

# **The impact of global economic crises of 2001 and 2009 on New Zealand graduates' labour market outcomes**

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# Background

- ▶ Global economic crises 2001 and 2009 have had significant negative impact on variety of labour market outcomes for graduates from tertiary institutions in these years
- ▶ Decreased both quality and number of entry-level positions across all sectors of the economy
- ▶ Observed persistence of the initial negative impact on both remuneration and quality of positions for the “unlucky cohorts” long after a recession ends
- ▶ Observed heterogeneity of negative impact across groups of graduates

# Background

Graph 1 Unemployment rate in New Zealand



SOURCE: TRADINGECONOMICS.COM | STATISTICS NEW ZEALAND

# Economic Theory and Literature Review

- ▶ Earlier theoretical developments
- ▶ Okun (1973) utilized macroeconomic approach and documented that quality and quantity of jobs are reduced in economic downturns
- ▶ Beaudry and DiNardo (1991) utilized an implicit contract model
  
- ▶ Human Capital Accumulation Approach
- ▶ Gibbons and Waldman (2006) assumed that workers acquire less human capital in a recession
  
- ▶ Search Theory Approach
- ▶ Manning, 2005, Topel and Ward, 1992) emphasise that job search is an integral part of worker's career

# Economic Theory and Literature Review

- ▶ Assortative Matching Theory approach
- ▶ Gibbons et al. (2005) developed an “assertive matching theory” framework in which “endogenous wage changes and sector mobility occur” as both the employer and the worker learn about initially unobserved worker’s valuable characteristics
- ▶ Synthetic Approach
- ▶ Oreopoulos, von Wachter and Heisz (2012) documented significant heterogeneity of the initial shock on labour market outcome across skill groups and level of ability and discussed limitations of various theoretical approaches

# Data description

## Statistics New Zealand IDI Database

with individuals as unit of entry

- ▶ New Zealand Ministry of Education (MOE)
- ▶ New Zealand Internal Revenue Department (IR)
- ▶ Graduates from six New Zealand Universities have been considered: Universities of Auckland, Canterbury, Waikato, Otago, Victoria and Massey.
- ▶ Total 465200 graduates. Panel data with 8603414 individual entries

# Data description

## Summary statistics of the independent variables

Variables	Mean	Standard deviation	Minimum	Maximum
Graduation year	2008.54	6.27	1994	2019
School decile	N/A	N/A		
Birth year	1983.72	12	1903	2006
Sex	1.55	0.49	1	2
Domestic status indicator	0.97	0.16	0	1
European	0.66	0.47	0	1
Maori	0.18	0.38	0	1
Pacific Islander	0.08	0.27	0	1
Asian	0.13	0.34	0	1
Middle East and Latin America	0.01	0.09	0	1
Others	0.04	0.18	0	1
Expected percentile	0.41	0.32	0	0.98
Income year	2011.20	5.71	1997	2020
Wages and salaries	33360.39	39557.43	0	1373365
Total income	39711.56	4128217	-863828	10000000000
Parents Wages and salaries	29515.41	32926.74	0	722962
Parents Non-working income	1363.76	12065.91	-472716	1106722

# Empirical Models

- ▶  $\text{Log}(W_{iut}) = \beta_0 + \beta_1 \text{CRIS}_t + \beta_2 \text{STEM}_{iu} + \beta_3 \text{FI}_i + \beta_4 \text{FW}_i + \beta_5 \text{FWNF}_i + \beta_6 \text{GPA}_i + \beta_7 \text{AGE}_{it} + \beta_8 \text{AGESQ}_{it} + X_{iut} \Upsilon + \varepsilon_{iut}$ ,
- ▶ where  $W_{iut}$  working income of a graduate  $i$  from university  $u$  at year  $t$ ; CRIS is an indicator that a student  $i$  has graduated from university  $u$  in a recession year  $t$ ;  $\text{FI}_i$  is graduate's family income,  $\text{FW}_i$  is graduate's family wealth,  $\text{FWNF}_i$  is graduate's family non-financial wealth,  $\text{AGE}_{it}$ ,  $\beta_8 \text{AGESQ}_{it}$ ,  $X_{iut} \Upsilon$  is a vector of controls



# Results

CRIS	-0.0138*** (0.0025)
STEM	0.0022* (0.0016)
Log (FI)	0.012*** (0.0041)
Log (FW)	0.009*** (0.0014)
GPA	0.0047 (0.0054)

Note: Standard errors in brackets; \*significant at 10%; \*\*significant at 5%; \*\*\*significant at 1%

# Discussion