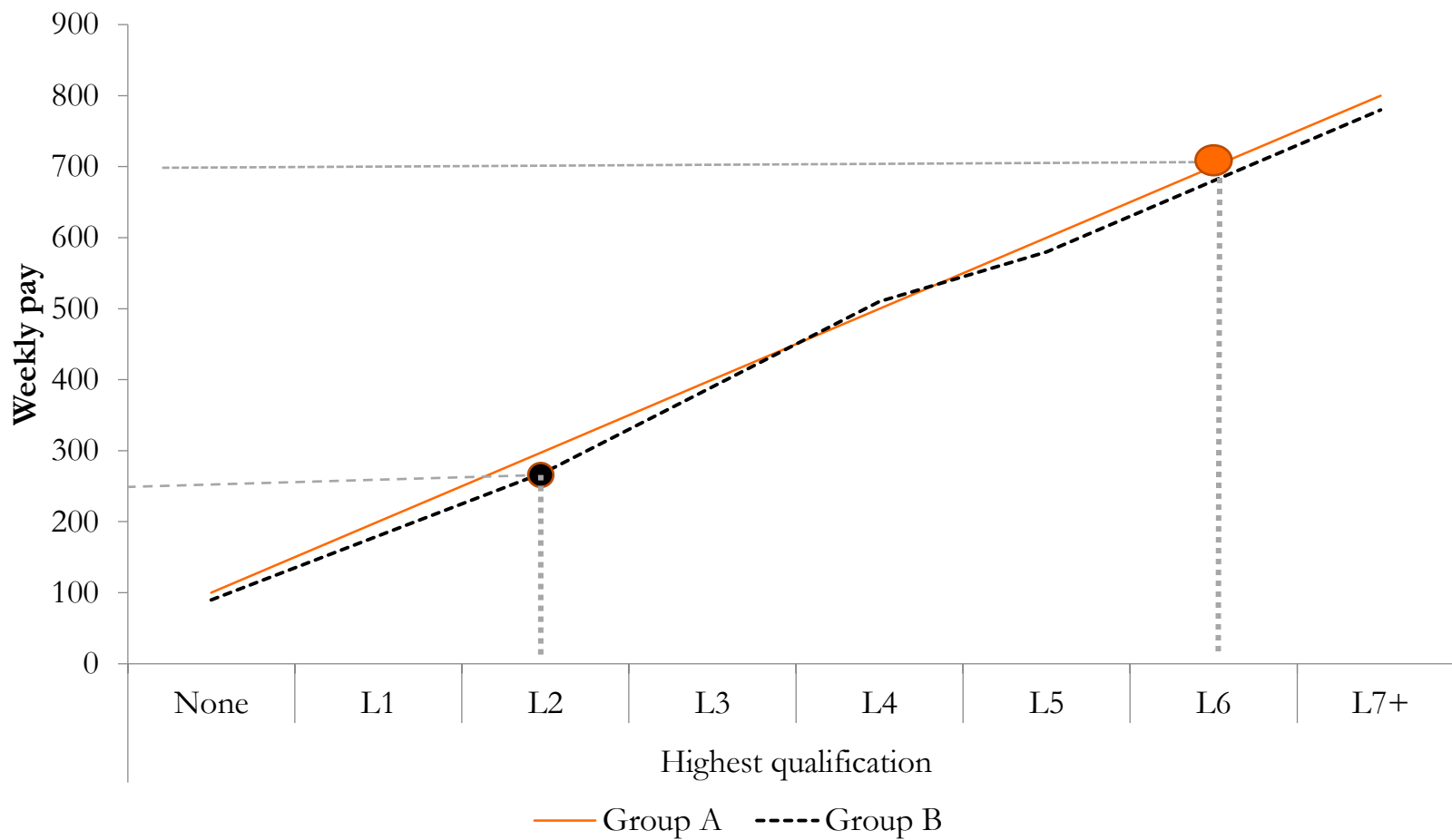
Consistently greater NEET rate for Māori and Pacific youth

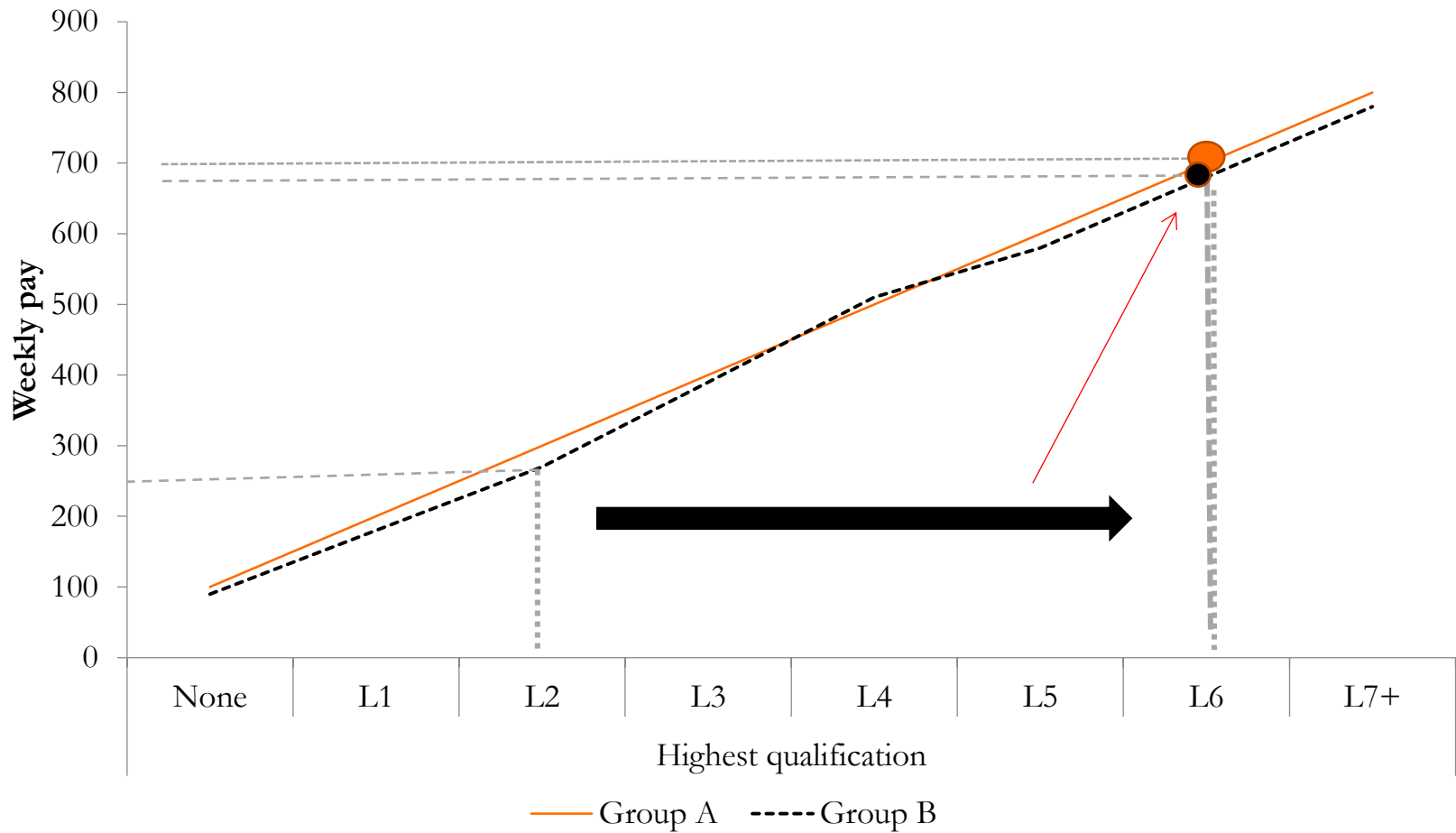
Greater prevalence of NEET related risk-factors amongst share of Māori and Pacific youth

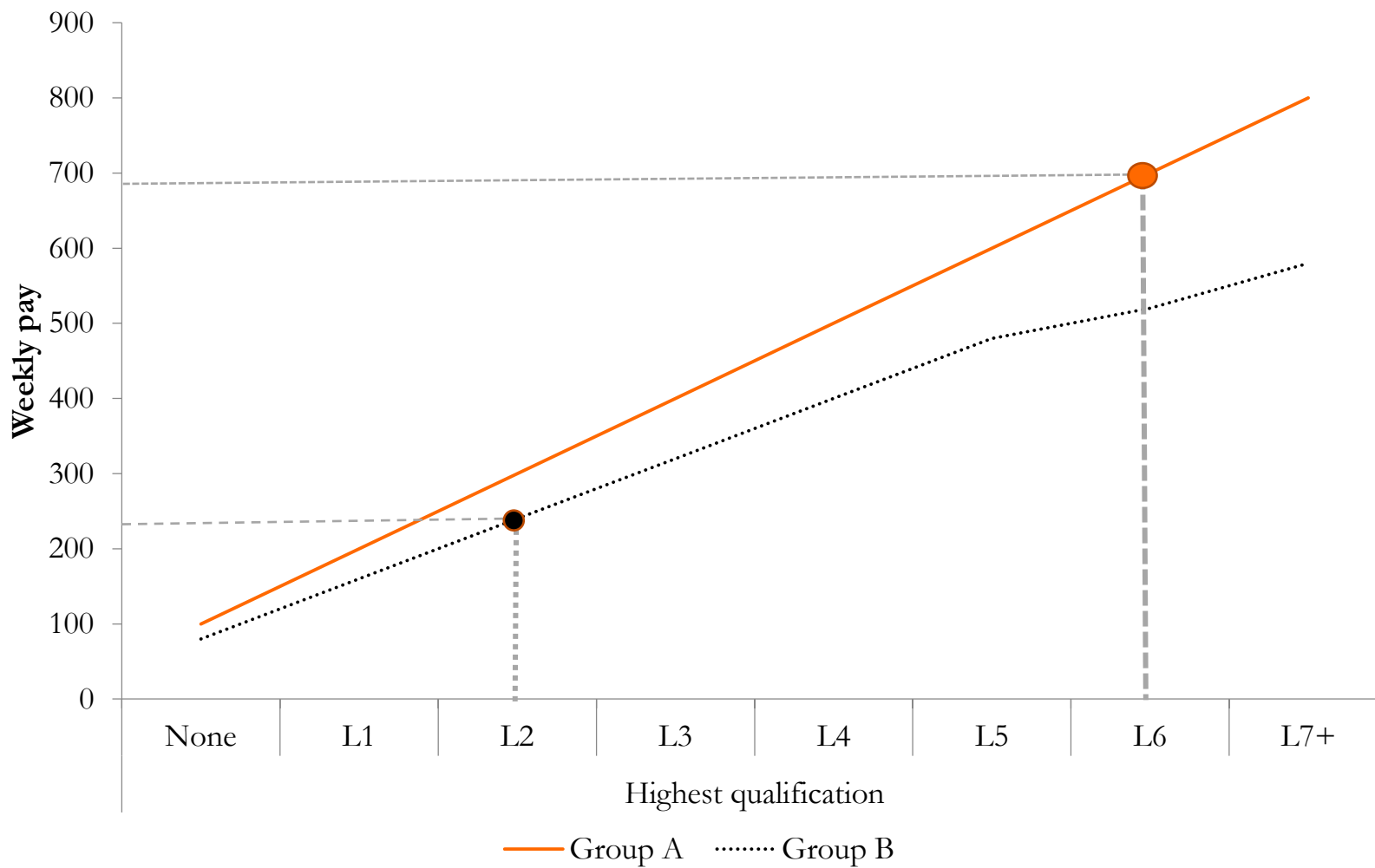
What would happen to the “NEET rate gap” if Māori/Pacific peoples had a lower prevalence of risk-factors?

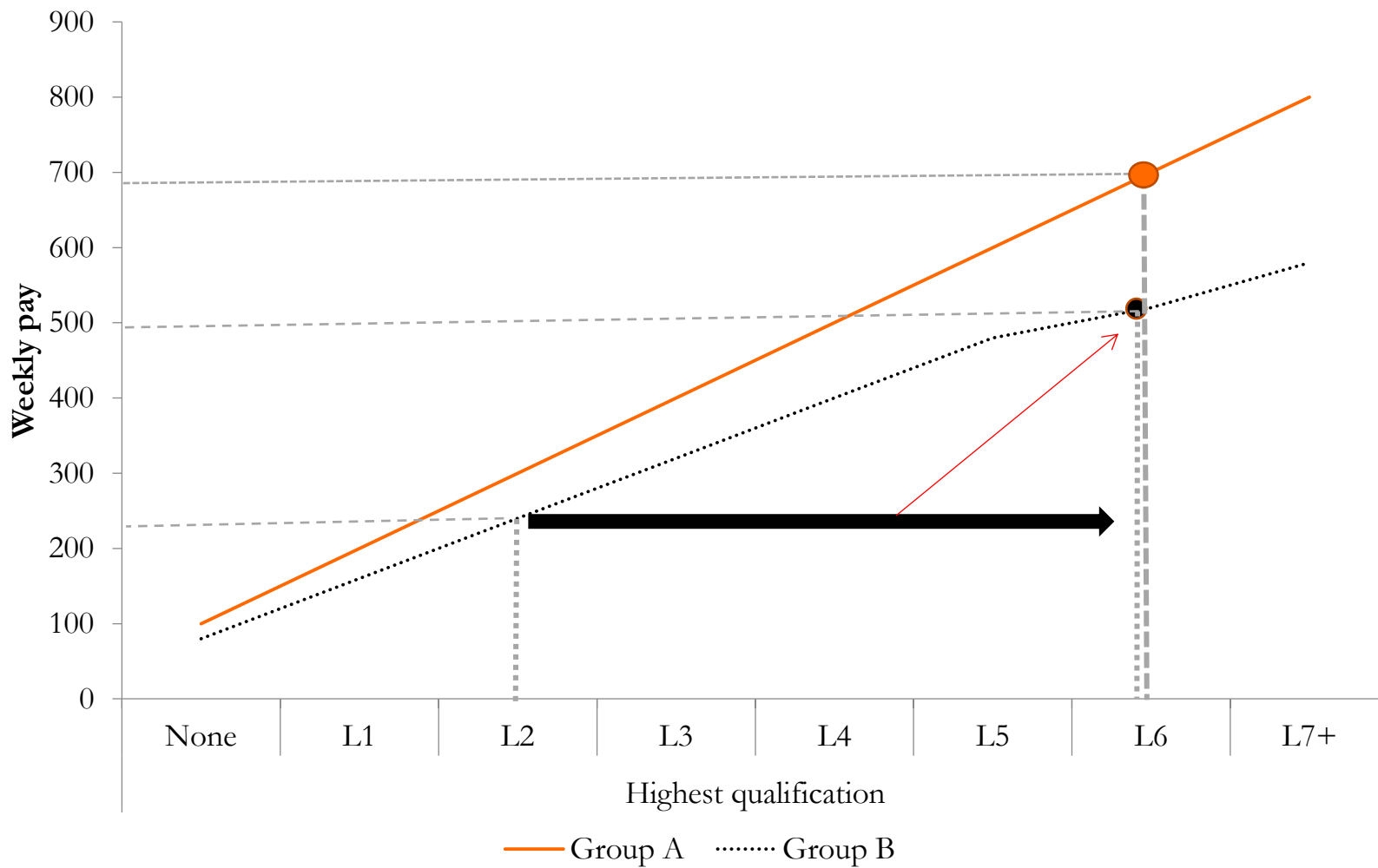
Would some risk-factors be more “important” to some sub-groups?





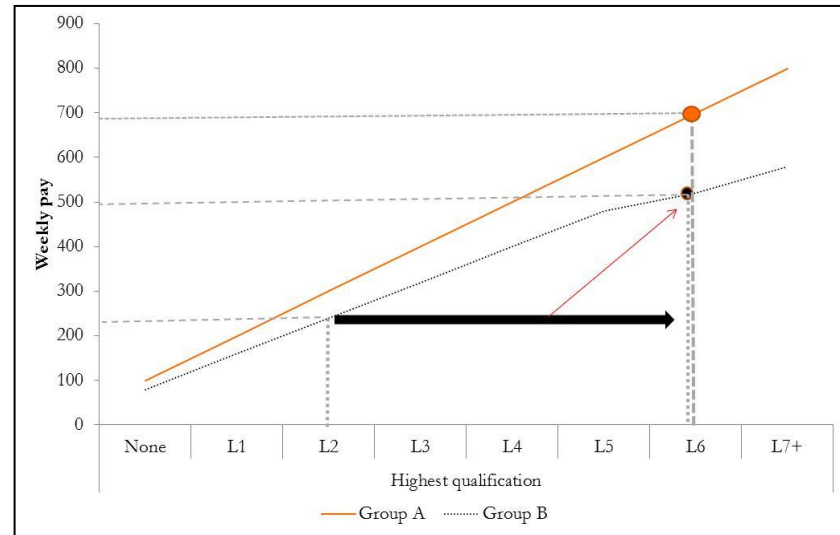
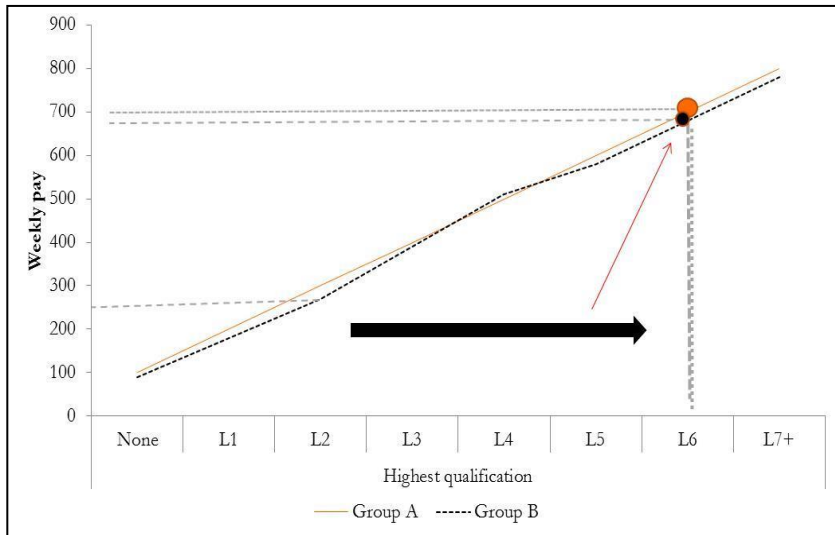
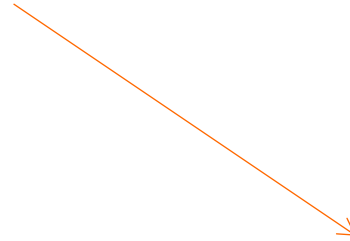
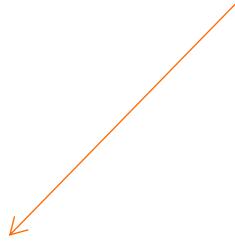








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# Decomposition

Blinder-Oaxaca decomposition (Blinder, 1973; Oaxaca, 1973)

$$NEET_{ei} = \sum_{k=1}^K X_{ik} \beta_{ek} + \epsilon_{ei},$$

*e: O, MO, M, P; i*

*NEET: NEET status*

*X: vector of risk factors*

*β : vector of risk factor/NEET associations*

*ε : noise term*

$$\overline{\Delta NEET_{O,MO}} = \overline{NEET_O} - \overline{NEET_{MO}}$$



# Decomposition (cont.)

$$\begin{aligned} \overline{\Delta NEET}_{O,MO} &= \left[ \sum_k (\overline{X_{MOk}} - \overline{X_{Ok}}) \beta_{MOk} \right] \\ &+ \left[ (\beta_{MO0} - \beta_{O0}) + \sum_k \overline{X_{Ok}} (\beta_{MOk} - \beta_{Ok}) \right] \\ &+ \left[ \sum_k (\overline{X_{MOk}} - \overline{X_{Ok}}) (\beta_{MOk} - \beta_{Ok}) \right] = \mathbf{C} + \mathbf{R} + \mathbf{I} \end{aligned}$$

Decomposing NEET rate gap into:

- **C** - Differences in the prevalence of risk-factors (explained)
- **R** - Differences in returns to risk-factors (unexplained)
- **I** – Interactions between C & R



# Decomposition (cont.)

New Zealanders aged 15-24 in 31<sup>st</sup> December 2016

Focus on Long term spells of NEET (rather than all)

**Treatment groups:** Māori – single (9.8%) and multi (14.3%);  
Pacific peoples (9.6%)

**Control group:** non-Māori/Pacific people (66.3%)

Age (15-19, 20-24) and gender specific decomposition

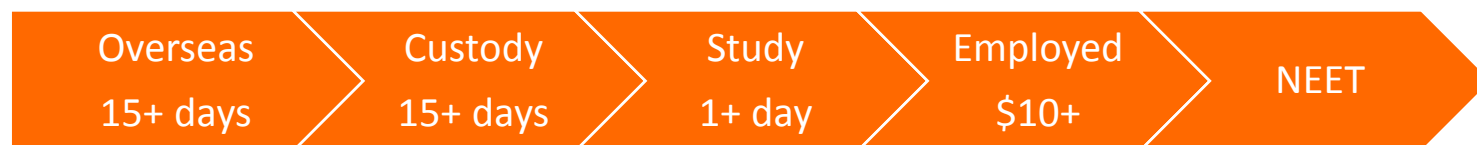
Administrative records from the IDI



# How is Long-Term NEET (LT-NEET) defined?

Follow approach of McLeod & Tumen (2017)

Assign activity for each individual, in each month:



Monthly NEET for all observations without other activities

**Long-Term NEET:** 6+ consecutive months within a calendar year

# Sample and variables

588,612 observations of 15-24 year old New Zealanders at 31<sup>st</sup> December, 2016

**Education:** # of schools, decile, # of suspensions/warnings, highest qualification, age leaving secondary school

**Other personal:** NZ born, have children, DL, CYF by 5

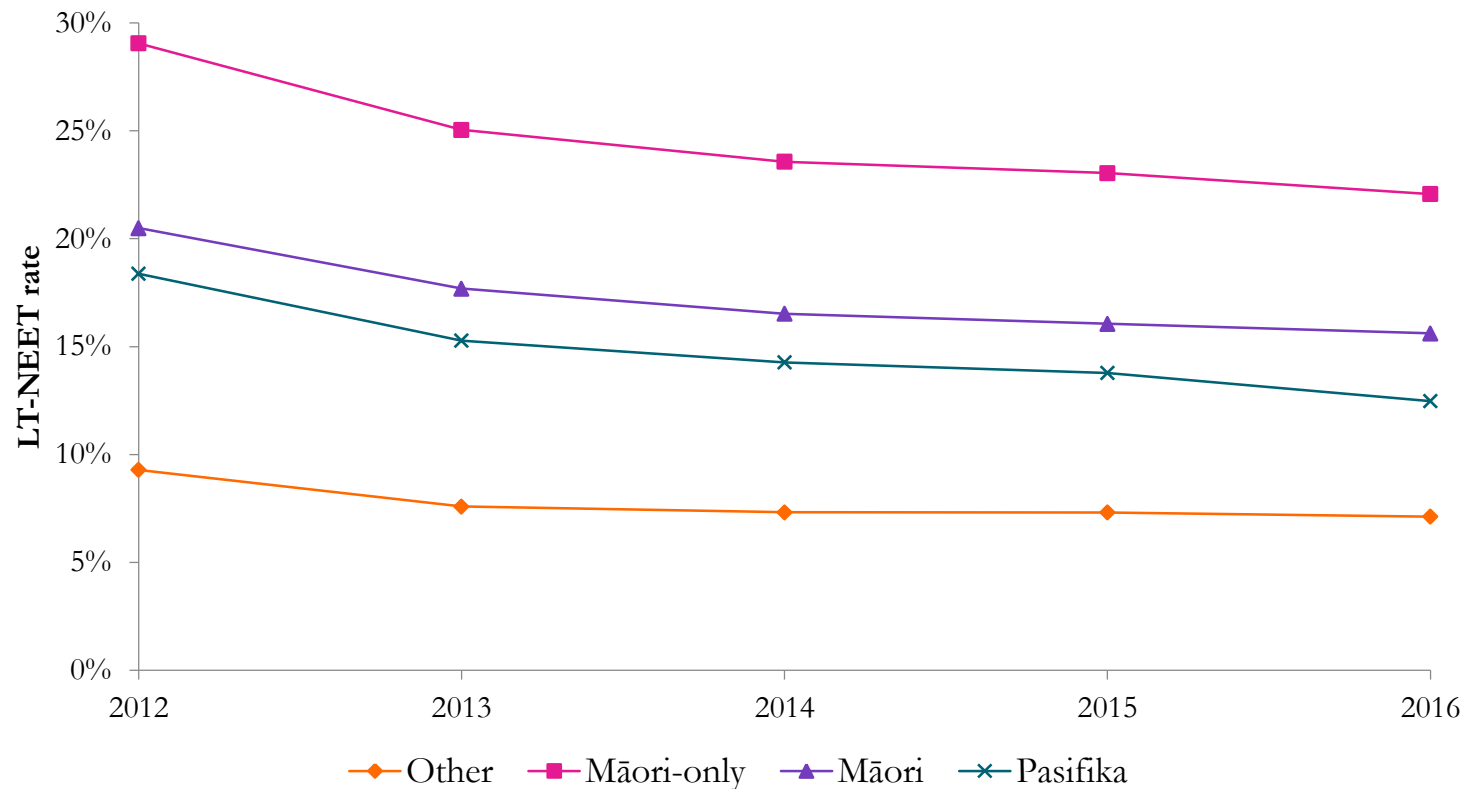
**Family:** # of siblings, mother without qualification, parental benefit dependency (current and historical)

**Area:** MB/AU deprivation (own, and parents), Population size and density, job density

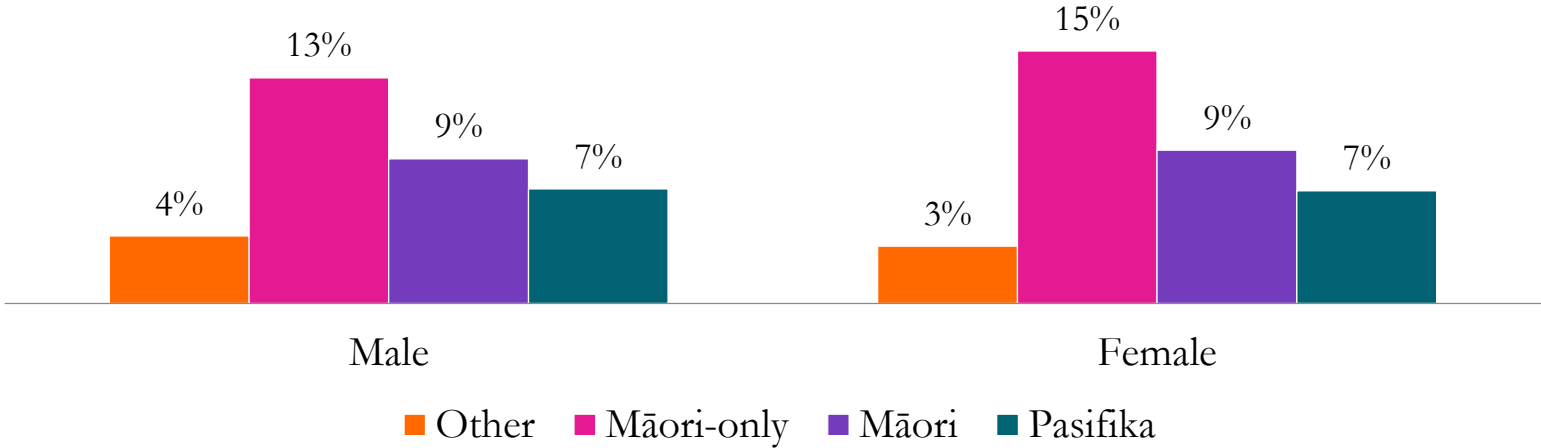


# Changes in the long term NEET rate?

LT-NEET rate by ethnic group, 2012-2016

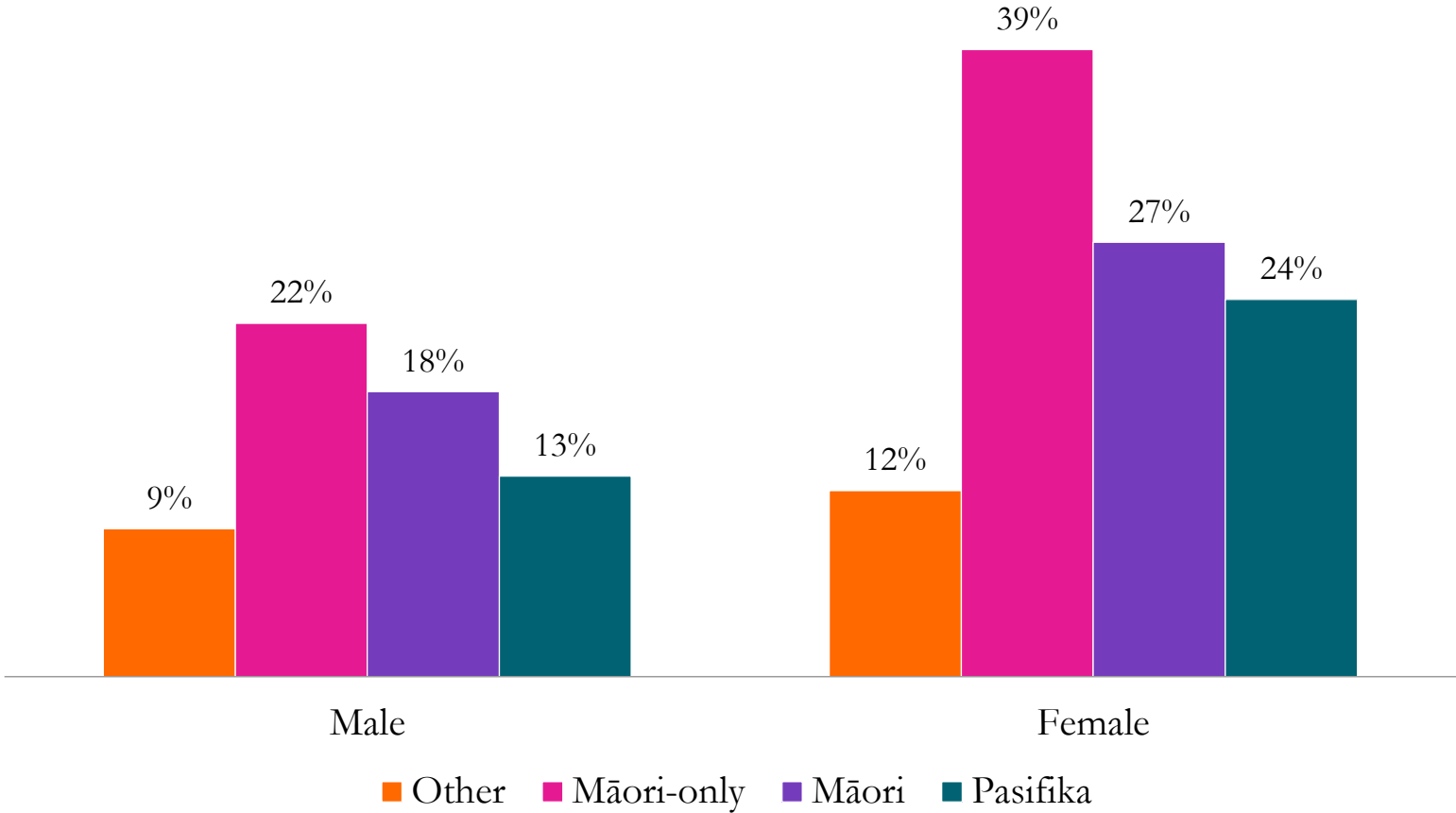


# LT-NEET rate, 15-19 year olds

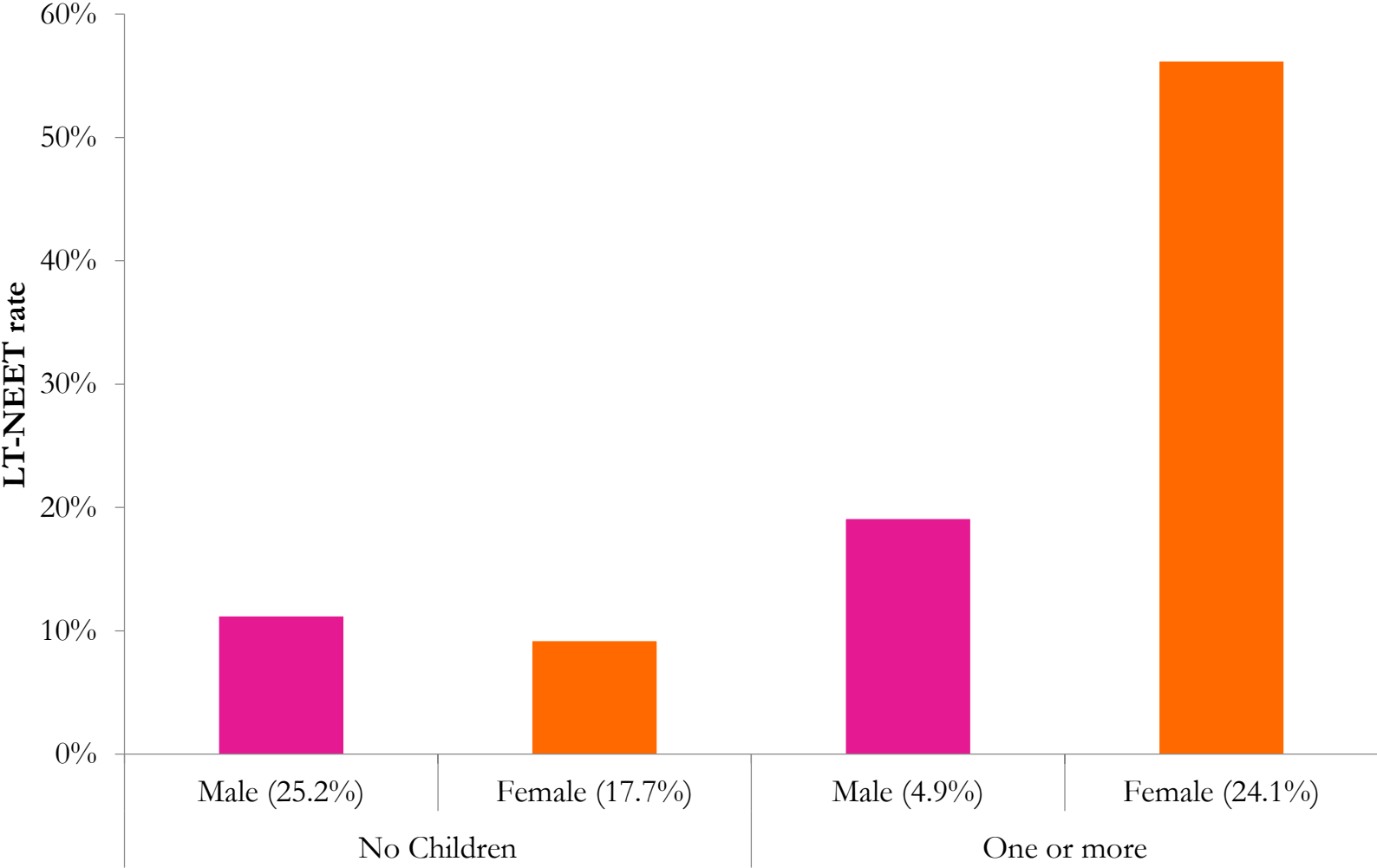




# LT-NEET rate, 20-24 year olds



# NEET rate & parental status, 20-24 year olds



# Other high level findings

## Māori and Pacific peoples were more likely to:

- Have children, multiple schools, low decile, no qualifications, no driver licence
- Have parents with benefit dependency, reside in highly deprived areas

## Differences in returns:

- coefficients (generally) show similar association between ethnic groups

## Nonlinearities:

- mothers, DL, and Bachelor's degree and above



# What explains the LT-NEET rate gap?

## 15-19 year olds

LT-NEET	Māori-only		Māori		Pasifika	
	M	F	M	F	M	F
Difference	-0.095	-0.117	-0.047	-0.057	-0.028	-0.034
<b>Contribution by component</b>						
Risk Factors	<b>-0.088***</b> (93%)	<b>-0.096***</b> (82%)	<b>-0.036***</b> (77%)	<b>-0.049***</b> (86%)	<b>-0.034***</b> (121%)	<b>-0.043***</b> (126%)
Returns	<b>-0.029***</b> (31%)	<b>-0.038***</b> (32%)	<b>-0.011***</b> (23%)	<b>-0.014***</b> (25%)	<b>0.014***</b> (-50%)	<b>0.009***</b> (-26%)
Interaction	<b>0.022***</b> (-23%)	<b>0.018**</b> (-15%)	0.001 (-2%)	0.005* (-9%)	-0.008* (29%)	-0.001 (3%)



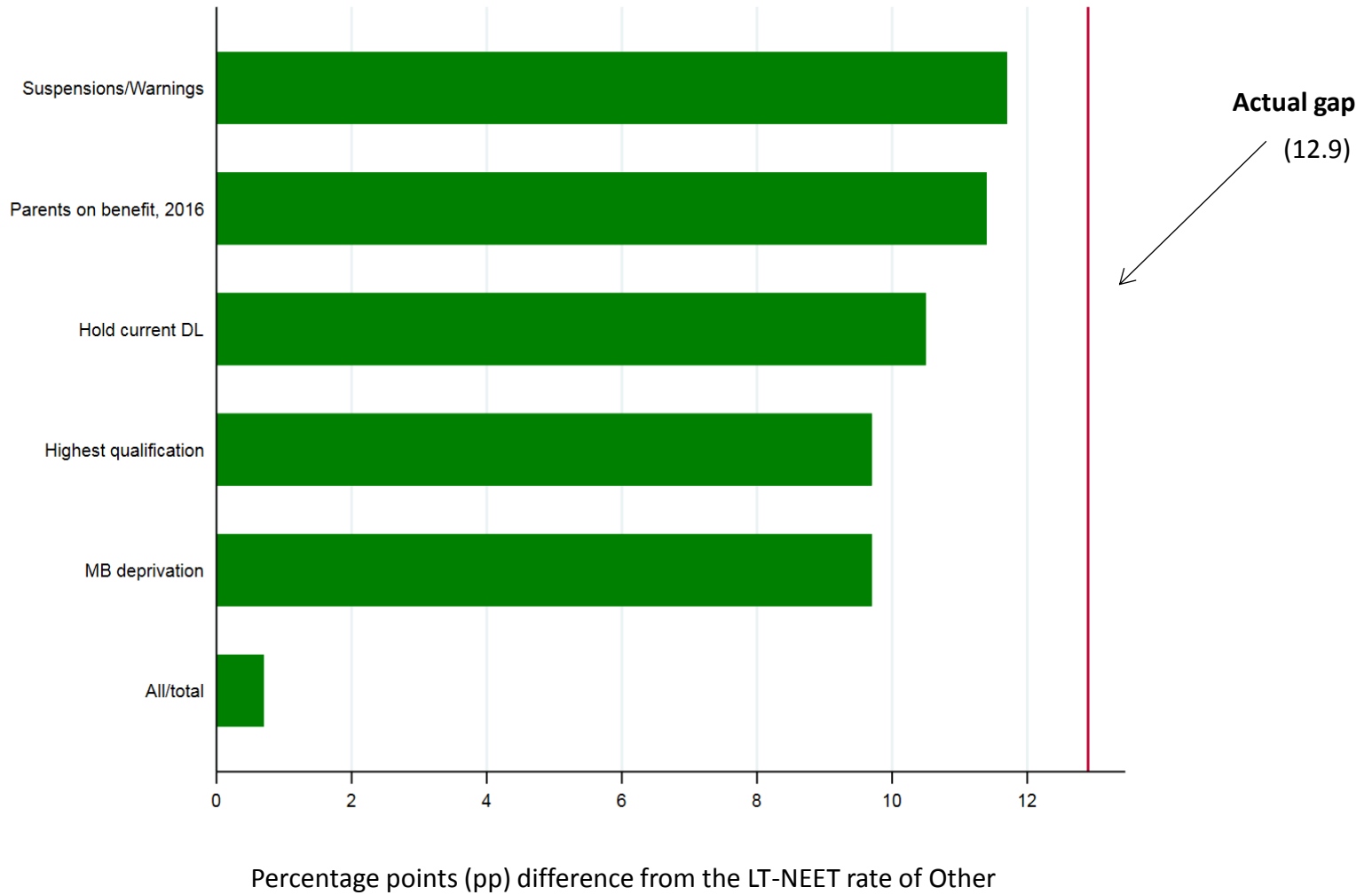
# What explains the LT-NEET rate gap?

## 20-24 year olds

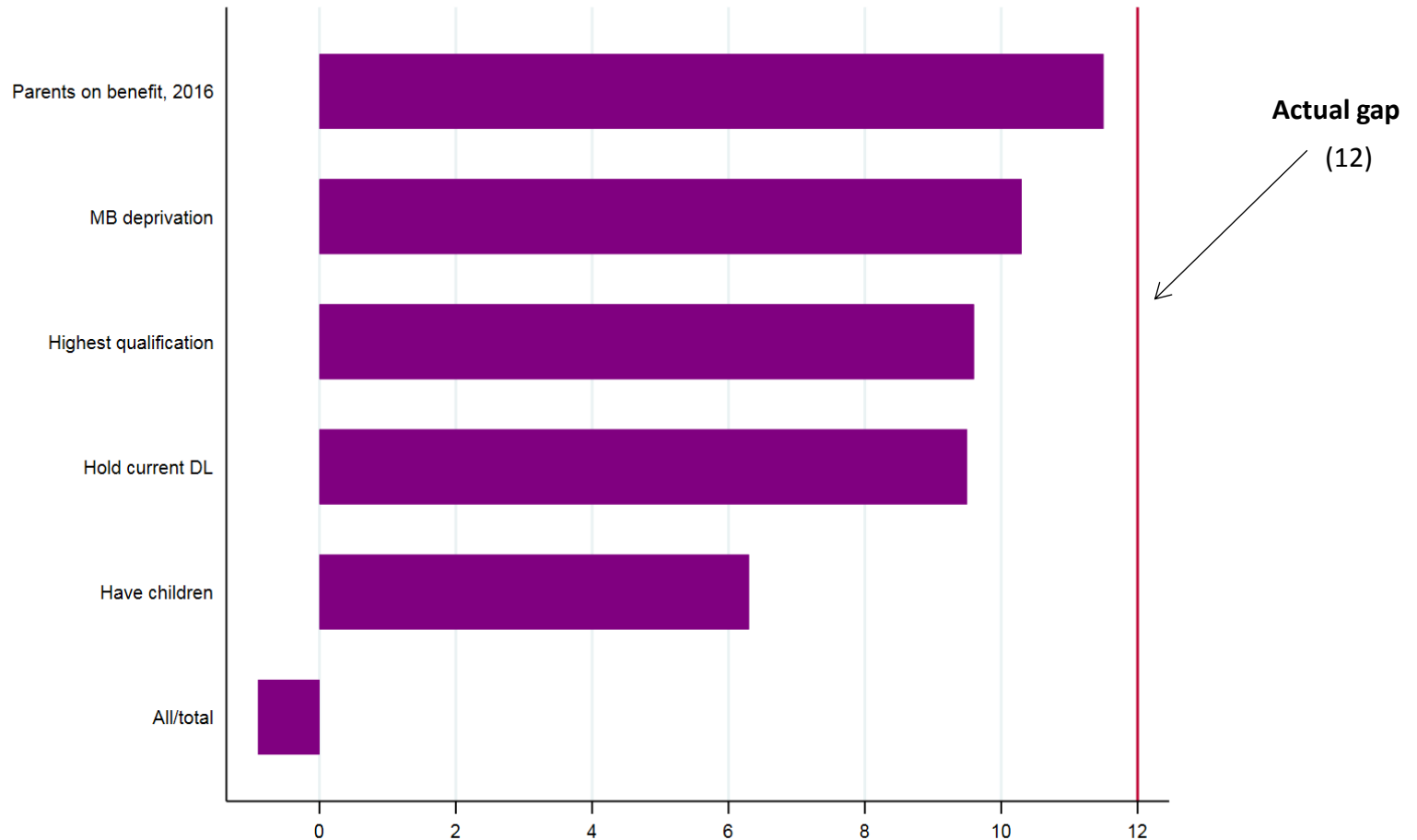
	Māori-only		Māori		Pasifika	
LT-NEET	M	F	M	F	M	F
Difference	-0.129	-0.277	-0.086	-0.157	-0.034	-0.12
<b>Contributions by component</b>						
Risk Factors	<b>-0.122***</b> (95%)	<b>-0.264***</b> (95%)	<b>-0.069***</b> (80%)	<b>-0.144***</b> (92%)	<b>-0.038***</b> (112%)	<b>-0.128***</b> (107%)
Returns	0 (0%)	<b>-0.027***</b> (10%)	-0.006 (7%)	<b>-0.015***</b> (10%)	<b>0.045***</b> (-132%)	0.008* (-7%)
Interaction	-0.007 (5%)	0.014 (-5%)	<b>-0.011**</b> (13%)	0.003 -2%	<b>-0.041***</b> (121%)	0 0%



The effect of different characteristics on LT-NEET rate gap - **Māori only** (males, 20-24)



The effect of different characteristics on LT-NEET rate gap - **Pacific peoples** (females, 20-24)



Percentage points (pp) difference from the LT-NEET rate of Other

# So what?

## Good news:

The LT-NEET rate has fallen, and keeps falling

Almost all of the Māori/Pacific people NEET rate gap is attributed to differences in observed characteristics

Observables matter, but importance varies by sub-group (e.g. ethnicity, gender, and age)

- For females, having children has an especially large contribution to the gap

Support for interventions that promote school retention, training/upskilling, and DL provision (esp. DL and L.7+ for Mothers)





# So what? (cont.)

Less clear –

The effect of **parental** and **area** level outcomes (dep score)

- Parental welfare status contributes sometimes as much as educational outcomes
- Deprivation – under the hood
- Why does dep score have a stronger effect on Māori?

What is the right unit of analysis, especially when thinking of example, about helping mothers/caregivers?

- individual, family, area?
- Would a X% reduction in NEET a good story in that case?
- What will be the outcome for dependent children (and other) if mothers are transitioned to work/study?



# Thank you

Questions/comments/suggestions?

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