

Who Creates Jobs in New Zealand? Small vs. Young vs. Large

Lydia Cheung & Geoffrey Brooke

Auckland University of Technology
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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 authors, not Statistics NZ, or AUT.

Access to the anonymised data used in this study was provided by Statistics NZ in accordance with 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 organization, and the results in this presentation have been confidentialised to protect these groups from identification.

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.

The Job Creation “Myth”

Andrew Little (Labour Party): “The engine room of this job growth will be small businesses” (State of the Nation speech, Jan 2015)

<http://www.stuff.co.nz/national/politics/65500888/andrew-little-speech-state-of-the-nation>

Tony Alexander (BNZ): “Small firms in fact are not pulling their weight” (*NZ Observer*, April 2015)

<http://tonyalexander.co.nz/regular-publications/nz-observer-april-2015/>

Are these 2 statements necessarily contradictory?
Is small vs. large the whole story?

MBIE, *Small Business Factsheet 2014*:

Chart 9: Number of Jobs Created for the Years ending September by Firm Size



Data source: Statistics New Zealand Linked Employer-Employee Data, Sep 2010-2012

Is this gross or net job creation? Unclear from graph
Statistics like this are not “wrong”; but is it the whole story?

Important Distinction: Small vs. Young Firms

Haltiwanger, Jarmin, Miranda. "Who Creates Jobs? Small vs. Large vs. Young" *The Review of Economics and Statistics* 95.2 (2013): 347-361.

Small/Young confusion: Young firms are very often small (but small firms are not always young!)

Small/Young distinction has important policy implication:
Should the government promote **start-ups** or incentivise all **small** firms (regardless of age) to create jobs?

Contributions of Haltiwanger et al. (2013)

Conclusion from U.S. data: Once firm age is controlled for, there is **no** systematic relationship between firm size and job growth

I.e., it is **not** small firms that create jobs; it is **young** firms that create jobs!

We duplicate Haltiwanger's exercise using NZ data and obtain the same conclusion, with even stronger effect from young firms

Haltiwanger's Empirical Innovations

- Previous datasets had no information on firm **age**
- Previous studies confused **gross** vs. **net** job creation
- Avoids **regression to the mean** by using **current-average size buckets**
- Using **both** firm- and establishment-level data, to capture only **organic growth** at the establishment level, to abstract from job reallocation due to M&A
- High quality **longitudinal linkages** to avoid spurious firm entries and exits

NZ Net Job Creation by Age- and Size-Buckets, 2005

Age	Size (Base Year = 2004)											Total
	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000-2499	2500-4999	5000+	
0-1	20028	3189	2178	4254	2949	435	*	*	0	0	0	33399
2	2202	-45	174	501	-354	-87	*	*	*	0	0	2973
3	12	-435	-159	-210	174	1020	-324	*	0	*	*	336
4	480	-540	-318	-99	48	63	264	450	*	*	0	-78
5	111	-276	-360	-405	222	-132	-132	264	*	*	0	-804
6-10	-588	-1077	-1194	-846	-894	-27	2085	255	918	*	*	-588
11-15	243	-516	-399	-216	-360	-222	-84	-333	249	1101	1260	720
16-20	-915	-1374	-1296	-2271	-210	66	906	-45	-363	-765	1617	-4653
21-25	-258	6	-90	-270	-252	-492	84	-267	-189	1059	282	-384
26+	-402	-9	-300	-120	-657	-618	510	483	-2193	648	3969	1311
Total	20481	-1077	-1764	321	663	3	4041	693	-1326	1938	8259	32232

*: Cell contains too few observation and is therefore censored. (Column- and row-totals include these censored values.)

Equivalent to Haltiwanger et al. (2013) Table 1, top panel

NZ Net Job Creation by Age- and Size-Buckets, 2005

Age	Size (Current Average of 2004 and 2005)											Total
	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000-2499	2500-4999	5000+	
0-1	10269	5187	4434	3336	2436	2733	*	*	0	0	0	33399
2	-663	747	801	600	495	174	*	*	*	0	0	2973
3	-2127	81	162	498	489	66	903	*	0	*	*	336
4	-1488	-255	-120	507	177	210	-216	1098	*	*	0	-78
5	-1020	-120	-321	87	246	27	132	231	*	*	0	-804
6-10	-4077	-972	-492	-414	285	660	-114	780	2979	*	*	-588
11-15	-1842	-225	-249	-39	435	-474	228	30	495	1101	1260	720
16-20	-2793	-981	-1350	-1935	186	363	630	741	-363	-765	1617	-4653
21-25	-618	-192	84	-168	-858	234	-129	-414	333	1059	282	-384
26+	-993	-306	-432	-390	-447	90	225	657	-1884	111	4677	1311
Total	-5352	2967	2517	2076	3447	4077	4422	5874	1839	1401	8967	32232

*: Cell contains too few observation and is therefore censored. (Column- and row-totals include these censored values.)

Equivalent to Haltiwanger et al. (2013) Table 1, bottom panel

NZ Net Job Creation by Age- and Size-Buckets, 2005

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Total	-5352	2967	2517	2076	3447	4077	4422	5874	1839	1401	8967	32232

Because of the **negative** cells, statements like “small business account for X% net job creation” are problematic!

(Equally problematic if you only cite gross job creation)

What We Do

Use SNZ's LBD (2000-2012) to decompose NZ firms' net job creation by size- and age-controls

The following 6 graphs show the **marginal effects** (relative to baseline group) of:

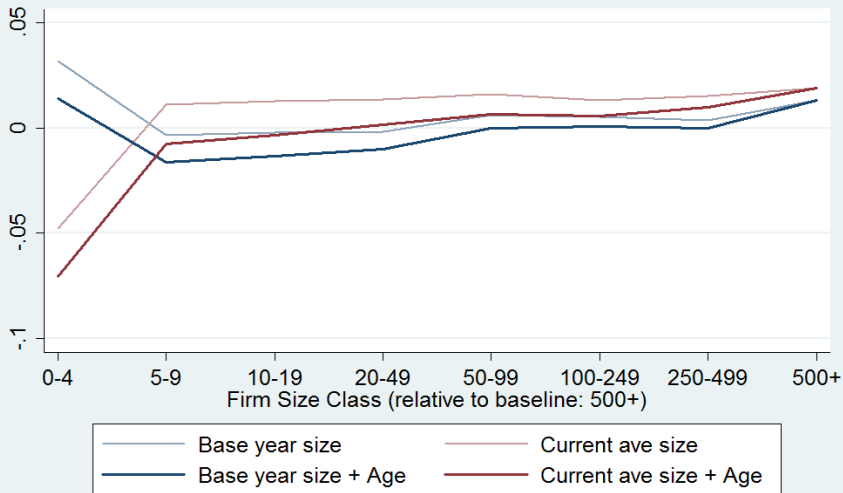
- firm size (controlling for age)
- firm age (controlling for size)

on net job creation among:

- all firms
- continuing firms only

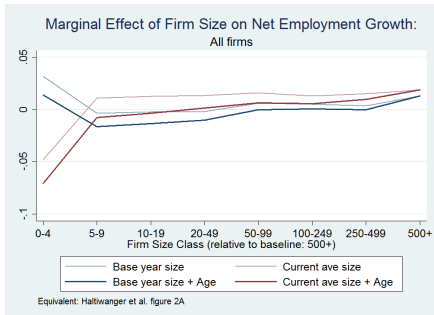
or firm exit rate.

Marginal Effect of Firm Size on Net Employment Growth: All firms

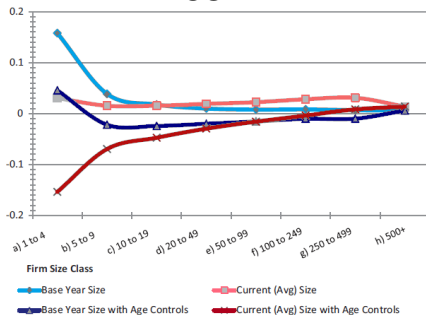


Equivalent: Haltiwanger et al. figure 2A

NZ

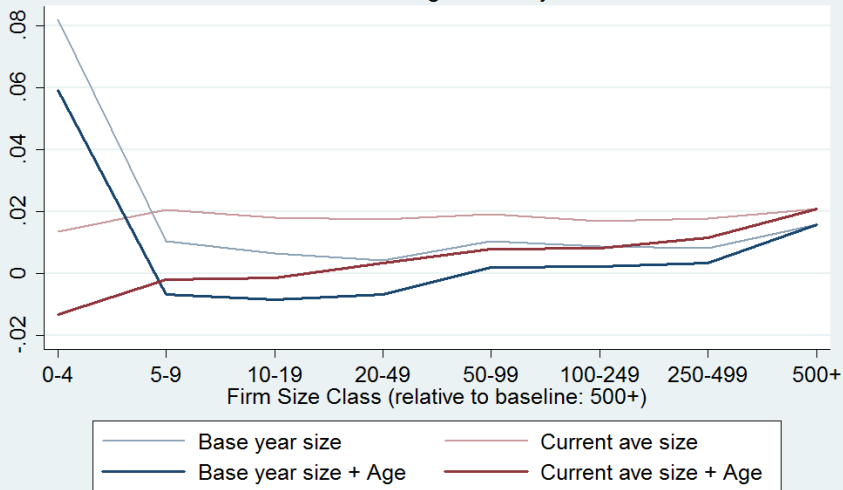


USA



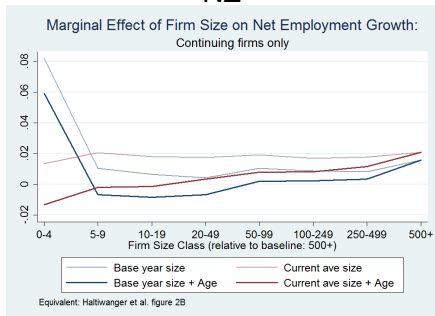
- Both **light blue** are negatively sloped initially \Rightarrow Regression to the mean (stronger in USA)
- Both **maroon** are **not** negatively sloped \Rightarrow Once age is controlled for, small firms do **not** create more net jobs

Marginal Effect of Firm Size on Net Employment Growth: Continuing firms only

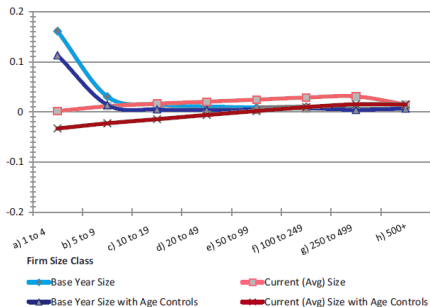


Equivalent: Haltiwanger et al. figure 2B

NZ

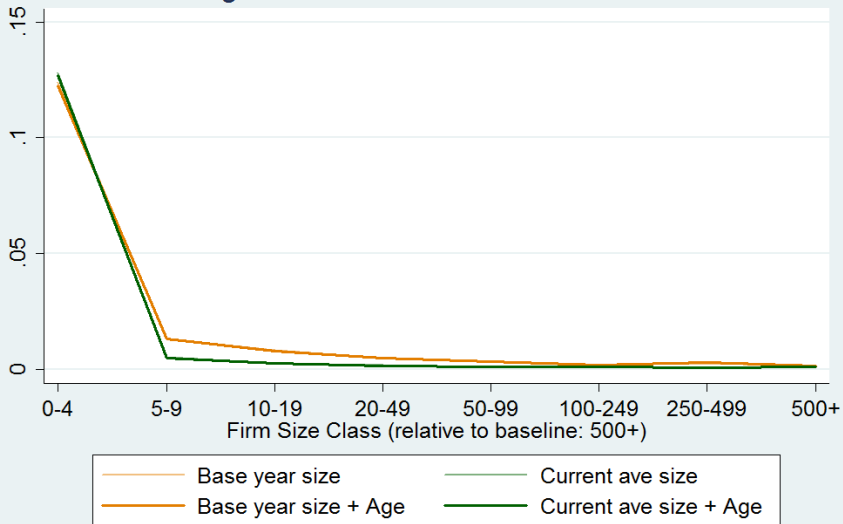


USA



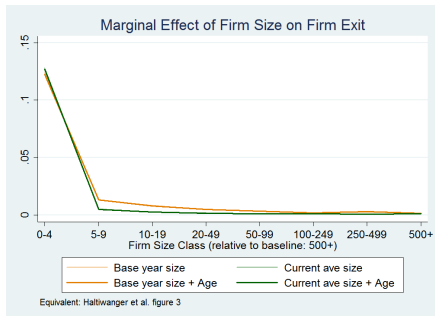
- **Start-ups are excluded** \Rightarrow Both **maroon** lines are flatter than previous
- **Gibrat's Law** (firm growth is independent of size) holds if **maroon** lines are horizontal

Marginal Effect of Firm Size on Firm Exit

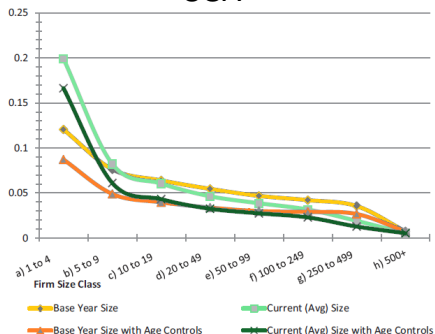


Equivalent: Haltiwanger et al. figure 3

NZ

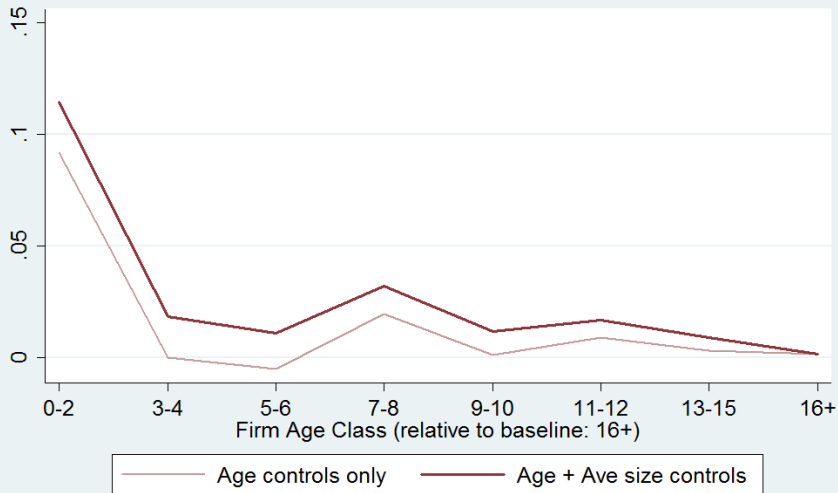


USA



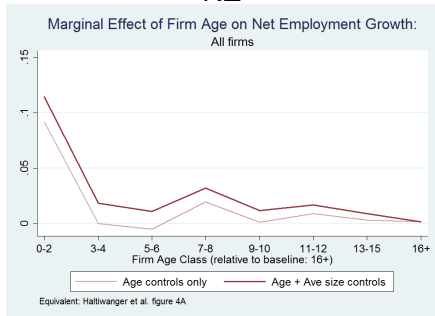
- Firms in USA have higher exit rate than NZ firms in **every** size class \Rightarrow Less dynamism in NZ
- NZ lines flatten sooner: once NZ firms reach size 5-9, they are as “safe” as big firms!

Marginal Effect of Firm Age on Net Employment Growth: All firms

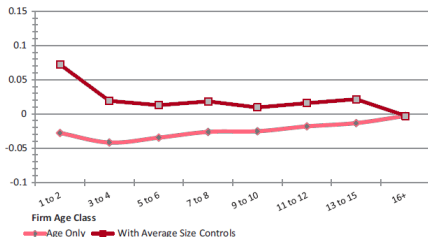


Equivalent: Haltiwanger et al. figure 4A

NZ

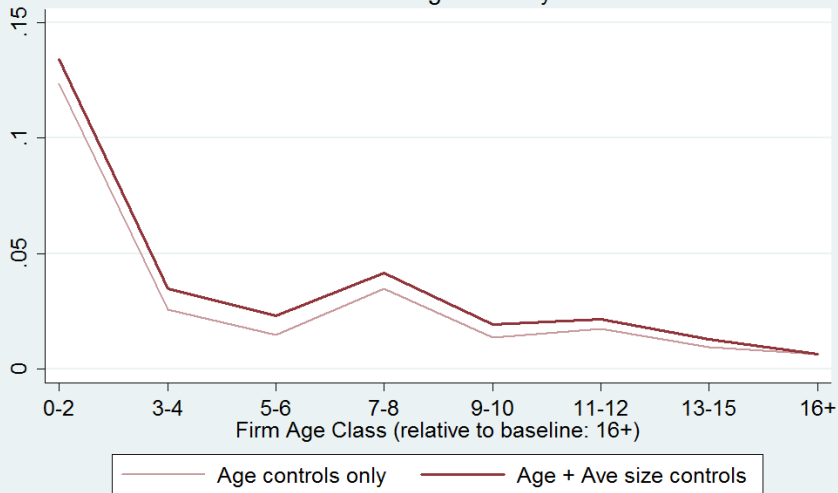


USA



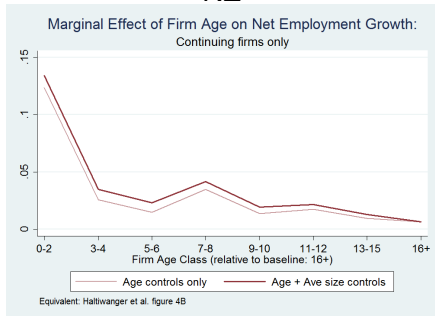
- (Start-ups are **excluded** in both graphs)
- NZ **maroon** line shows **young age** have even **stronger** marginal effect on net job growth than USA

Marginal Effect of Firm Age on Net Employment Growth: Continuing firms only

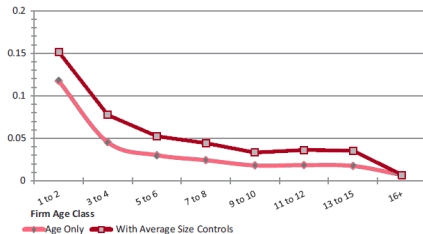


Equivalent: Haltiwanger et al. figure 4B

NZ

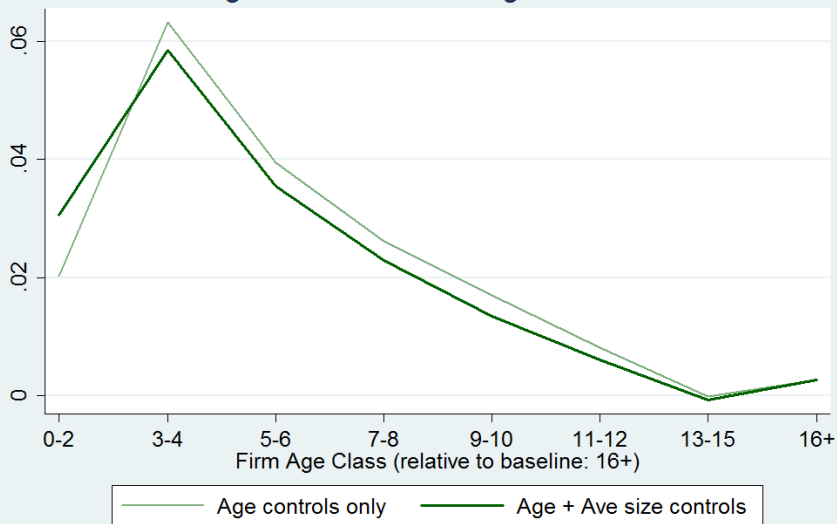


USA



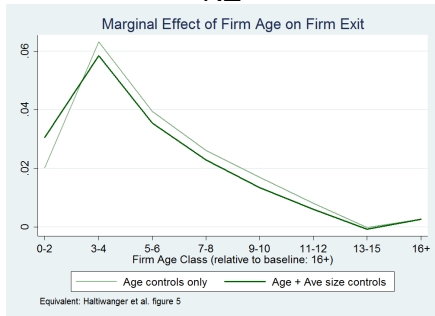
- (Start-ups are **excluded** in both graphs)
- Comparing 2 **maroon** lines: among continuing firms, NZ firms grow slower at each age group than USA firms

Marginal Effect of Firm Age on Firm Exit

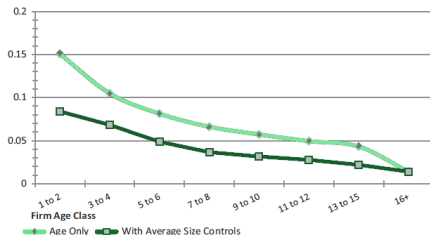


Equivalent: Haltiwanger et al. figure 5

NZ



USA



- Larger marginal effects in USA \Rightarrow Much weaker **up-or-out** dynamics in NZ
- Curious non-monotonic pattern in NZ

Conclusion

Compared with American equivalents:

- NZ firms have lower exit rates
- Surviving NZ firms grow more slowly
- Young firms in NZ are even more important for job creation

More attention should be given to **firm age** in job creation policy discussions

MBIE has a “Small Business Sector Report”; maybe there should also be a “**Young** Businesses Report”!

The “up-or-out” dynamics of firms clearly show **reallocation of jobs** as firms age, e.g. from dying firms to surviving, growing firms

Use LBD to look at **Aggregate Productivity Growth (APG)** due to reallocation of labor and capital, a la:

Petrin and Levinsohn. “Measuring aggregate productivity growth using plant-level data.” *The RAND Journal of Economics* 43.4 (2012): 705-725.