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# Does Age Matter? The Relationship between Age and High Growth Businesses

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## SUMMARY

Recently published research applied the Organisation for Economic Cooperation and Development (OECD) measure of High Growth, defined as any business experiencing an annualised 20% growth in either employment or turnover over a 3-year period compared to a baseline year, to businesses in the Northern Ireland economy between 1998 and 2013<sup>1</sup>.

In brief, that research established that High Growth businesses in NI over the period were relatively evenly spread throughout the economy and represented a very important, though over time, a declining contributor of employment and turnover to the NI economy. The research generated a number of additional questions, among which was the extent to which High Growth businesses were younger or older than all other businesses?

Quality information on the age of firms was only available on the Inter Departmental Business Register (IDBR) which provided data for the research from 2006 onwards. Additional analytical work was therefore completed looking at age differences between High Growth and non-High Growth businesses between 2006 and 2014 for businesses employing 10 or more and for those employing between 1 and 9 staff. Five distinct age groups were examined including businesses aged: less than 2 years old; between 2 and 4 years old; between 5 and 9 years old; between 10 and 19 years old; and 20 years or older. The result of the analyses indicates that age does matter both to High Growth and non-High Growth businesses. In sum:

### Businesses Employing 10 or more

- All businesses employing 10 or more people as a group tended to be older rather than younger. For example in the latest period of 2011-14, of the 6,840 businesses employing 10 or more: 46% were aged 20 or over; 28% were aged 10-19; 14% were aged 5-9; 6% were aged 2-4; whilst 5% were less than 2 years old.
- In terms of the absolute numbers of High Growth businesses employing 10 or more, older business age groups accounted for a greater number of High Growth businesses. In 2011-14 for example, of the 745 High Growth businesses employing 10 or more: 32% were aged 20 or more; 28% were aged 10-19; 15% were aged 5-9; 11% were aged 2-4; and 13% were aged less than 2 years old.
- High Growth rates were greater for younger businesses. In 2011-14, and in the context of an overall High Growth rate of 11% for businesses employing 10 or more, High Growth rates amongst individual business age groups were: 8% for those aged 20 or

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<sup>1</sup> For further information including methodology, see "Measuring Northern Ireland's High Growth Firms: 1998-2013" (June 2014): <http://www.detini.gov.uk/index/what-we-do/deti-stats-index/economic-research/measuring-nis-high-growth-firms.htm>

over; 11% for those aged 10-19; 12% for businesses aged 5-9; 19% for businesses aged between 2-4; and 28% for those businesses aged less than 2 years old.

- The type of High Growth also appears to vary by the age group of the business. In 2011-14, High Growth in turnover only was broadly more common amongst the older High Growth businesses whilst High Growth in turnover AND staff growth was slightly more common amongst younger High Growth businesses.

### **Businesses employing less than 10**

- All businesses employing less than 10 people as a group tended to be older rather than younger though not to the same extent as businesses employing 10 or more. For example, in 2011-14, of the 47,335 businesses employing less than 10: 36% were aged 20 or over; 23% were aged 10-19; 17% were aged 5-9; 13% were aged 2-4; whilst 11% were less than 2 years old.
- Older age groups accounted for a greater number of High Growth businesses employing less than 10. In 2011-14 for example, of the 11,630 High Growth businesses employing less than 10: 29% were aged 20 or more; 19% were aged 10-19; 18% were aged 5-9; 16% were aged 2-4; and 17% were aged less than 2 years old. The age distribution of High Growth businesses employing less than 10 was more even compared to that of businesses employing 10 or more.
- High Growth rates for businesses employing less than 10 were greater for younger businesses. In 2011-14 and in the context of an overall High Growth rate of 24% for businesses employing 10 or more, High Growth rates amongst individual business age groups were: 20% for those aged 20 or over; 21% for those aged 10-19; 25% for businesses aged 5-9; 32% for businesses aged between 2-4; and 38% for those businesses aged less than 2 years old.
- Type of High Growth also appears to vary by the age group of the business. In 2011-14, High Growth in turnover only amongst businesses aged 20 or more was more common compared to younger age groups. High Growth in turnover AND staff growth was proportionately more common amongst younger High Growth businesses.

### **Conclusion**

In summary, the analyses indicate that younger businesses are more vital / dynamic / growth-oriented compared to older businesses although the larger pool of older businesses provides more High Growth businesses simply on the basis of the greater number of businesses. The type of High Growth by age group is also supportive of this perspective in that High Growth in turnover AND staff is slightly more common amongst younger age groups whilst High Growth in turnover only is slightly more common amongst older business age groups.

## **BACKGROUND**

Recently published research into Northern Ireland's High Growth Businesses between 1998 and 2013 applied the Organisation for Economic Cooperation and Development (OECD) measure of High Growth representing any business employing 10 or more which experienced an annualised 20% growth in either employment or turnover over a 3-year period compared to a baseline year.

Utilising the Inter Departmental Business Register (IDBR) a database was constructed covering the periods 1998/01 to 2010/13 from which it was possible to identify, within any given period, the number of High Growth businesses employing 10 or more. The database excluded all public sector organisations and, within each time period, included only businesses which were present on the Inter Departmental Business Register in each of the 4 years of each observation period. This approach was also extended to businesses employing less than 10. On that basis, 12 distinct observation time periods were constructed ranging from 1998/01 to 2010/13 (excluding 1999/02 as data was unavailable for 1999).

In brief, that research concluded that taking the longer view between 1998–2001 and 2011–2014, the contribution of High Growth businesses to the NI economy remains important on the basis that, in each period examined, a relatively small number of businesses accounted for a disproportionate share of business employment and turnover. The longer term view between 1998–2001 and 2011–2014, also indicated that the scale and impact of High Growth Firms employing 10 or more in the NI economy had broadly declined over time. In terms of the High Growth measure itself, increase in business turnover was the main driver underpinning the identification of a business as experiencing High Growth.

No strong business predictors or correlates of growth emerged from the analyses conducted although some subtle and nuanced differences emerged. However, none of the business characteristics examined within the IDBR appeared to provide strong candidates which would enable effective targeting of businesses to support and encourage High Growth.

The research raised a number of additional questions including whether business age had a measurable relationship to High Growth.

## ANALYTICS

Using the database created for the original High Growth research, the number of businesses for each period between 2006-09 and 2011-14 and who experienced High Growth were identified by a range of different age groups.

Consistent with the High Growth work completed to date, the businesses included from the IDBR in each period examined excludes the public sector and are those businesses which had data in each of the years within each observation period and were termed ‘in scope’ in the original research. On that basis, for example, businesses which were born or ceased trading, or were not included on the IDBR for any year within each observation period, were not included in the cohort of businesses within each observation period.

A full set of supporting tables can be found in Appendix A.

### Age Group Composition of Businesses Employing 10 or More

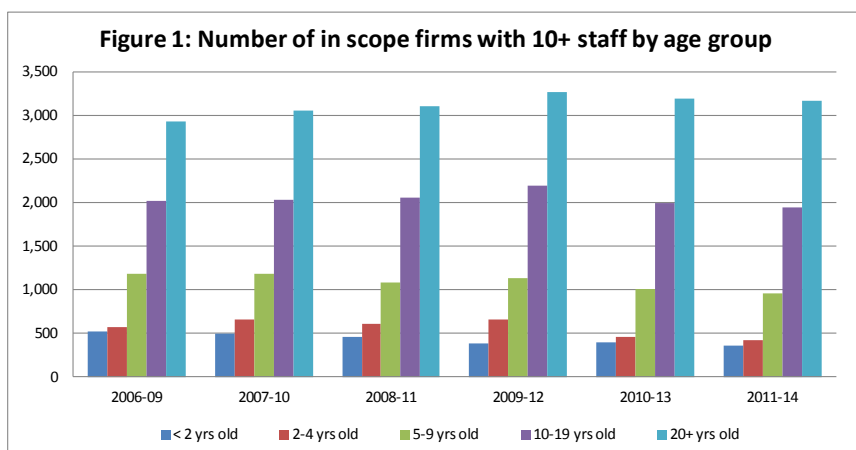
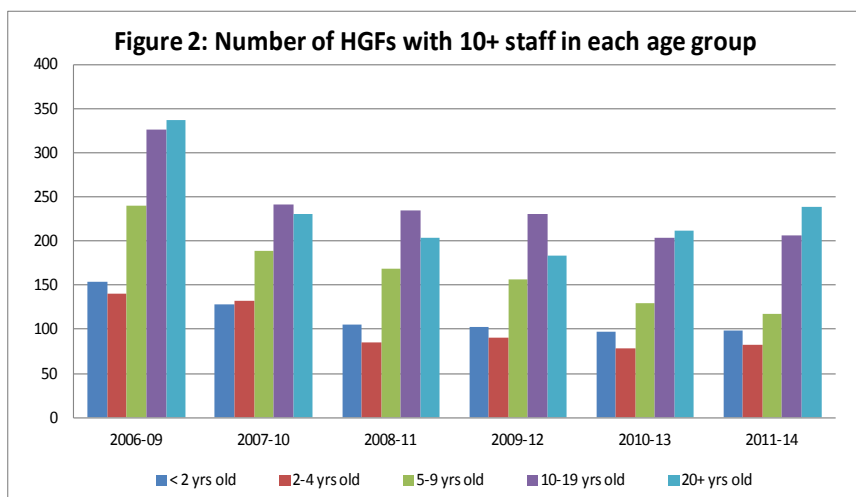


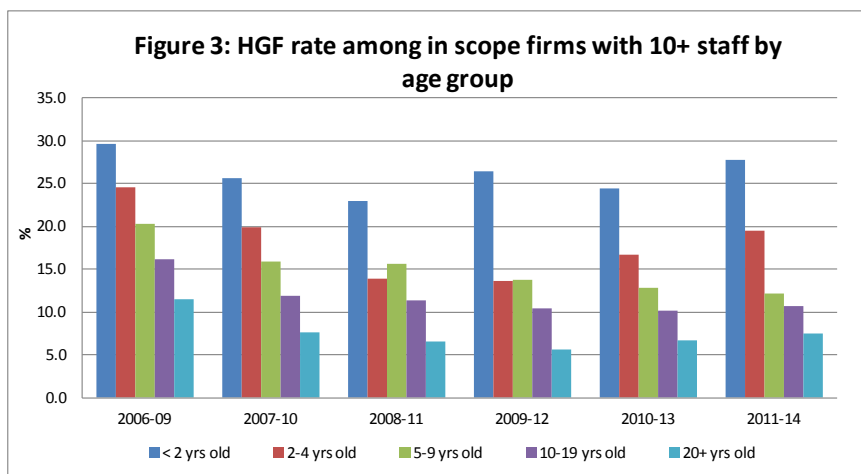
Figure 1 highlights the distribution by age group of all businesses employing 10 or more. As might be expected, older age groups account for the greater number of all businesses employing 10 or more, younger

businesses account for a much smaller number. Consistently, the highest concentration of firms were to be found in the 20+ age group where such firms made up almost half (around 45%) of all in scope firms with 10 or more staff. The youngest group of businesses (less than 2 years old) accounted for around 5% of total businesses employing 10 or more staff.



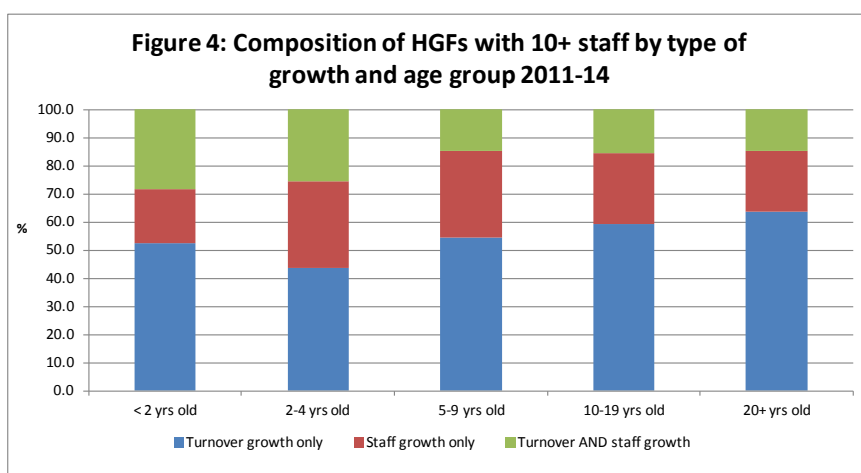
The absolute number of High Growth businesses with 10 or more staff by age group is shown in Figure 2. Consistently over time, more High Growth businesses are found in the older compared to younger age groups. In 2011-14 for example, of the 745

High Growth businesses: 32% were aged 20 or more; 28% were aged 10-19; 15% were aged 5-9; 11% were aged 2-4; and 13% were aged less than 2 years old. The larger numbers of Higher Growth firms in the older age groups appears to reflect somewhat the larger numbers of all in scope firms with 10 or more staff found within older age groups (Figure 1).



On the basis of the number of businesses and the number of High Growth Firms within each age group, the High Growth rate within each specific age group was calculated (Figure 3). For each time period, the High Growth rate

was greater for the youngest business age group, declining broadly sequentially with each subsequent age group. In 2011-14, the High Growth rate was: 28% for businesses aged less than 2; 19% for businesses aged 2-4; 12% for those aged 5-9; 11% for businesses aged 10-19; and 8% for businesses aged 20 or more.



There are three distinct and separate types of High Growth which are aggregated together into all High Growth businesses. These individual types of High Growth are: businesses experiencing High Growth in turnover only; High Growth in staff growth only; and High Growth in both turnover and staff.

With a focus on the most recent 2011-14 period, High Growth in turnover only amongst businesses aged 20 or more was more common compared to all other age groups. High Growth in turnover AND staff growth is proportionately more common amongst younger High Growth businesses.

Further analyses looking specifically at the industrial sector, employment size, and legal status within different age groups of High Growth businesses in 2011-14, did not appear to identify particularly consistent or strong messages.

## Age Group Composition of Businesses Employing less than 10

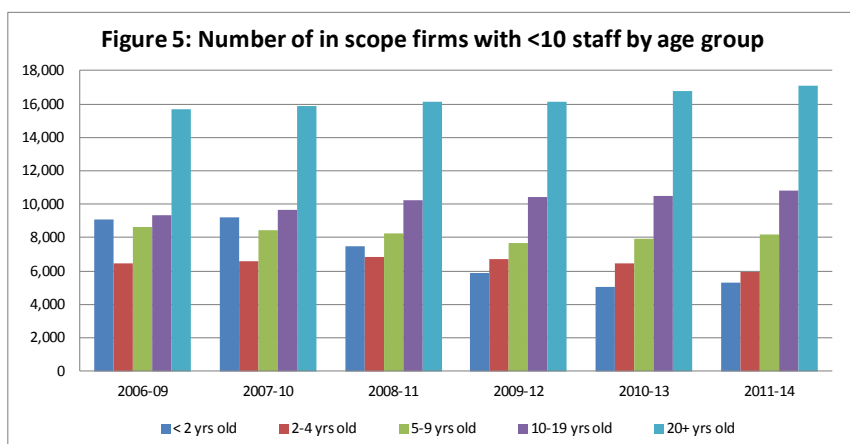
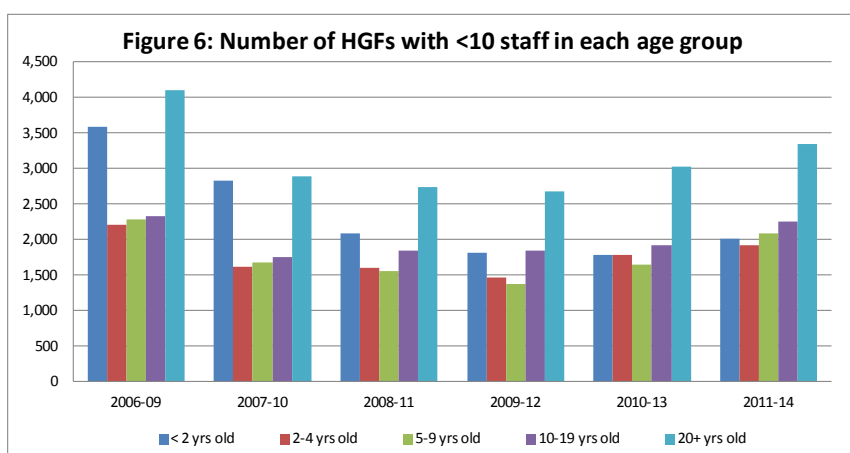


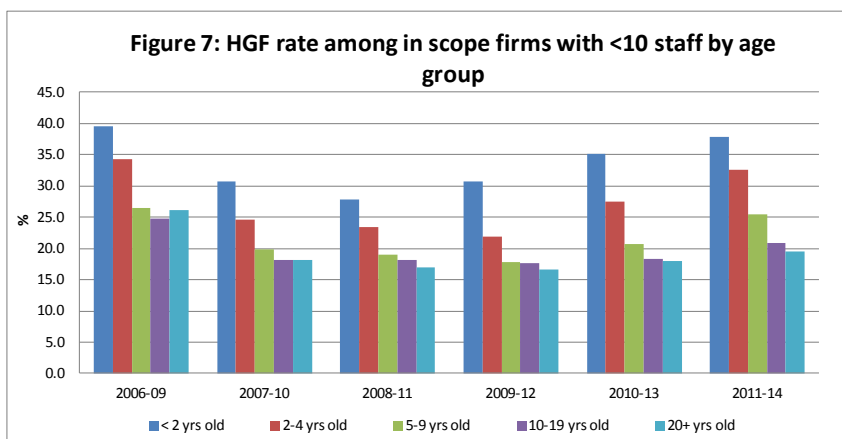
Figure 5 shows that there was a similar profile in terms of age between the numbers of in scope firms with less than 10 staff (micro firms) and those with 10 or more (non-micro firms – see Figure 1). In both cases, the largest

numbers of firms were to be found amongst the oldest age groups (10-19 years old and 20+ years old respectively). However, while the overall profiles were similar between micro and non-micro firms, the proportion of younger firms was relatively greater amongst micro businesses compared to businesses employing 10 or more.



The number of HGFs with less than 10 staff in base year (Figure 6), differs from the overall in scope micro firm profile (Figure 5) on the basis of the greater concentration of High Growth within younger businesses (especially those aged under 2

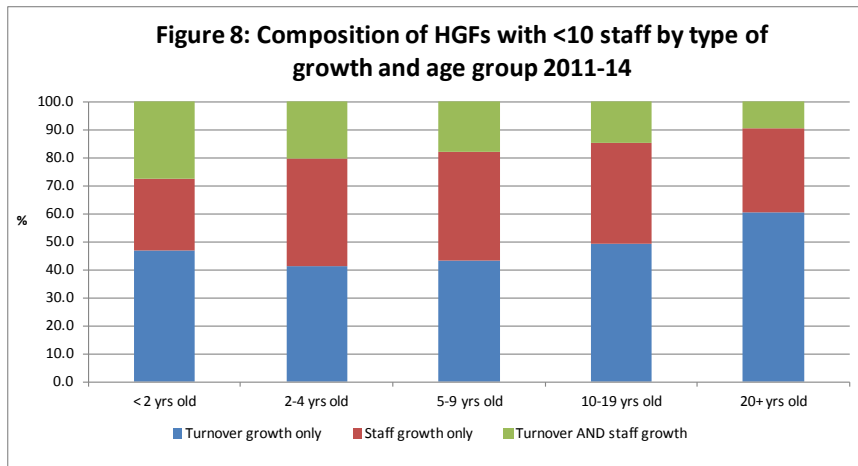
years old) compared to older businesses. Younger firms, especially those aged under 2 were more likely to exhibit high growth relative to their observed numbers among all in scope micro firms. While this pattern remained throughout each period between 2006-09 and 2011-14, it was particularly marked between 2006-09 and 2008-11.



The High Growth rate of micro HGFs by age group (Figure 7) reflects the combined effects of the age distribution of all businesses employing less than 10 and the age distribution of HGF businesses employing less than 10 (Figures 5



and 6). Micro firms experienced High Growth rates by age group very similar to that seen for non-micro HGFs (see Figure 3). For both micro and non-micro firms, High Growth rates were greater amongst the youngest firms (especially those aged under 2 years) and lower amongst older firms (especially those age 20+ years).



The distribution of the types of business growth among firms employing less than 10 staff showed similar levels of composition across each age group (Figure 8). However, High Growth in staff growth only was least common among firms

less than 2 years old, while High Growth in turnover only was more common among the oldest group of HGFs. High Growth resulting from both turnover and employment reduced proportionately with increasing age.

## APPENDIX – Tables of Results

Notes:

1. Totals may not sum due to the number of firms being rounded to the nearest five.
2. The terms *High Growth Firms (HGFs)* and *High Growth businesses* are used interchangeably throughout.

**Table 1: All in scope businesses by age group**

	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
< 2 years old	9,620	9,725	7,975	6,265	5,465	5,660
2-4 years old	7,030	7,255	7,480	7,410	6,935	6,345
5-9 years old	9,830	9,625	9,310	8,795	8,970	9,145
10-19 years old	11,390	11,685	12,305	12,640	12,520	12,745
20+ years old	18,625	18,945	19,265	19,410	19,995	20,280
<b>Total</b>	<b>56,490</b>	<b>57,235</b>	<b>56,335</b>	<b>54,520</b>	<b>53,885</b>	<b>54,175</b>

**Table 2: In scope businesses employing 10 or more staff in base year by age group**

	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
< 2 years old	520	500	465	385	400	355
2-4 years old	575	660	615	665	465	420
5-9 years old	1,185	1,185	1,085	1,130	1,005	960
10-19 years old	2,015	2,035	2,055	2,195	1,995	1,940
20+ years old	2,930	3,055	3,105	3,260	3,190	3,165
<b>Total</b>	<b>7,220</b>	<b>7,440</b>	<b>7,320</b>	<b>7,635</b>	<b>7,055</b>	<b>6,840</b>

**Table 3: In scope businesses employing less than 10 staff in base year by age group**

	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
< 2 years old	9,100	9,225	7,515	5,875	5,070	5,305
2-4 years old	6,455	6,590	6,870	6,745	6,470	5,925
5-9 years old	8,645	8,440	8,225	7,665	7,965	8,185
10-19 years old	9,375	9,650	10,250	10,445	10,530	10,805
20+ years old	15,695	15,890	16,155	16,150	16,805	17,115
<b>Total</b>	<b>49,270</b>	<b>49,800</b>	<b>49,015</b>	<b>46,885</b>	<b>46,830</b>	<b>47,335</b>

**Table 4: High Growth businesses employing 10 or more staff in base year by age group**

	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
< 2 years old	155	130	105	100	95	100
2-4 years old	140	130	85	90	80	80
5-9 years old	240	190	170	155	130	115
10-19 years old	325	240	235	230	205	205
20+ years old	335	230	205	185	210	240
<b>Total</b>	<b>1,200</b>	<b>920</b>	<b>795</b>	<b>760</b>	<b>720</b>	<b>745</b>

**Table 5: High Growth businesses employing less than 10 staff in base year by age group**

	2006-09	2007-10	2008-11	2009-12	2010-13	2011-14
< 2 years old	3,590	2,830	2,095	1,810	1,780	2,010
2-4 years old	2,205	1,615	1,605	1,475	1,780	1,925
5-9 years old	2,280	1,680	1,560	1,370	1,645	2,085
10-19 years old	2,325	1,750	1,855	1,840	1,925	2,260
20+ years old	4,100	2,895	2,740	2,680	3,020	3,345
<b>Total</b>	14,500	10,775	9,850	9,170	10,150	11,630

**Table 6: In scope businesses employing 10 or more staff in base year by age group and industrial sector for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
Agriculture, Forestry and Fishing	5	10	15	30	105	160
Manufacturing	30	25	80	205	490	835
Construction	20	20	80	165	300	585
Wholesale and retail	95	100	220	440	890	1,750
Transportation and storage	15	15	30	65	105	225
Accommodation and food service	55	100	155	225	275	810
Professional, scientific and technical	20	20	70	115	290	515
Administrative and support service	35	30	50	75	80	265
Human health and social	30	45	135	360	280	855
All other activities	55	55	125	255	350	840
<b>Total</b>	355	420	960	1,940	3,165	6,840

**Table 7: HGFs employing 10 or more staff in base year by age group and industrial sector for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
Agriculture, Forestry and Fishing	<5	5	<5	5	10	25
Manufacturing	5	5	10	35	45	100
Construction	5	5	20	20	50	105
Wholesale and retail	20	15	20	30	55	145
Transportation and storage	5	<5	5	10	5	30
Accommodation and food service	20	20	15	15	10	80
Professional, scientific and technical	5	<5	10	10	10	30
Administrative and support service	15	15	5	20	10	60
Human health and social	10	5	10	30	10	65
All other activities	15	5	25	30	30	110
<b>Total</b>	100	80	115	205	240	745

**Table 8: In scope businesses employing less than 10 staff in base year by age group and industrial sector for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
Agriculture, Forestry and Fishing	750	690	940	2,415	9,435	14,230
Manufacturing	280	300	460	620	635	2,300
Construction	710	1,235	1,670	1,820	1,430	6,865
Wholesale and retail	960	1,005	1,455	1,830	2,610	7,860
Transportation and storage	195	230	330	385	325	1,465
Accommodation and food service	285	270	425	420	440	1,835
Professional, scientific and technical	600	600	780	730	605	3,315
Administrative and support service	280	310	350	370	310	1,620
Human health and social	190	155	370	620	225	1,555
All other activities	1,055	1,130	1,410	1,585	1,100	6,280
<b>Total</b>	<b>5,305</b>	<b>5,925</b>	<b>8,185</b>	<b>10,805</b>	<b>17,115</b>	<b>47,335</b>

**Table 9: HGFs employing less than 10 staff in base year by age group and industrial sector for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
Agriculture, Forestry and Fishing	250	235	305	655	2,140	3,590
Manufacturing	125	120	125	110	95	575
Construction	320	485	505	455	290	2,055
Wholesale and retail	435	295	310	305	355	1,705
Transportation and storage	85	75	85	80	60	385
Accommodation and food service	85	70	80	75	55	365
Professional, scientific and technical	230	210	205	130	60	835
Administrative and support service	95	105	115	80	65	460
Human health and social	45	40	80	60	20	250
All other activities	345	285	280	300	205	1,420
<b>Total</b>	<b>2,010</b>	<b>1,925</b>	<b>2,085</b>	<b>2,260</b>	<b>3,345</b>	<b>11,630</b>

**Table 10: All in scope businesses by age group and employment size in base year for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
1-4	4,825	5,355	6,865	8,645	14,115	39,805
5-9	480	570	1,320	2,160	3,000	7,530
10-19	185	225	565	1,095	1,700	3,775
20-49	95	110	240	490	920	1,850
50-249	60	70	145	280	470	1,020
250+	15	15	15	75	75	200
<b>Total</b>	<b>5,660</b>	<b>6,345</b>	<b>9,145</b>	<b>12,745</b>	<b>20,280</b>	<b>54,175</b>

**Table 11: High Growth businesses by age group and employment size in base year for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
1-4	1,870	1,810	1,900	2,010	3,085	10,675
5-9	140	115	190	250	260	955
10-19	55	45	70	105	125	400
20-49	30	20	30	50	70	200
50-249	10	15	15	40	35	115
250+	<5	5	<5	10	5	25
<b>Total</b>	<b>2,110</b>	<b>2,010</b>	<b>2,205</b>	<b>2,465</b>	<b>3,585</b>	<b>12,375</b>

**Table 12: In scope businesses employing 10 or more staff in base year by age group and legal status for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Company</b>	290	295	600	1,090	1,695	3,975
<b>Sole Proprietor</b>	25	40	150	305	390	915
<b>Partnership</b>	30	70	145	360	760	1,365
<b>Non-profit body or mutual association</b>	10	15	60	185	315	590
<b>Total</b>	355	420	960	1,940	3,165	6,840

**Table 13: High Growth businesses employing 10 or more staff in base year by age group and legal status for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Company</b>	85	60	95	135	160	535
<b>Sole Proprietor</b>	5	10	10	20	25	75
<b>Partnership</b>	5	15	5	20	30	80
<b>Non-profit body or mutual association</b>	5	<5	5	25	20	55
<b>Total</b>	100	80	115	205	240	745

**Table 14: In scope businesses employing less than 10 staff in base year by age group and legal status for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Company</b>	2,105	1,955	2,480	2,250	1,750	10,540
<b>Sole Proprietor</b>	2,370	2,820	4,080	5,770	9,670	24,705
<b>Partnership</b>	655	900	1,200	1,860	4,900	9,510
<b>Non-profit body or mutual association</b>	180	250	420	930	795	2,575
<b>Total</b>	5,305	5,925	8,185	10,805	17,115	47,335

**Table 15: High Growth businesses employing less than 10 staff in base year by age group and legal status for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Company</b>	965	720	675	545	325	3,225
<b>Sole Proprietor</b>	800	935	1,065	1,260	2,135	6,190
<b>Partnership</b>	210	215	245	300	745	1,715
<b>Non-profit body or mutual association</b>	35	60	100	160	145	500
<b>Total</b>	2,010	1,925	2,085	2,260	3,345	11,630

**Table 16: High Growth businesses employing 10 or more staff by age group and type of growth for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Turnover growth only</b>	50	35	65	120	150	425
<b>Staff growth only</b>	20	25	35	50	50	185
<b>Turnover AND staff growth</b>	30	20	15	30	35	135
<b>Total</b>	100	80	115	205	240	745

**Table 17: High Growth businesses employing less than 10 staff by age group and type of growth for 2011-14**

	< 2 yrs old	2-4 yrs old	5-9 yrs old	10-19 yrs old	20+ yrs old	Total
<b>Turnover growth only</b>	945	795	900	1,110	2,025	5,775
<b>Staff growth only</b>	515	745	810	815	1,000	3,885
<b>Turnover AND staff growth</b>	555	385	375	330	320	1,970
<b>Total</b>	2,010	1,925	2,085	2,260	3,345	11,630

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