

# New Zealand's Household living-costs price indexes: Need, design, and use

Economic Statistics Centre of Excellence and Office for National Statistics

## Workshop on Household Cost Indices

Church House Westminster, London, England

25 April 2019



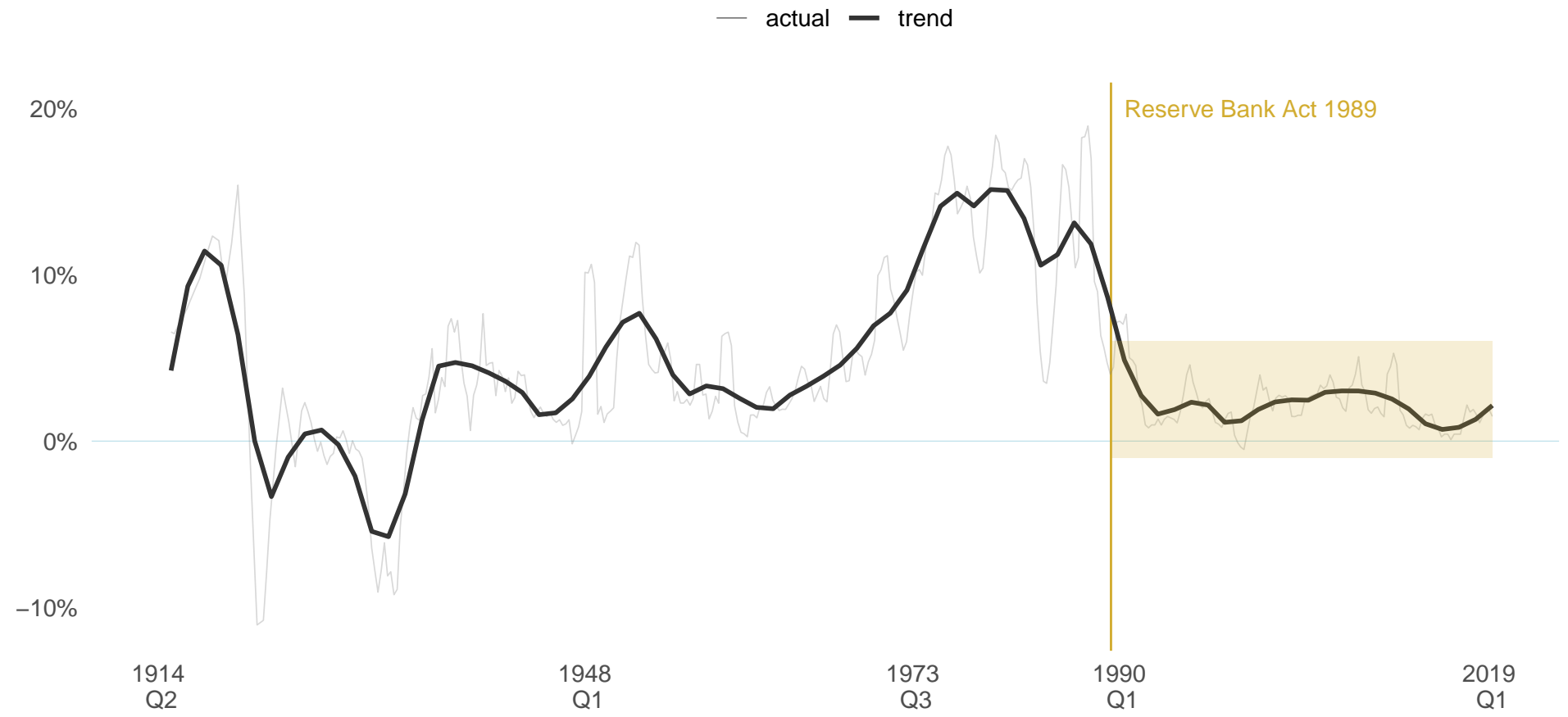
Cottages in Pulham Road, Warkworth part of Cottages in Pulham Road, Warkworth.  
Price, William Archer, 1866-1948 :Collection of post card negatives.  
Ref: 1/2-001796-G. Alexander Turnbull Library, Wellington, New Zealand.  
/records/23190869

**Alan Bentley,**  
Senior Analyst

Need

# Low and stable inflation, following monetary policy target setting

New Zealand Consumers price index, Annual change



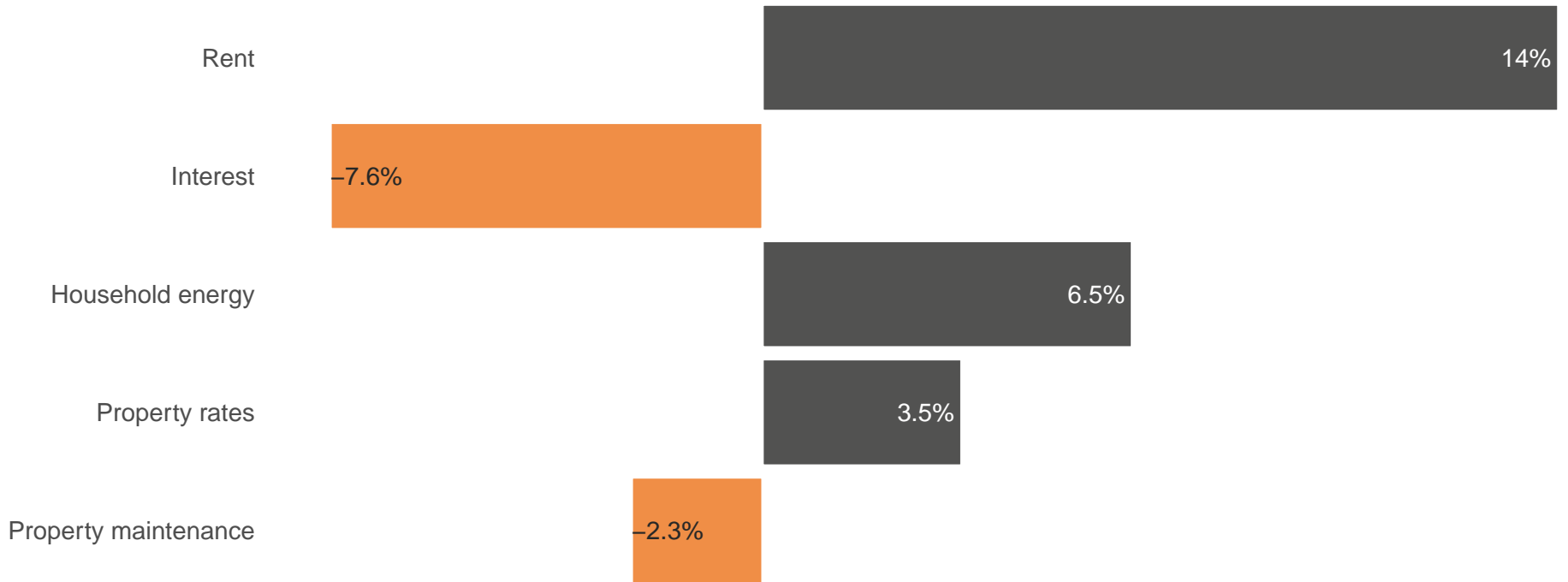
Source: Stats NZ

Missing quarters 1914–1925, imputed by linear interpolation. LOESS trend.

# Diversity in spending patterns

Highest expenditure quintile compared with lowest

Rich spend more Poor spend more



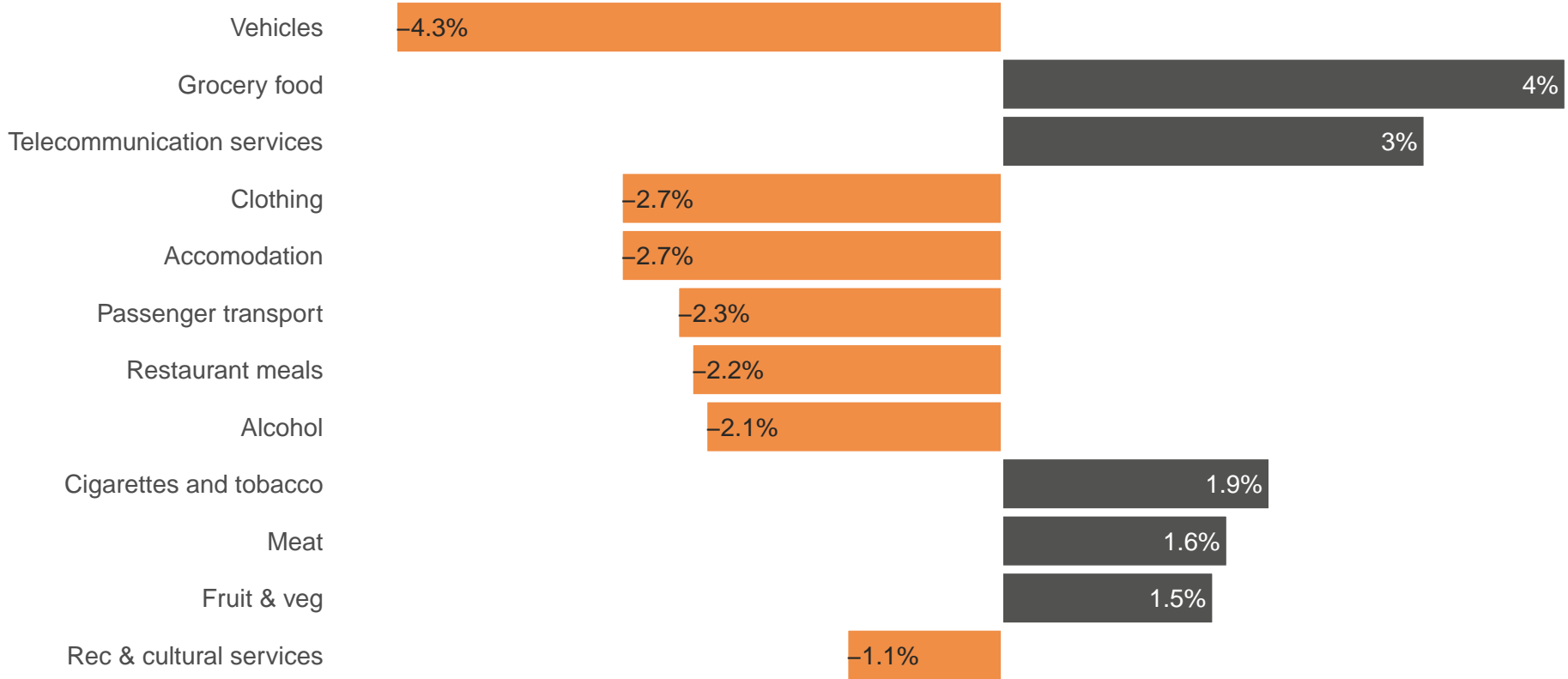
Percentage points difference in expenditure proportions

As at 2018 Q1

Source: Stats NZ

## Highest expenditure quintile compared with lowest

Rich spend more    Poor spend more



Percentage points difference in expenditure proportions

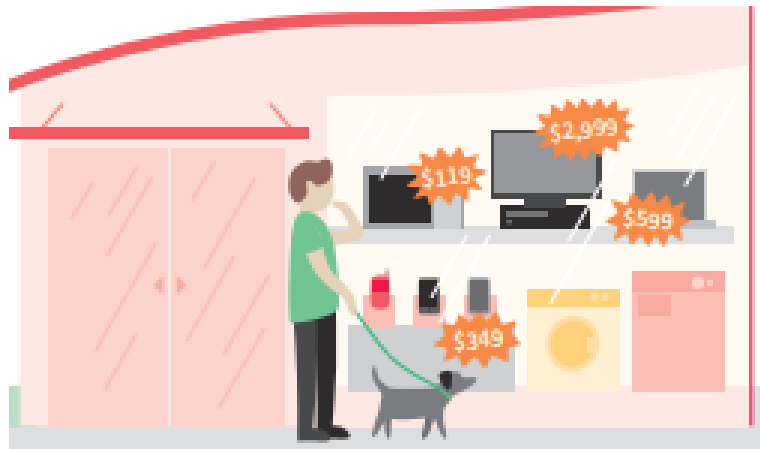
As at 2018 Q1

Source: Stats NZ

Design

# Inflation calculation

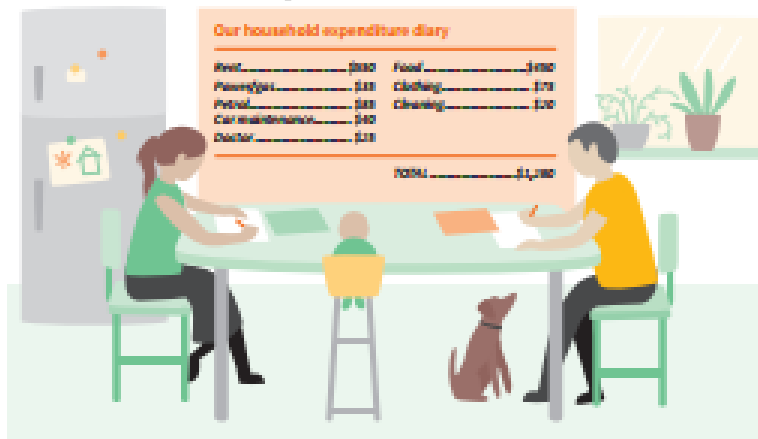
## 1. Collect



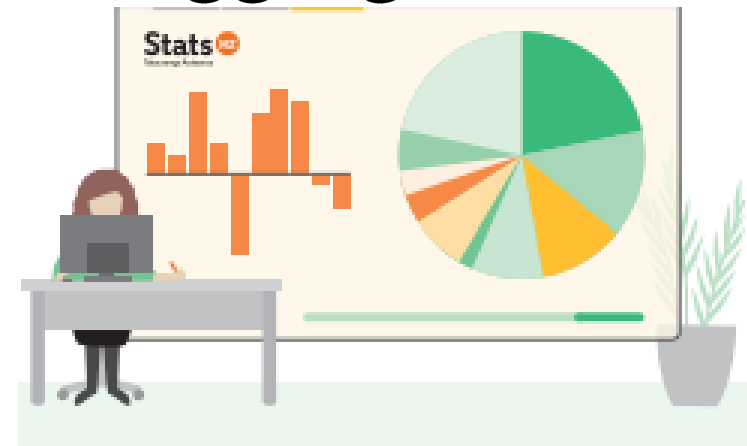
## 2. Adjust



## 3. Weight

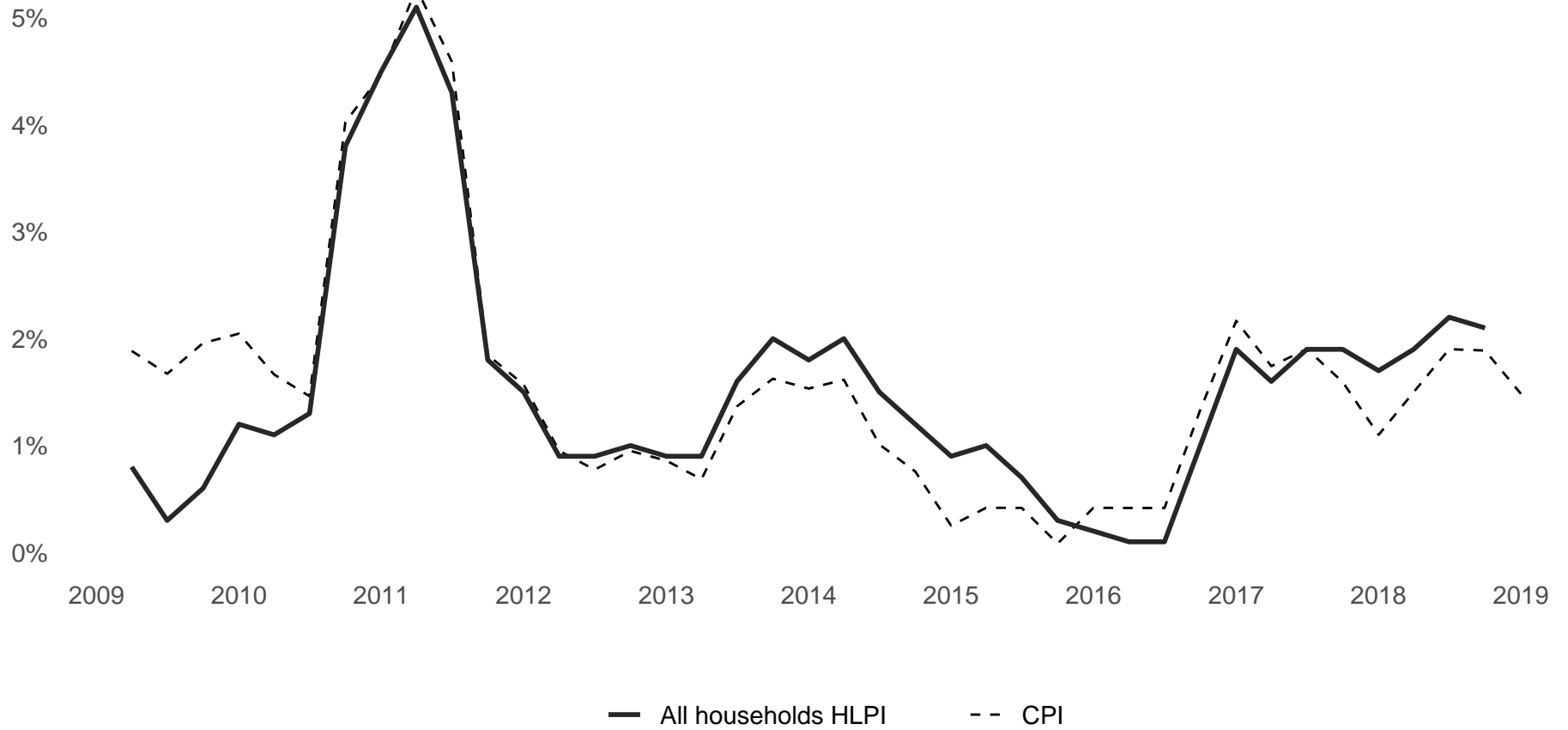


## 4. Aggregate



# HLPIs: Similar design to CPI

Annual change, by household group

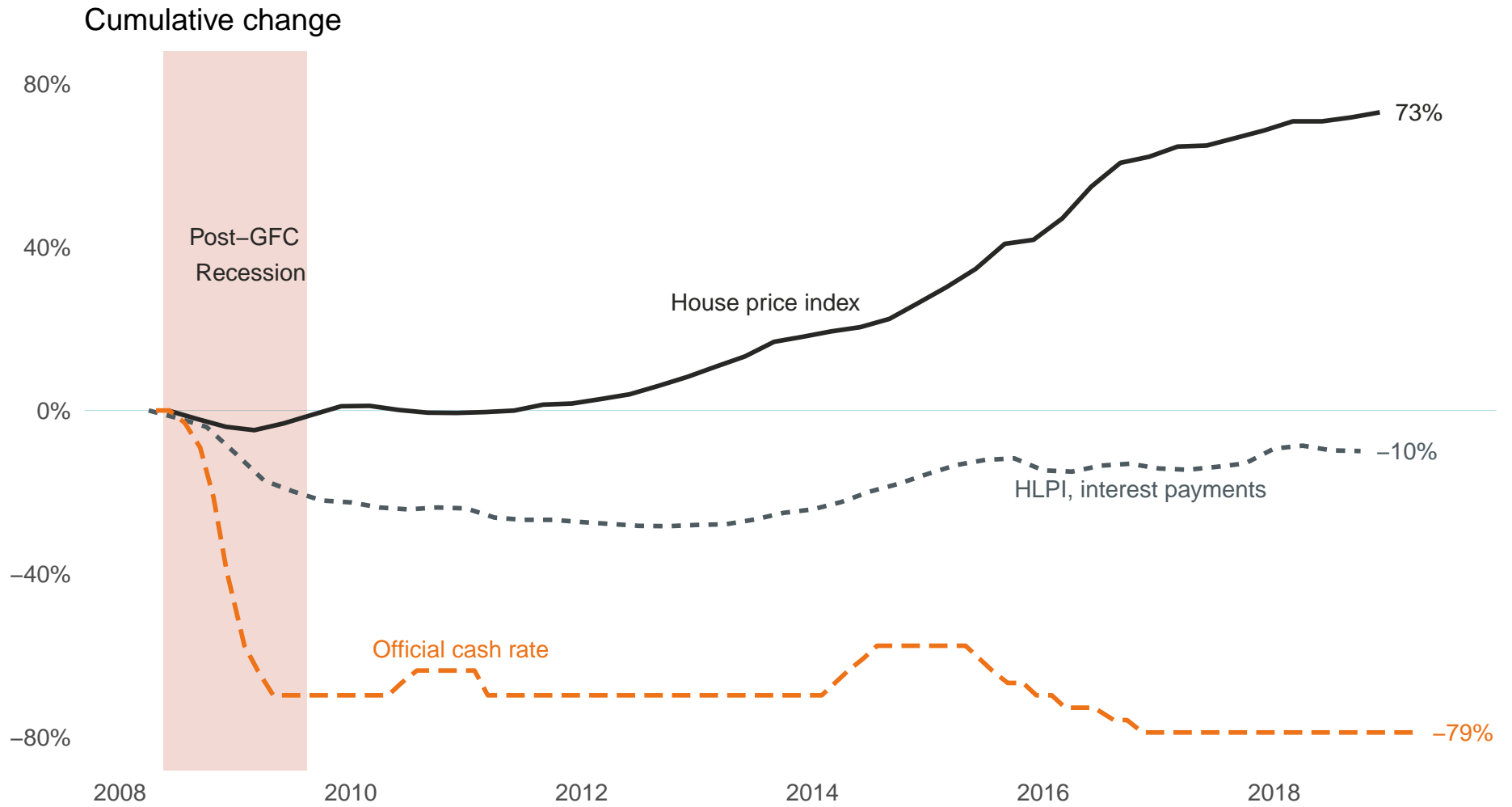


HLPIs include mortgage interest payments, and democratic weights

Source: Stats NZ



# Changes in the purchasing power of mortgage interest payments



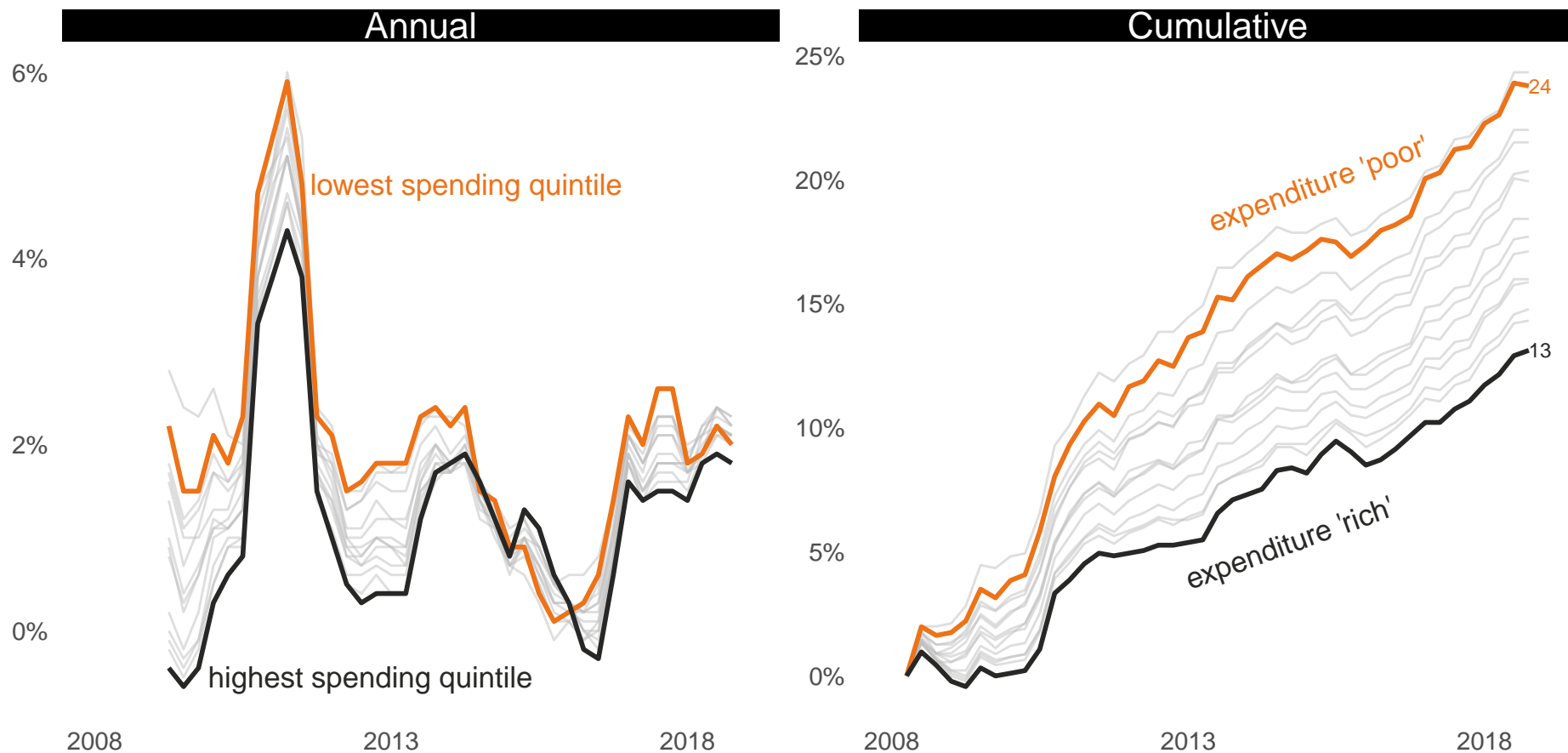
Source: RBNZ, CoreLogic, Stats NZ

Use

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# Lowest spending households typically experienced the highest inflation

By household group

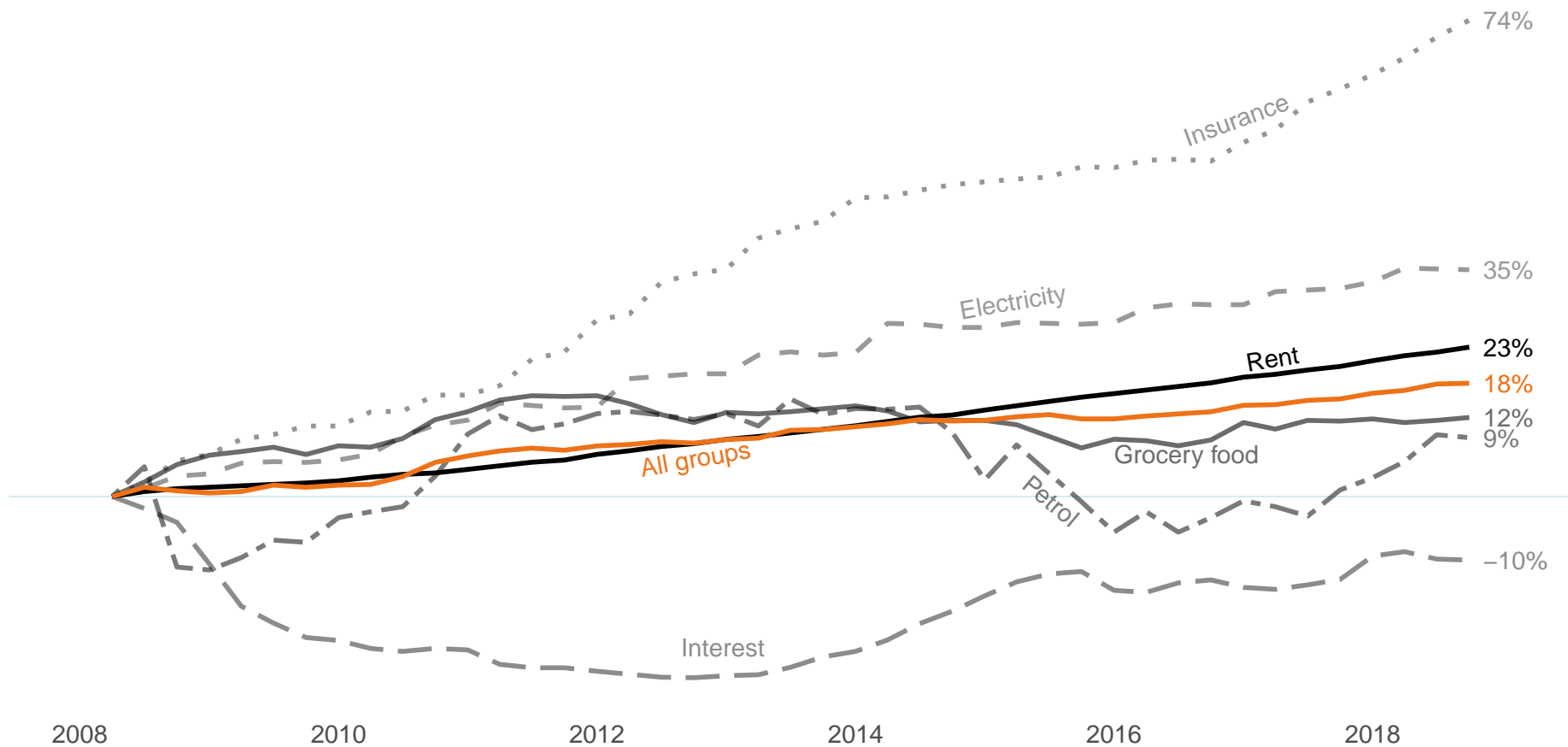


Highest and lowest spending quintiles highlighted; other groups shown in grey

Source: Stats NZ

# Housing and energy have been major drivers of inflation

Cumulative inflation over past decade

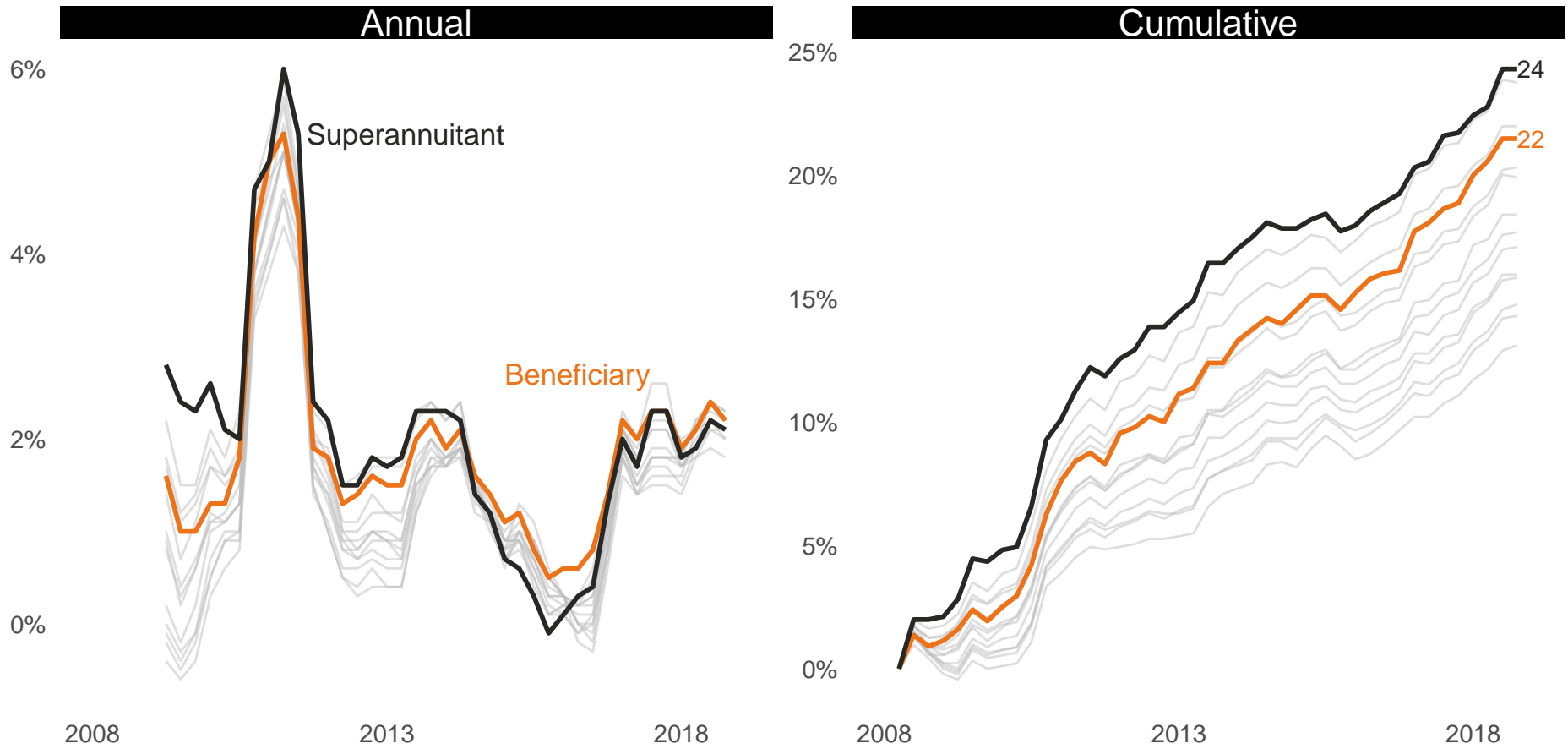


6 highest weighted all-households HLPI subgroup indexes

Source: Stats NZ

# Superannuitants and beneficiaries had greater than average inflation

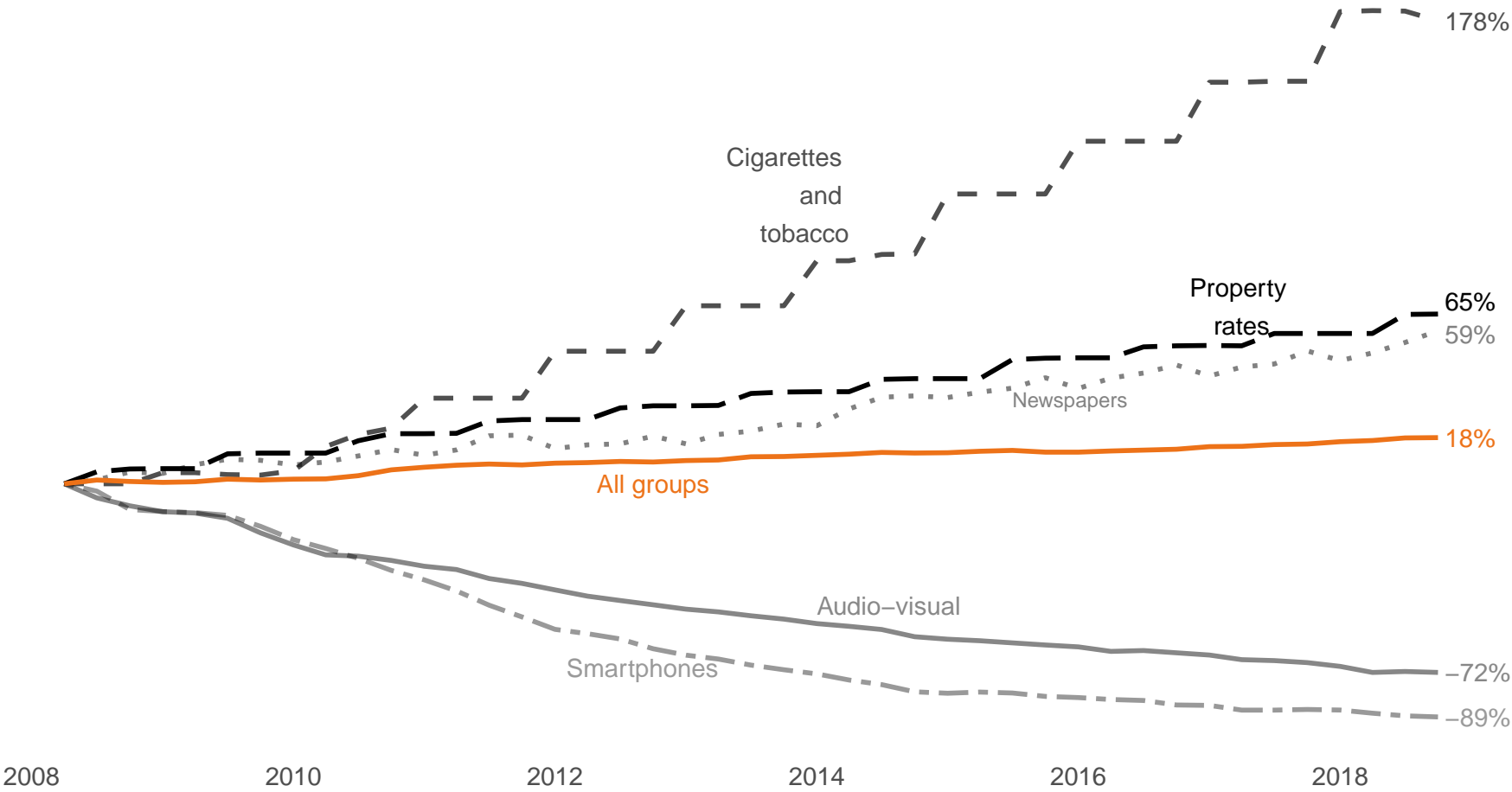
By household group



Superannuitants and beneficiaries highlighted; other groups shown in grey

Source: Stats NZ

# Commodities with large price change



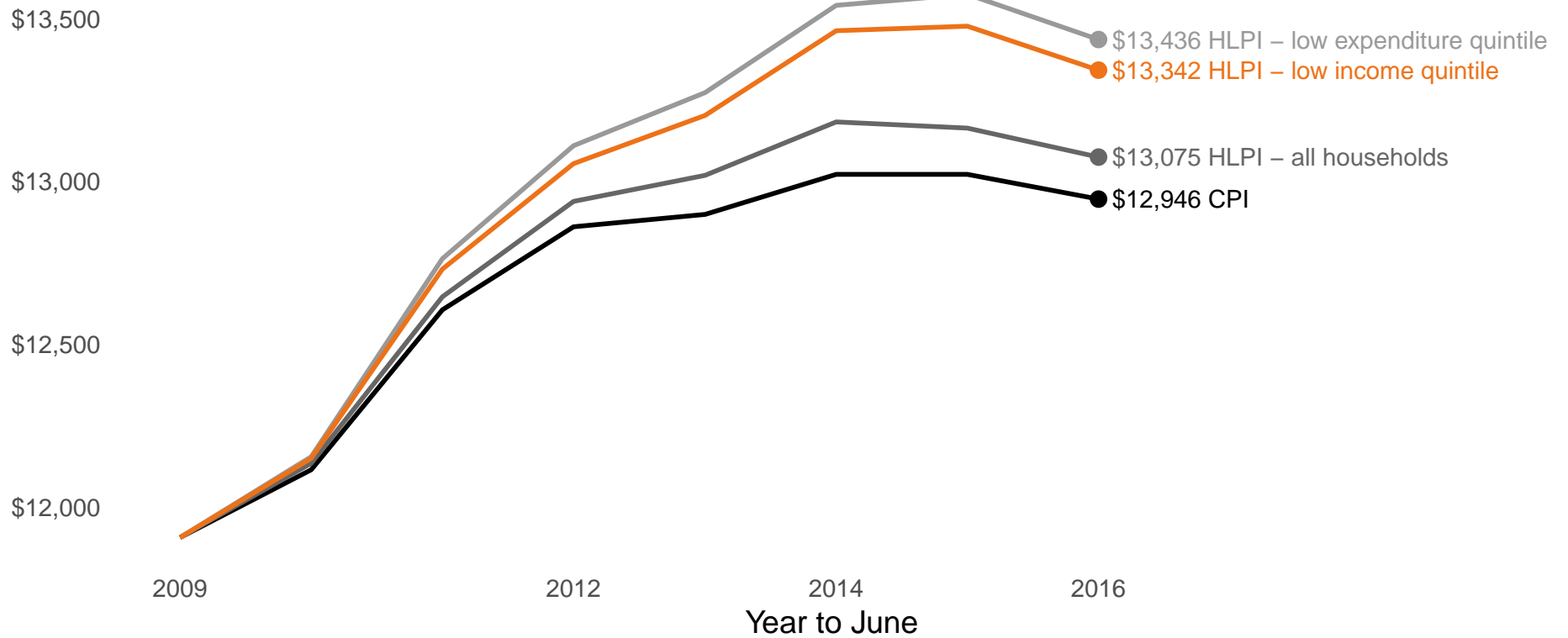
5 fastest moving all-households HLPI subgroup indexes, excluding insurance

Source: Stats NZ

# HLPIs provide better measures of real income

Fixed 'poverty line': sensitivity to choice of price deflator

2009 dollars



'Poverty line' shown: 50% of median household disposable income after housing costs  
Price indexes are after housing costs  
Source: Stats NZ

# Summary

## Need

Consumers Price Index (**CPI**):

- principal use for *monetary policy setting*

Household Living-costs Price Indexes (**HLPIS**):

- changes in the **purchasing power of money**
- experienced by different **groups in society**

## Design

Similar to CPI. HLPIS include:

- mortgage interest payments
- democratic weights



# Use

- **Public debate**
  - Tax policy
  - Minimum wage discussions
  - Wellbeing and inequality
- **Measurement of real income**
  - Fixed-line poverty measure
- **Indexation of monetary payments**
  - Not yet

Explore more at [statisticsnz.shinyapps.io/livingcostsexplorer](https://statisticsnz.shinyapps.io/livingcostsexplorer)

# Stats NZ Tatauranga Aotearoa Explore living-costs in New Zealand

**Choose a group:**  
Lowest income group

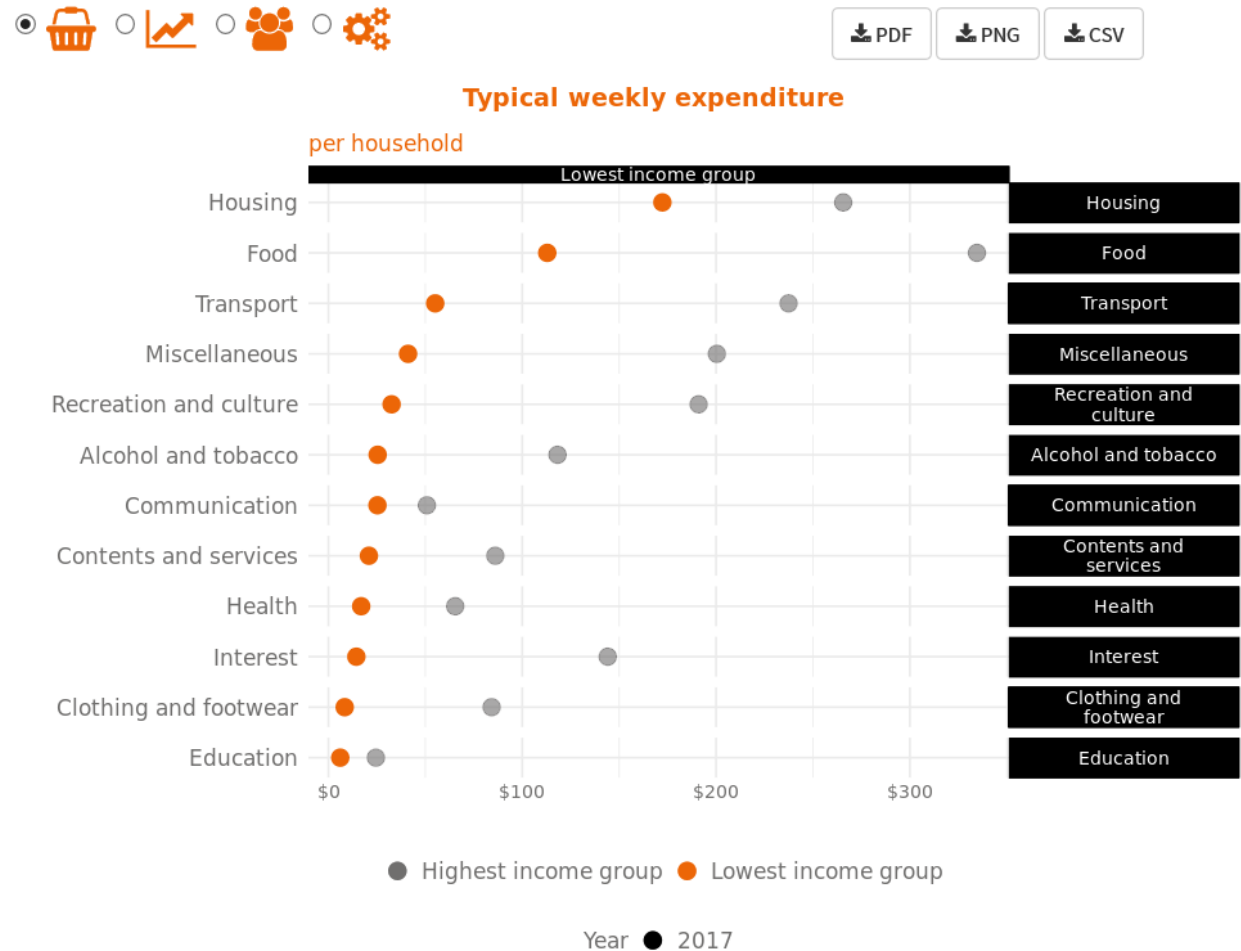
**Year(s):**  
2008 2017

**Detail**

**Comparison group:**  
Highest income group

**Add another group:**  
[none]

[Expenditure](#)



Source: Stats NZ

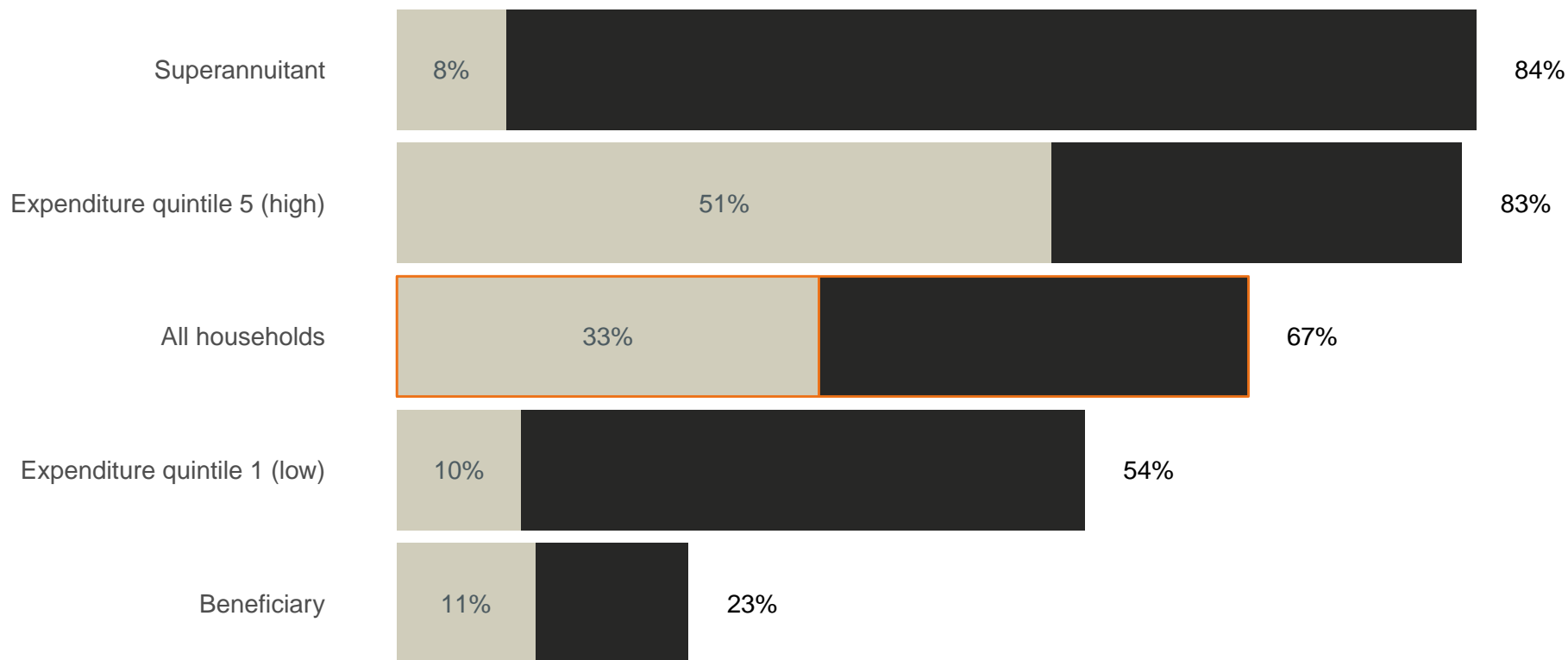
Email: [alan.bentley@stats.govt.nz](mailto:alan.bentley@stats.govt.nz)

Supplementary slides

## Home ownership rates vary across demographic groups

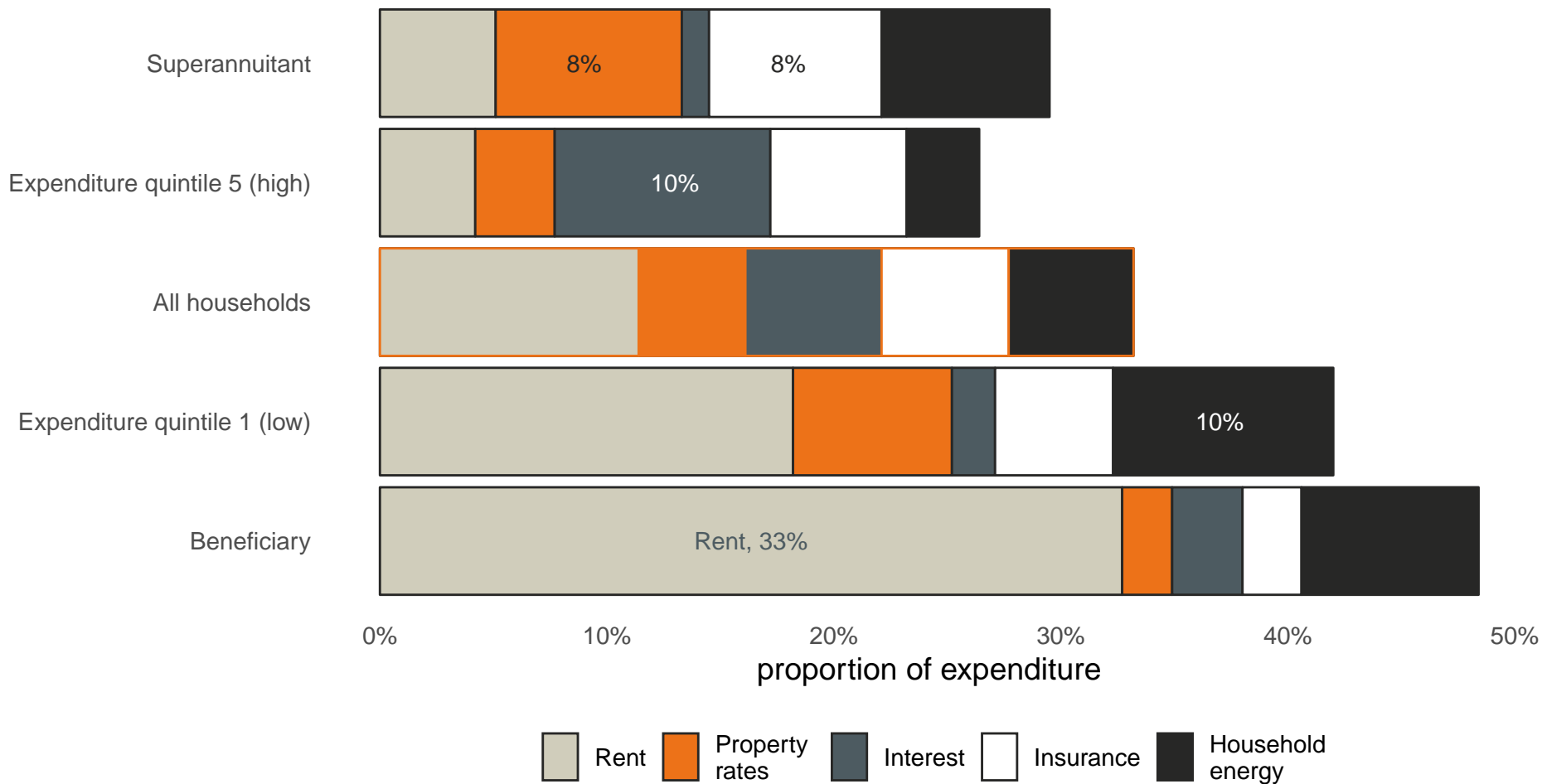
proportion of households who:

Own Own, with mortgage



Source: Stats NZ // Household Economic Survey, Year to June 2016

# Home ownership rates affect typical expenditure

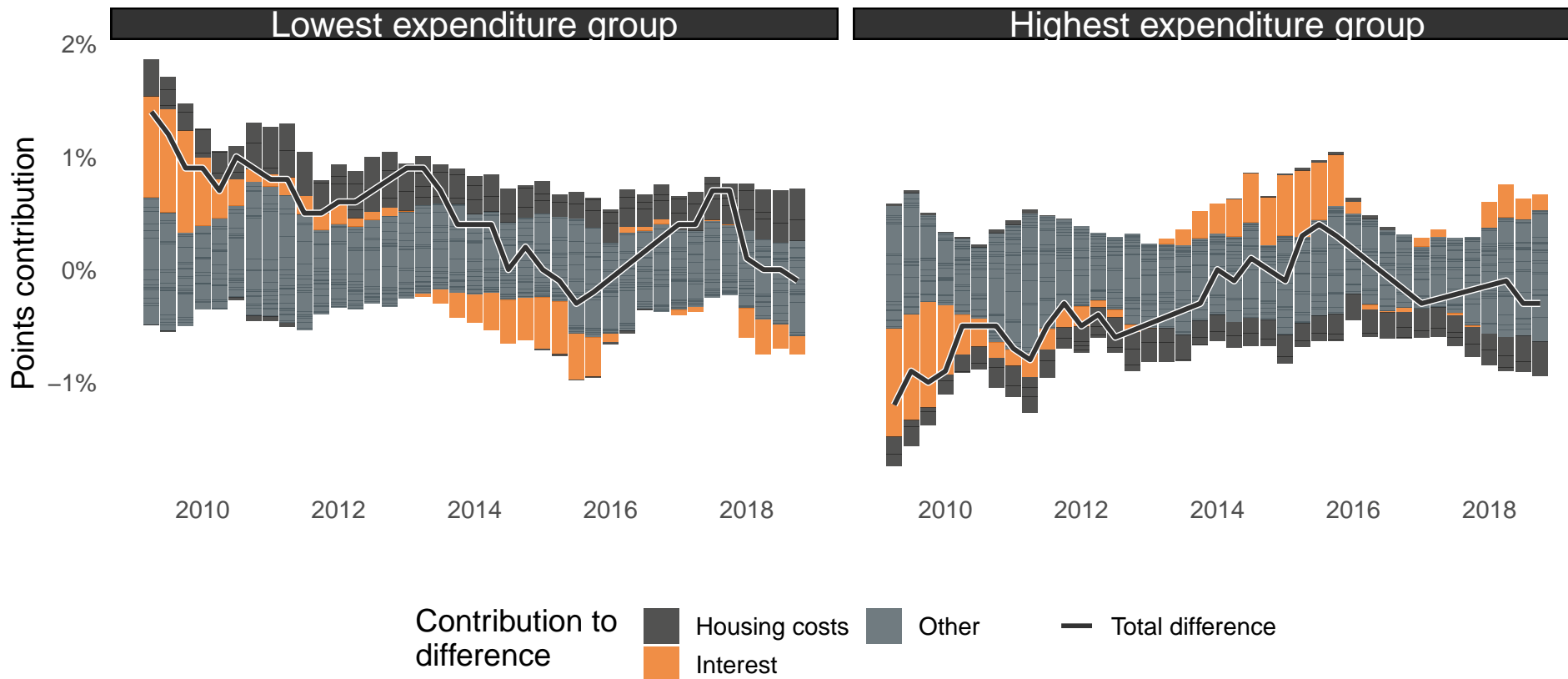


As at 2018 Q1

Source: Stats NZ

# High spending households benefited most from interest rate cuts

Difference from all-households (annual inflation)

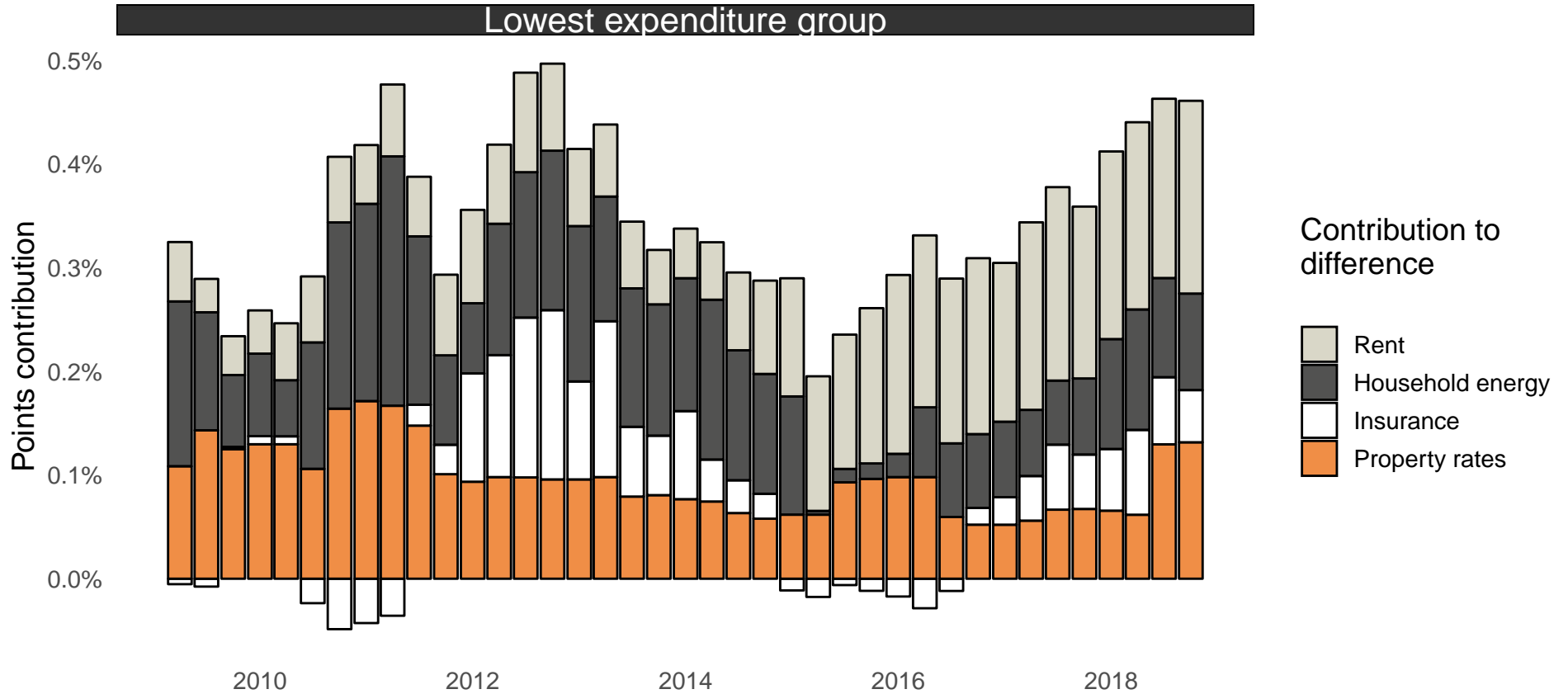


New Zealand household expenditure classification subgroup contributions  
Interest payments (13.1) and Housing-related costs (4.1, 4.4, 4.5, and 11.4) highlighted

Source: Stats NZ

# Contribution of housing costs

Difference from all-households (annual inflation)

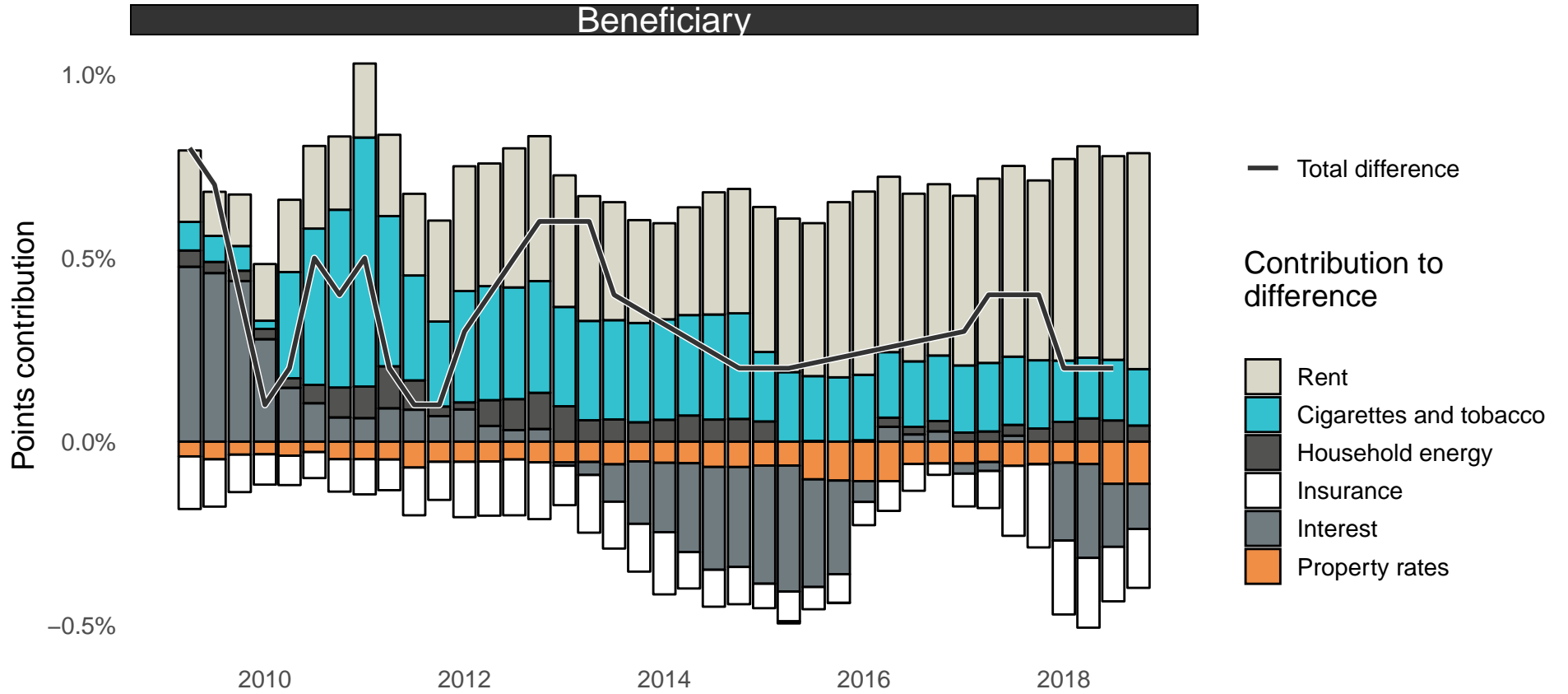


Contribution of other groups not shown

Source: Stats NZ

# Contribution of housing and smoking

Difference from all-households (annual inflation)



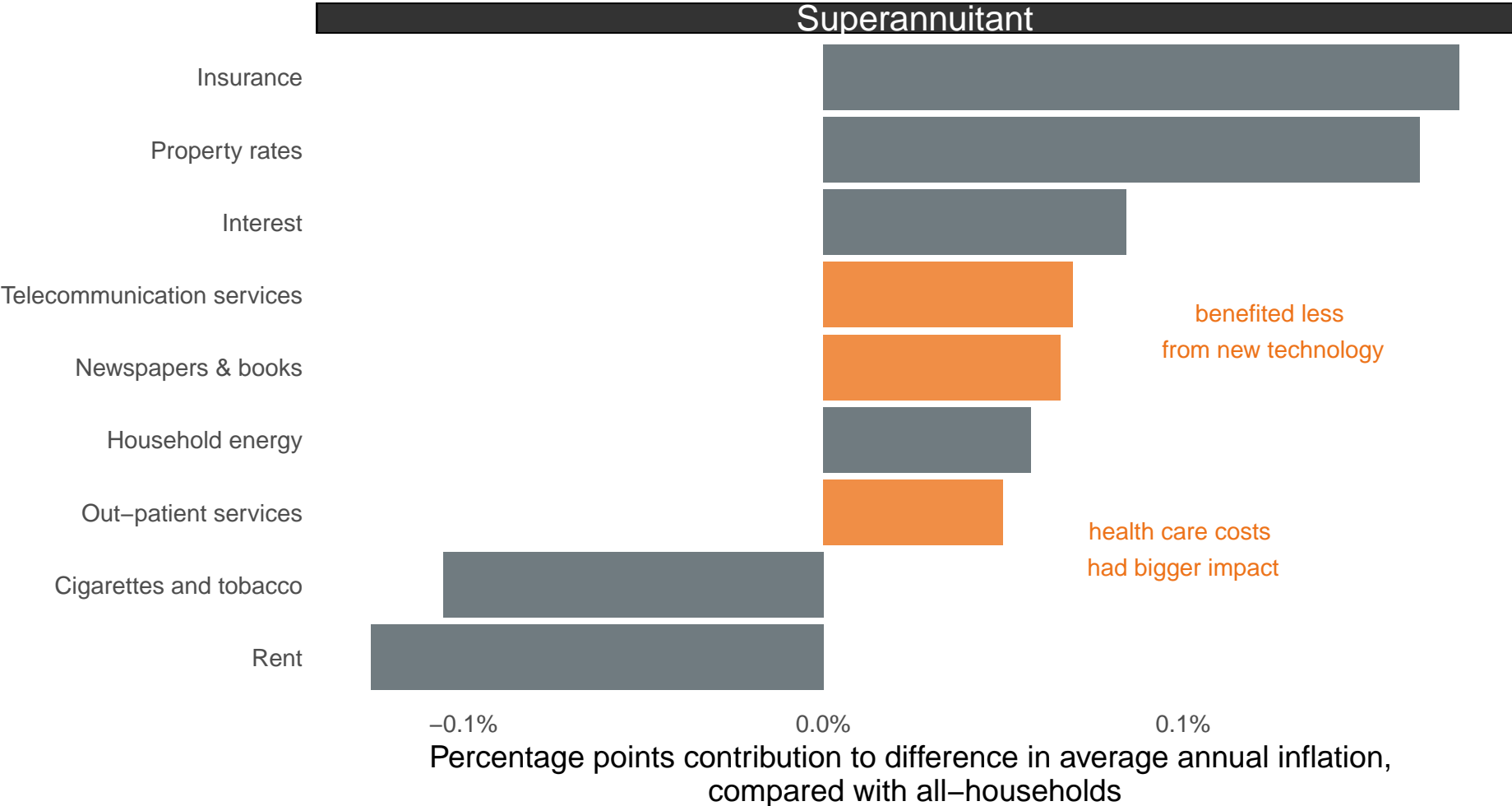
Contribution of other groups not shown

Source: Stats NZ



# Health and lifestyle affect inflation for the elderly

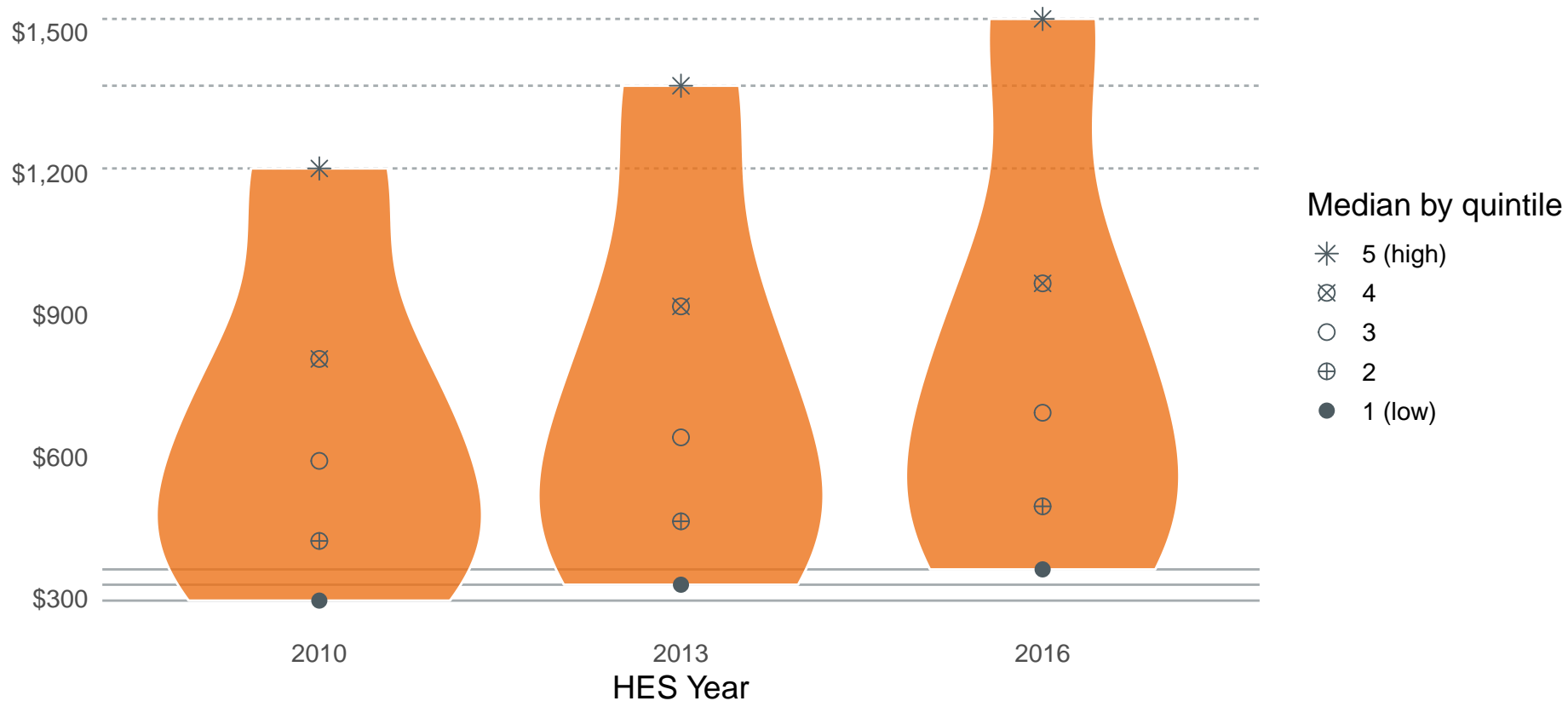
Contribution to difference, 2008 Q2 to 2018 Q4



Source: Stats NZ

# Typical household income is rising, and the distribution is widening

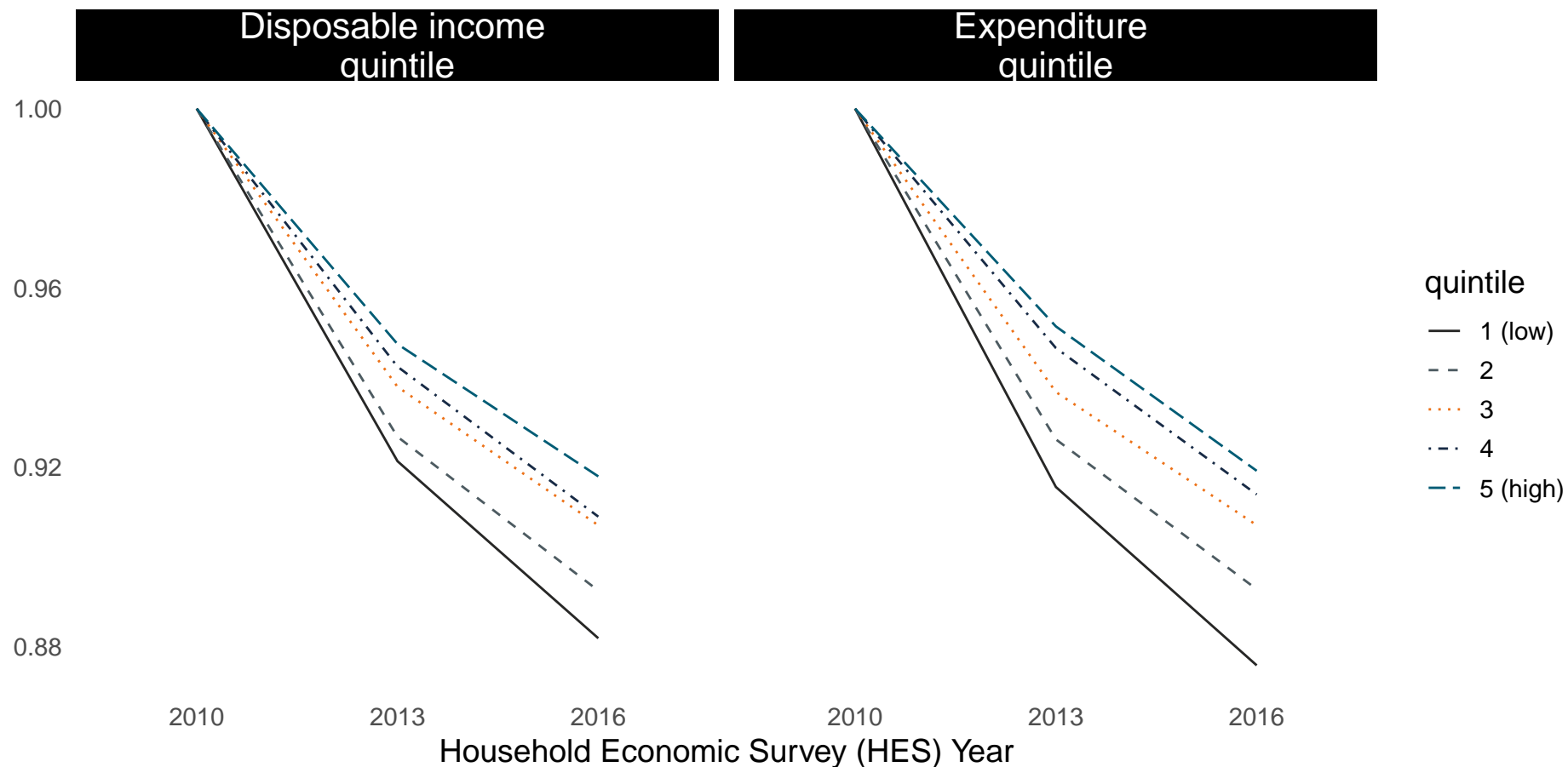
Nominal weekly disposable income, per 'equivalised' person



Violin plot of distribution, based on quintile medians  
HES interviews run for year to June, income relates to previous 12 months  
Source: Stats NZ

# Decline in purchasing power of money

Household living-cost price index, HES 2010 = 1000



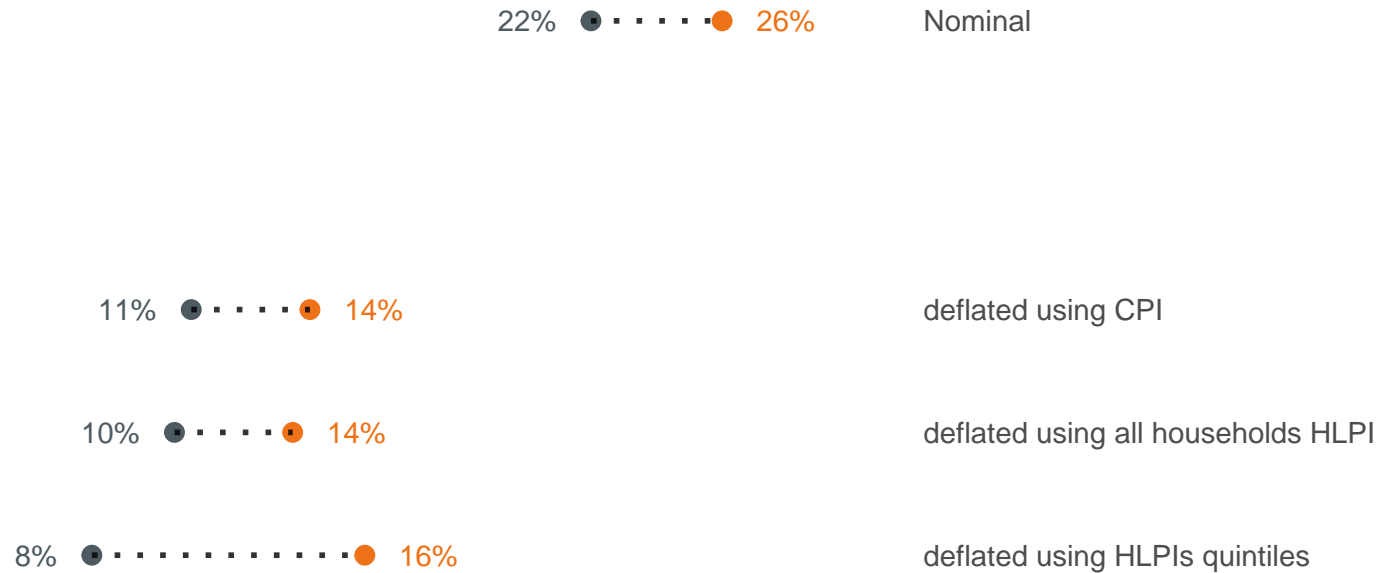
HES interviews run for year to June, income relates to previous 12 months

Source: Stats NZ

# Choice of price deflator matters

Growth in real disposable income, 2010–2016 (HES year)

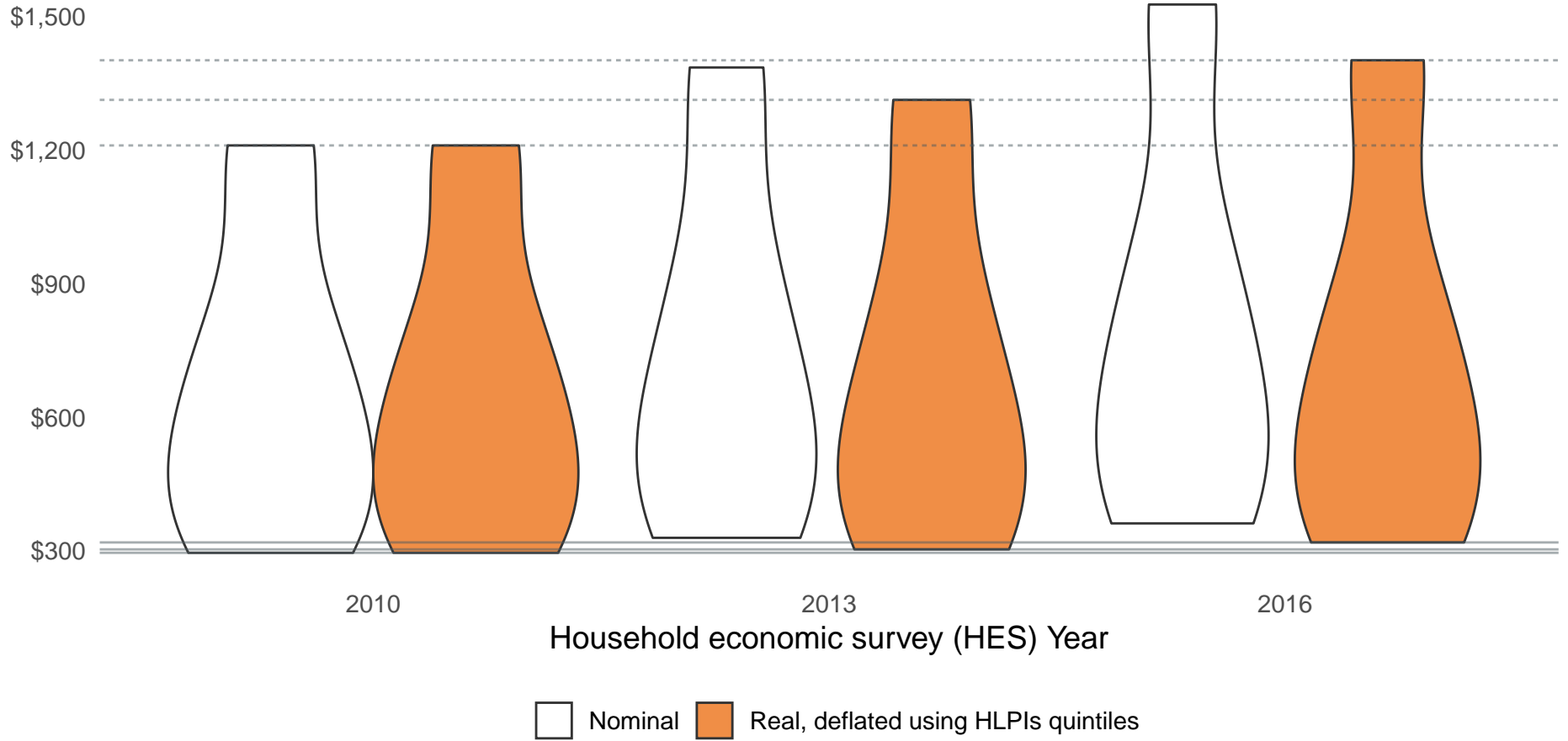
● quintile 1 (low) ● quintile 5 (high)



Source: Stats NZ

# Growth in real disposable income: the distribution is widening

Weekly disposable income, per 'equivalised' person



Source: Stats NZ