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Anita Du Rietz

E-mail anita.durietz@enterprise.ministry.se

Fredrik Andersson, Statistics Sweden

E-mail fredrik.andersson@scb.se

High-Growth Firms - Results from Sweden

The paper is organized as follows:

1. Definitions of business growth
 2. Measuring business growth with four variables
 3. Industry branches with high growth firms
 4. How many of our high growth firms pass the test with all four variables?
 5. Do high growth firms have another age, wage, and educational structure?
 6. Establishments - a better unit for employment analyses?
 7. Results of the sensitivity analysis
- Appendix A.
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1. Definitions of high growth firms and gazelles

First, the number of high growth firms and gazelles in Sweden are measured as follows:

High Growth firms:

*All enterprises with average annualised growth greater than **20% per annum, over a three year period**, and with **10 or more employees** in the beginning of the observation period.*

Gazelles:

*High growth firms which at are no more than **5 years** in the beginning of the observation period.*

In this paper we use the label High growth firms for all selected by the definition above, that is inclusive the gazelles. In some of the analyses there is a need for separating the gazelles from the incumbents, the

existing high growth firms. Therefore we use these labels:

High Growth Firms = new entrants, high growth firms (Gazelles) + existing high growth firms (Flyers)¹.

High Growth Firms = Gazelles + Flyers.

2. Measuring business growth - four variables

We measure high growth firms by two classes of variables:

1. those related to employment; number of employees and wages/salaries,
2. those related to economic performance; revenue/turnover and value added.

Table 1. High Growth firms, gazelles and flyers operating 2002-05, with 10 or more employees 2002, private economy², 2005.

	Number of firms	Share in pct.	Number of employees 2005	Share in pct.
All firms with 10+ employees	37.416		2.139.416	
High Growth firms - value added	2.771	7,41	228.487	10,68
High Growth firms - revenue	2.795	7,47	210.240	9,83
High Growth firms - wages	1.610	4,30	152.675	7,14
High Growth firms - employment	1.505	4,00	168.340	7,87
New firms with 10+ employees, entering 1997 or later	7.327		357.077	
Gazelles - value added	1.086	14,82	70.905	19,86
Gazelles - revenue	1.160	15,83	73.176	20,49
Gazelles - wages	708	9,66	53.116	14,88
Gazelles - employment	660	9,00	53.762	15,56
Flyers with 10+ employees	30.089		1.782.339	
Flyers - value added	1.685	5,60	157.582	8,84
Flyers - revenue	1.635	5,43	137.064	7,69
Flyers - wages	902	3,00	99.559	5,59
Flyers - employment	845	2,80	114.578	6,43

¹ "Flyers" is the name D.J. Storey, 1994, "Understanding the small business sector", p. 117, uses as a definition of high growth firms, making no distinction by sub-groups as new entry high growth firms.

² The requirement we use in Table 1 is that for all firms with 10+ employees, i.e., 37 416 firms, is that the firms have survived since 2002 and have at least 10 people employed in 2002. For the New firms with 10+ employees we also require that the firms have entered that market 1997 or later.

We assume the choice of selection variables seems to be of vital importance when measuring business growth. To test the robustness of the number of high growth firms and gazelles given these two classes we calculate the number of high growth firms and gazelles for all four different definitions of high growth (table 1).

Testing one of the economic performance variables gives the same result as the other one. As much as 15 percent of all new firms are gazelles and 5 percent of the incumbents are flyers.

The same conclusion holds for the employment variables where the results are uninfluenced by the choice of variables. Here the shares are 9 percent of all new entrants are gazelles and 3 percent of all incumbents are flyers.

The percentage level of high growth firms is determined by the choice of selection variable, employment or economic performance. The level is higher for the *continuous variables* reflecting economic performance; value added and turnover/revenue. The level is lower for the *discrete variables* of employment (number of employees and wages). A result coming up to our expectations, because the performance variables reflect annual growth. The employment growth (measured in numbers and not working hours) often lag the performance variables (i.e. the profit) and increases step-wise when new employees are recruit. In a short period of time, of some years, a greater number of firms may have grown according to the economic performance variables but not all have had the opportunity to expand their number of employees.

These selection processes single out a higher percentage level of gazelles in relation to all entrants and a lower level for the flyers in relation to the incumbents.

With the monetary variables, wages, revenues, and value added, a flaw is here that they are measured in nominal prices and not deflated. An increase of wages with 20 pct. thus includes some points that are explained by higher wages for the already employed.³

For the period 1998 to 2005 the share of high growth firms peaked during the boom of 1999-2000, figure 1.

³ Future work will take into account this problem.

The decline thereafter seem to have come to an halt in 2005. There is no difference over time between gazelles and flyers. The selection variable value added seem to be more volatile to external shifts as recognized for the years 2003-2004 in figure 2.

Figure 1. The number of high growth firms, gazelles and flyers, percentage of all active firms 1998-2005. selection variable employment

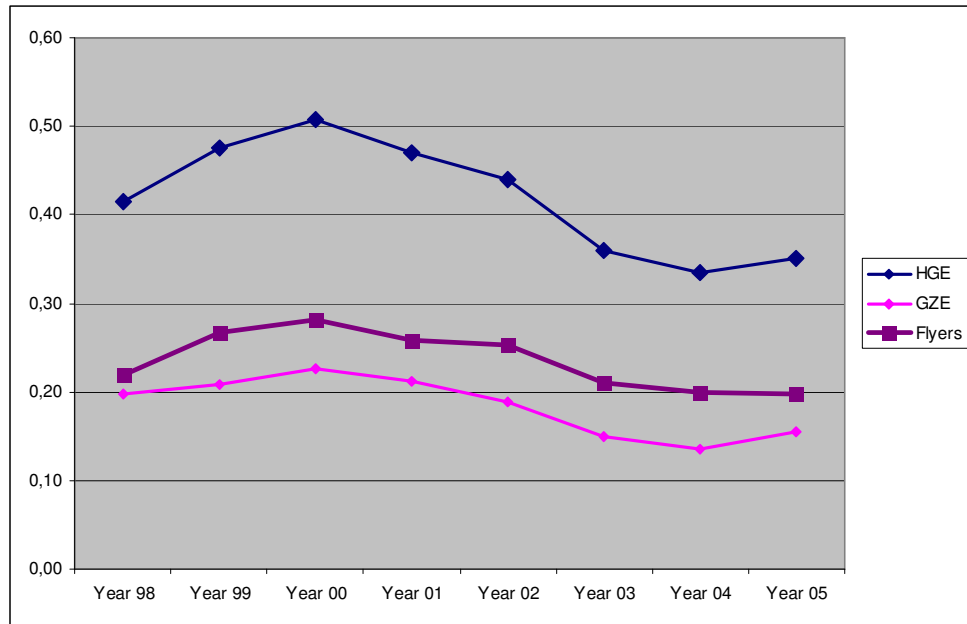
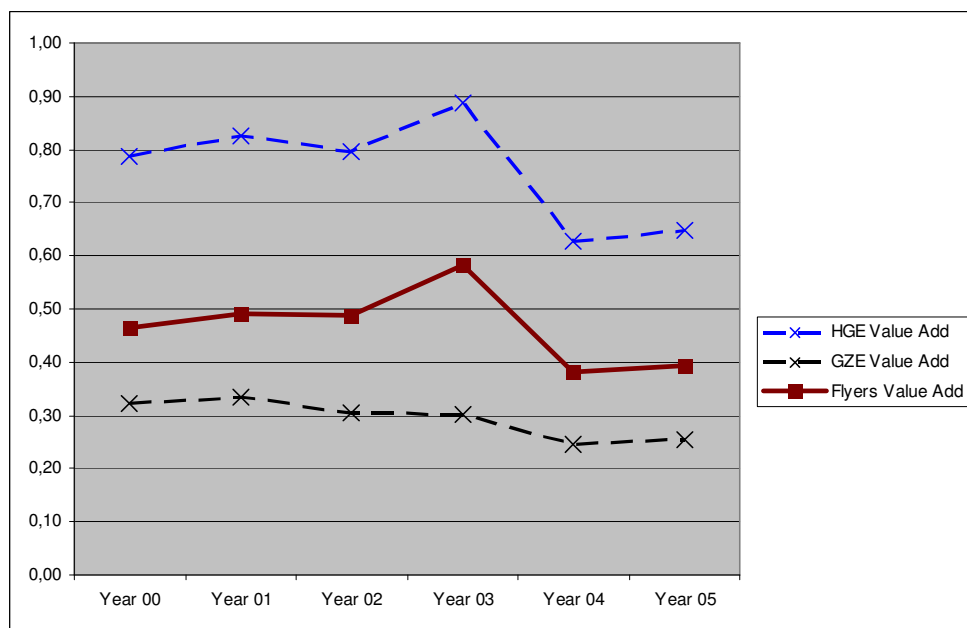


Figure 2. The number of high growth firms, gazelles and flyers, percentage of all active firms, 1998-2005. selection variable value added



3. Industry branches with high growth firms

Regardless of whether employment growth or value added growth are considered as the selection variables, it is more or less the same 5 industries that have the greatest part of gazelles. See table 2 and 3.

Table 2. Gazelles in industries 2005 - selection variable employment,

Employment 2005	Number of firms 2005	Industries, NACE	
13.131	134	74	Other business activities*
4.158	73	72	Computer and related activities**
3.020	60	45	Construction
2.067	48	51	Wholesales. trade & commission exc motor veh. & cycle
4.227	45	85	Health and social work
53.762	660	Total	

Notes: * The main five NACE 5-digit industries within 74 (60 pct. of the firms) are: i) Call centre activities ii) Provision of personnel activities iii) Construction and other engineering activities iv) Business and management consultancy activities v) Advertising agency activities. ** The main two NACE 5-digit industries within 72 (90 pct. of the firms) are: i) Other software consultancy and supply ii) Hardware consultancy.

From table 2 we learn that the top five gazelles industries hold almost 55 pct. of all the gazelles and almost 50 percent of the total employees of the gazelles. But on the other hand these 26 603 employees are almost 2,4 percent of all employees in these five industries. The employees in all other industries are less concentrated into the gazelles, since only 1,5 percent are employed by gazelles firms.

Table 3. Gazelles in industries 2005, selection variable value added,

Employment 2005	Number of firms 2005	Industries, NACE	
16.760	184	74	Other business activities*
8.028	116	45	Construction
3.192	98	72	Computer and related activities**
4.743	98	51	Wholesales. trade & commission exc motor veh. & cycle
6.630	73	52	Retail trade exc motor veh. & cycle; repair h/hold gds.
70.905	1.086	Total	

Notes: * The main four NACE 5-digit industries within 74 (70 pct. of the firms) are: i) Provision of personnel activities ii) Construction and other engineering activities iii) Business and management consultancy activities iv) Call centre activities v) Cleaning of premises. ** The main two 5-digit industries within 72 (88 pct. of the firms) are: i) Other software consultancy and supply ii) Hardware consultancy.

What do we know about the top 5 industries? Do they produce more gazelles than all other industries? Here we take into account the number of surviving firms during the period 2002 and 2005.

With employment as the selection variable there were 31 360 firms that had survived 2002-2005 with more than 10 employees 2002. Of these 4,8 percent were high growth firms and 2,1 percent were gazelles, table 4.

Table 4. Survivors. Number of HGE and GZE in relation to all survivors by industry, 2002-05. percent in brackets. selection variable employment.

2005	2005	2005	02-05	02-05	02-05
Industry	Active firms	Active firms emp.+10	Pop. 02-05, emp +10	HGE	GZE
74	62.031	4.023 (6,5)	3.082 (5,0)	234 (7,6)	134 (4,3)
72	11.925	1.225 (10,3)	938 (7,9)	116 (12,4)	60 (6,4)
45	45.469	3.987 (8,8)	3.189 (7,0)	154 (4,8)	73 (2,2)
51	23.427	3.704 (15,8)	3.277 (14,0)	151 (4,6)	48 (1,5)
85	14.193	1.281 (9,0)	1.037 (7,3)	70 (6,8)	45 (4,3)
Total	428.952	37.416 (8,7)	31.360 (7,3)	1.505 (4,8)	660 (2,1)

Table 5. Survivors. Number of HGE and GZE in relation to all survivors by industry 2002-05. percent in brackets. selection variable value added.

2005	2005	2005	02-05	02-05	02-05
Industry	Active firms	Active firms emp.+10	Pop. 02-05, emp +10*	HGE	GZE
74	62.031	4.023 (6, 5)	2.638 (4, 3)	359 (13, 6)	184 (7, 0)
45	45.469	3.987 (8, 8)	3.028 (6, 7)	308 (10, 2)	116 (3, 8)
72	11.925	1.225 (10, 3)	810 (6, 8)	179 (22, 1)	98 (12, 1)
51	23.427	3.704 (15, 8)	2.954 (12, 6)	338 (11, 4)	98 (3, 3)
52	34.790	3.204 (9, 2)	2.575 (7, 4)	193 (7, 5)	73 (2, 8)
Total	428.952	37.416 (8, 7)	25.850 (6, 0)	2.771 (10, 7)	1.086 (4, 2)

Note: * The number of firms in the population may differ from population (Pop. 02-05, emp +10) in table 4 since firms have missing values for their value added.

Looking at the various industries the percentage share is far above the average in industries as NACE 72 for both gazelles and all high growth. In industries NACE 74 and 85 the share is above the average and in NACE 51 it is below. Using the selection variable value added gives a slightly different result, table 5.

The development from 1998 to 2005 is displayed in figure 2 and 3 for industries NACE 74, 45, 51 and 72. The fluctuations of number of employees working in the gazelle group and the flyer group are separated.

Figure 2. Number of employees in gazelles and flyers by NACE 74 and 45, 1995–2005, selection variable employment.

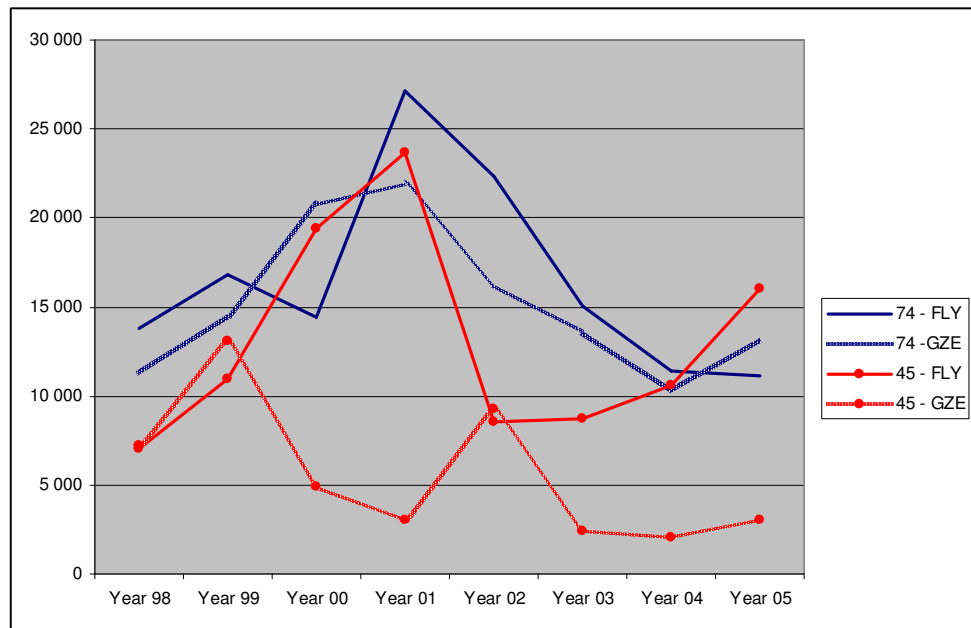
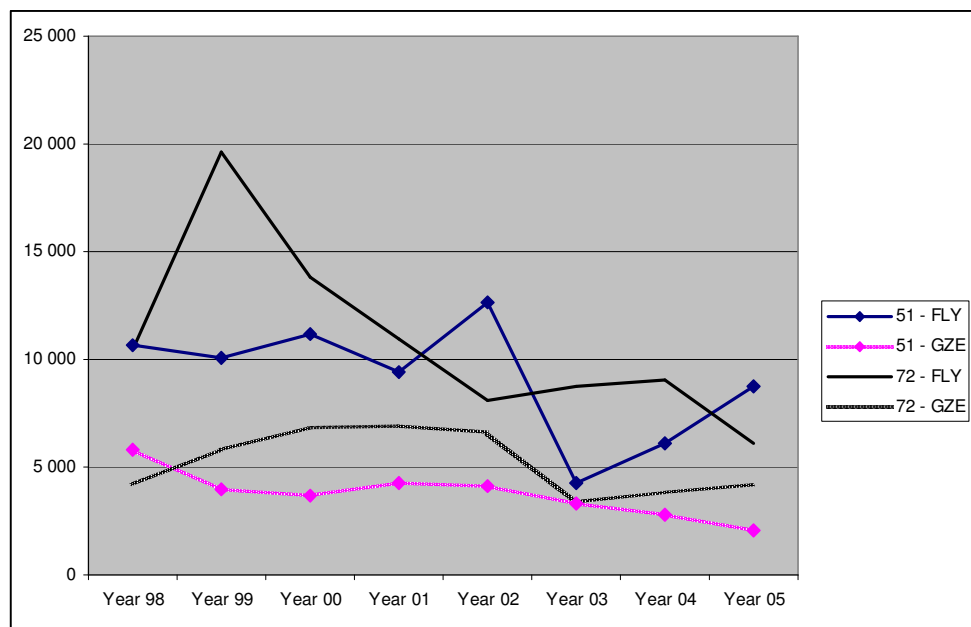


Figure 3: Number of employees in gazelles and flyers by NACE 51 and 72, 1995–2005, selection variable employment.



For industries NACE 74 and 45 there were a boom effect in the middle of the period. A revival may be traced in the year 2005 for NACE 45. For industries NACE 51 and 72 there have been an almost continuous decline of the

number of employees mainly in the flyers group and slightly in the gazelles group, figure 3.

4. How many of our high growth firms pass the test with all the four variables?

The question rises: Do the four variables capture quite different parts of the high growth population?

In this report we use as a main data set of the Swedish labour statistics based on administrative sources, which implies that all firms having at least one employee (following the decisive norms of Statistics Sweden) are included or self employed persons attached to the firms. However, these firms do not necessarily have any economic activity reported to their organization number. The firms may have wages reported or income from self employment but no revenues. But it is not necessary that value added can be traced to each organization number.

There is one shortcoming with the employment variable. No information is hold whether the employees are part time or full time-workers. Therefore when adding one more growth selection variable, wages, we assume that this variable better reflect the actual employment input.

The union of the data sets is created for high growth firms and gazelles respectively measured by the variables value added and employment.

The results in table 6 and 7 should be interpreted in the following way;

With the variable employment there are 1.505 high growth firms in Sweden and out of these firms, 409 are also singled out by the variable value added growth. This means that 58,9 pct. of the high growth firms have been selected by both the employment variable and the variable value added. See table 6 and 7.

Including the other two variables, wages and revenues, the percentage share of high growth firms has been reduced to 38,8 pct. i.e. 584 HEG; and 41,1 pct. gazelles, i.e. 273 GZE.

Table 6. Union of two variables - high growth firms

High Growth firms, 2002-05	Number of firms	Share
Value Added	2.771	
Employment (<i>benchmark</i>)	1.505	
Union of both	886	58,9%
Union of three (<i>wages</i>)	666 (1.610)	44,3%
Union of four (<i>revenues</i>)	584 (2.795)	38,8%

On the other hand, if firms manage to pass all four requirements they are truly high growth firms respectively gazelles. It happens that about 40 pct. of all firms can be defined as truly high growth firms or gazelles as they manage to be represented in all four discriminative variable sets.

Table 7. Union of two variables - gazelles

Gazelles, 2002-05	Number of firms	Share
Value Added	1.086	
Employment (<i>benchmark</i>)	660	
Union of both	405	61,4%
Union of three (<i>wages</i>)	304 (708)	46,1%
Union of four (<i>revenues</i>)	273 (1.160)	41,4%

Data problem: When we measure the number of employees we use labour statistics based on administrative sources which contains all firms that have at least one person as employed or a self employed persons attached to the firms in November. Some of these firms do not have values for their value added. In our population of firms around 12,6 pct. are missing a value added numbers. And out of the high growth firms the share is 7,8 pct.

5. Do high growth firms have another wage, age and educational structure?

Human capital is involved in fostering high growth firms. In what sense can we register that human capital and higher education characterize high growth firms?

a) Wages/salaries.

Here the wage/salary structure is displayed for the high growth firms where all others constitute the control group, see table 8.

Relatively more employees with annual wages below 149.999 SEK work in high growth firms, which means 28,3 pct. for gazelles and 22 pct. for all high growth compared to 18 pct. in the control group.

On the other hand, in wage categories above 350.000 SEK, there are relative less employees within gazelles firms, 18,9 pct. compared to the control group 21,4 pct. It seems that gazelles initially pay their employees less compared to all other firms and even the flyers (high growth minus gazelles).

Table 8. The employees in various wage categories 2005. Annual wages. selection variable employment.

Wage 2005	High Growth		Gazelles		All others	
	Number	Share	Number	Share	Number	Share
<100.000	22 013	13,1%	9 299	17,3%	183 756	10,6%
100.000-149.999	14 919	8,9%	5 924	11,0%	132 370	7,7%
150.000-249.999	44 663	26,5%	14 845	27,6%	475 616	27,5%
250.000-349.999	50 696	30,1%	13 501	25,1%	565 667	32,8%
350.000-499.999	24 554	14,6%	6 633	12,3%	250 495	14,5%
>500.000	11 495	6,8%	3 560	6,6%	118 935	6,9%
Total	168 340		53 762		1 726 839	

Note: The amounts are in Swedish kronor

In appendix A the corresponding tables with the selection variable value added are found.

b) Age

However, the wages increase with age and therefore we add the age and gender structure, see table 9.

Gazelles have 42 percent female employees compared to 33 percent of the flyers and 36 for all others.

Compared to the control group of all other firms there are some characteristics. Gazelles are "younger" and employ younger people (below 30 years) and they have almost as many males as females among youngsters. Flyers have more young people compared to the control group and employ as many older people but less females in the highest age group.

Table 9. Age and gender, percentage within each type of firm 2005. selection variable employment.

Type of Firms	Age groups	Gender	
		Male	Female
Flyers	<30	14,15	9,25
	30-45	27,77	14,15
	>45	24,75	9,92
Gazelles	<30	20,39	17,28
	30-45	24,08	16,64
	>45	13,84	7,76
All others	<30	12,21	8,31
	30-45	25,99	15,71
	>45	24,59	13,20

Table 10. Percentage share of employees in various age and wage categories 2005. Annual wages. selection variable employment.

Type of firms	Wage 2005	Age		
		<30	30-45	>45
High growth	<100.000	26,7	56,8	16,5
Gazelles	<100.000	26,0	60,5	13,4
All others	<100.000	52,1	27,5	20,4
High growth	100.000-149.999	31,0	45,5	23,6
Gazelles	100.000-149.999	30,3	50,5	19,2
All others	100.000-149.999	37,6	31,5	30,9
High growth	150.000-249.999	27,8	32,4	39,8
Gazelles	150.000-249.999	23,2	37,6	39,2
All others	150.000-249.999	24,5	41,5	34,0
High growth	250.000-349.999	33,6	187,8	19,4
Gazelles	250.000-349.999	30,0	47,8	22,3
All others	250.000-349.999	13,9	45,6	40,5
High growth	350.000-499.999	35,4	8,7	56,0
Gazelles	350.000-499.999	31,6	10,5	58,0
All others	350.000-499.999	5,4	49,9	44,7
High growth	>500.000	2,2	54,6	43,2
Gazelles	>500.000	2,9	58,3	38,8
All others	>500.000	1,1	44,9	54,0

Note: The amounts are in Swedish kronor

The high growth firms and gazelles have in general more well-paid young employees and relative less employees above age 45 in all wage-groups except in the wage-groups 150.000–249.999 and 350.000–499.999 SEK, table 10.

High growth firms and gazelles have a mixture of young people (below 30) with older people (above 45) with experience. In addition, not qualified positions and part-time positions are to a larger extent hold by employees with higher degrees of age 30 and 45. We can conclude that the wage and age structure differ between high growth firms, gazelles and the all other firms. The same pattern is almost found in all the variables wage, age and educational structure when applying the selection variable value added. See Appendix for more details.

c. Education

In table 11 we show the shares of employees that have upper secondary education (3C), tertiary b (shorter than 3 years) education, tertiary a (longer than 3 years) education, and Ph.d. education. We see no

dramatic difference between high growth firms and gazelles and all other firms' educational levels.

Table 11. Percentage share of employees in higher educational categories 2005. selection variable employment.

Type of firms	Education level ISCED				
	The rest	3C	5B	5A	6
High growth	52,1	26,0	5,5	16,0	0,4
Gazelles	54,2	20,9	6,1	18,3	0,5
All others	50,2	28,3	5,8	15,0	0,7

In table 12 the educational categories are divided into age groups.

Once again we see empirical evidence upon the fact that high growth firms and gazelles are over represented with young people (below 30 year) with high education and that key personal (ISCED 6) should not be too young, i.e. those with a Ph.d. education are between 30 and 45 years old.

Table 12. Percentage share of employees in various age and educational categories, 2005. selection variable employment.

Type of firms	Education Level ISCED97	Age		
		<30	30-45	>45
High growth	1	10,9	3,6	85,5
Gazelles	1	16,0	6,0	77,9
All others	1	91,8	1,4	6,8
High growth	2	31,8	38,9	29,3
Gazelles	2	44,2	28,9	27,0
All others	2	22,9	30,6	46,5
High growth	3A	53,2	17,4	29,4
Gazelles	3A	61,5	11,6	26,9
All others	3A	32,6	44,9	22,5
High growth	3C	5,8	40,0	54,2
Gazelles	3C	8,9	34,5	56,7
All others	3C	3,9	52,5	43,6
High growth	4A	13,8	44,2	42,0
Gazelles	4A	9,6	53,0	37,4
All others	4A	19,2	35,8	45,0
High growth	4C	3,7	38,7	57,7
Gazelles	4C	7,0	29,1	63,9
All others	4C	41,0	2,6	56,4
High growth	5A	22,2	52,0	25,8
Gazelles	5A	13,9	53,8	32,4
All others	5A	19,0	51,1	29,9
High growth	5B	48,5	25,3	26,2
Gazelles	5B	44,7	36,2	19,1
All others	5B	17,1	45,0	37,9
High growth	6	1,2	60,2	38,5
Gazelles	6	2,4	65,0	32,5
All others	6	53,7	44,2	2,1

d. Reported on sick leave

In table 13 the reported sick leave is demonstrated within the high growth and gazelles categories divided into gender.

We may the conclusion that compared to all other firms the employees are to a smaller extent on sick leave in high growth firms and that holds especially for the gazelles. There are no major differences within the male groups. Females in high growth firms and as well gazelles have to a greater extent sick leave periods in the age 16-24, 35-44 and 45-54.

Table 13. Percentage share of employees being on sick leave (the 14 first days not included) in 2005, selection variable employment.

Gender	Age	Type of firm		
		High growth	Gazelles	All other
Male	16-24	5,2	5,0	5,3
	25-34	6,7	6,3	7,2
	35-44	8,9	8,3	9,2
	45-54	11,4	11,1	11,5
	55-64	14,3	14,2	15,0
	Total	9,0	8,3	9,8
Female	16-24	7,6	7,9	6,8
	25-34	16,0	15,5	16,5
	35-44	17,9	17,9	17,3
	45-54	20,5	19,8	18,4
	55-64	20,8	20,7	20,6
	Total	16,5	15,9	16,6
	Total	11,7	11,1	12,3

6. Establishments - a better unit for employment analyses?

In analyses of economic structures and development over time when the crucial variable is employment there is not need to focus on the legal firm. When the purpose is to study the dynamics and to what extent high growth firms contribute with new jobs the plant or the establishment is a better physical unit. To perform employment analysis the ownership relation has to be separated from the physical location and the focus lies on the number of jobs that belongs to the plant. The source here is Statistic Sweden's register: The dynamics of firms and enterprises (FAD).

Firstly, with the unit establishment it is obvious which plant has started from scratch or via a split or a merger. Here this is defined as organic or non-organic growth. If a firm is not an organic firm there has been an influx of employees from other plants. Thus, the number of plants that grow in a non-organic way displays how the economy is reorganizing presumably toward a more productive resource allocation. This part of information is lost when studying the legal firms as the employees are related to an organization number, merely a product from a writing desk and in some cases used for tax purposes.

Secondly, some firms have several plants (regionally or in several industries). If only one of them grow the number of employees this will make only a smaller contribution to the increase of the total number of employees at that firm.⁴ Consequently this firm will not be defined as a high growth one. But, from a regional or/and industrial perspective these high growth establishments will give a more balanced picture of the true employment situation. Hence, we argue that the establishments are preferred when studying employment development and consequently a smaller and a more reliable unit of measurement.

Thirdly, high growth firms (gazelles and flyers) can be located into their regions and a concentration into regional clusters can be traced.

In Table 14 the number of firms, solo firms, establishments and employees are displayed for each industry in 2005. There were 378 425 plants and 346 515 business firm and corporations in 2005, employing 2 million people in Sweden.

Table 14. Private sector, year 2005

Section	ISIC Rev 3	All firms	Solo firms	Establishments	Empl.
A+B	Agriculture, hunting, forestry, and fishing	45 853	37 806	47 016	76 947
C+D	Manufacturing and mining	35 603	15 083	39 581	715 383
E	Electricity, gas and water supply	981	311	1 838	36 617
F	Construction	45 483	25 589	47 274	231 615
G+I	Wholesale & retail trade; repair: ect.	94 817	43 117	111 675	775 782
H+O+P	Personal and culturel services	63 505	39 261	69 231	276 970
J+K	Financial intermediation	93 409	59 698	101 937	545 030
L	Other organizations	251	79	376	6 621
M	Education and research	7 601	3 045	9 045	76 869
N	Helath and social work	14 200	8 658	16 994	122 564
	Unkown	27 249	25 746	21 893	26 310
	Total	346 515	205 193	378 425	2 061 761

When applying the physical unit of firms there existed in 2005 1.505 high growth firms. If on the other hand the physical unit of establishment is applied, there were 1.765 high growth units or plants (see Appendix B for the result per industry).

⁴ One problem is that merely personal connected to the plant or establishments are included.

Out of 1.765 plants there are 674 plants that belonged to 445 firms which held more than 1 establishment. Some firms had more than one establishment defined as a high growth plant. Comparing these 445 firms with the firms that pass the definitions of high growth firms (1.505 firms) merely 129 firms are defined as high growth firms by both type of units, that is firms and establishments. The implication of this is that 316 firms have some establishments (488) that are growing fast. But these plants are not growing fast enough so that their mother firms can pass the high growth criteria.

When applying the selection variable employment the plant our discussion above give rise to the preference of establishment as the unit for analyses instead of the legal unit - the firm. The legal unit, the firm, provides us with better economic performance data.

How many establishments, of all, are high growth units according to our definitions (above 5 employees and an annual growth of at least 20 percent)?

The sum of all high growth plants constitute 5,5 percent of all plants with 5 or more employees, see table 15. Flyers are 2,8 percent and gazelles are 2,7 percent ($2,8+2,7=5,5$) of all. The main table is in appendix B.

Table 15. High growth plants as a percentage share of all above 5 empl. in 2002–2005.

Section	Industry	Gazelles	Flyers	High growth
A+B	Argiculture, hunting, forestry, and fishing	1,1	2,7	3,8
C+D	Manufacturing and mining	1,7	2,3	4
E	Electricity, gas and water supply	3,6	4,2	7,8
F	Construction	2,9	3,5	6,4
G+I	Wholesale & retail trade; repair: ect.	1,9	2,4	4,3
H+O+P	Personal and culturel services	2,4	2,4	4,8
J+K	Financial intermediation Real estate, renting, and business activities	5,1	2,5	7,6
L	Other organizations	6,9	2,3	9,2
M	Education and research	3,8	2,1	5,9
N	Health and social work	2,8	1,9	4,7
	Total	2,7	2,8	5,5

For the gazelles some sectors have a share above 2,7 percent;

- 1) L=the public sector, 6,9%
- 2) J+K=business services etc, 5,1%
- 3) M= education and research (privatization), 3,8%
- 4) F= construction, 2,9%
- 5) E=electricity, gas and water supply (a general privatization has promoted entry and growth), 3,6%

Flyers are concentrated into two sectors with figures above 2,8 percent;

- 1) E=electricity, gas and water supply (a general privatization has promoted growth), 4,2%
- 2) F= construction, 3,5%

When analyzing the wage structure on a plant level the same results hold as from the analyses on the firm level. High growth firms pays lower wages, table 16.

Table 16. The employees in various wage categories in establishment units, 2005.

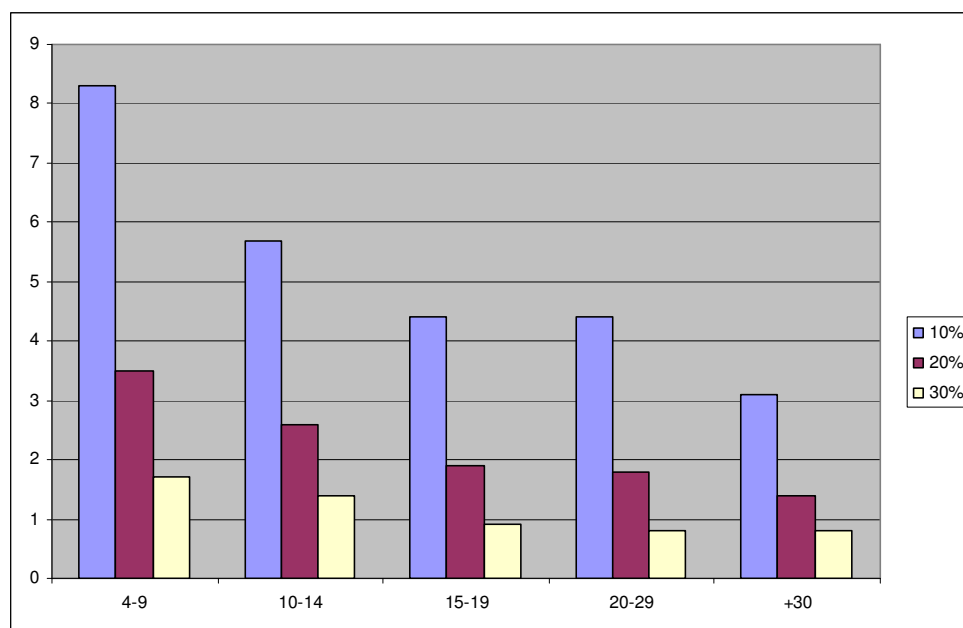
Wage 2005	Flyers		Gazelles		All others	
	Number	Share	Number	Share	Number	Share
<100.000	9 678	12,6%	11 256	14,5%	195 763	10,6%
100.000-149.999	6 769	8,8%	7 728	9,9%	141 875	7,7%
150.000-249.999	21 240	27,6%	20 775	26,7%	524 799	28,4%
250.000-349.999	22 047	28,6%	19 618	25,2%	605 038	32,7%
350.000-499.999	11 416	14,8%	11 518	14,8%	259 379	14,0%
>500.000	5 843	7,6%	6 974	9,0%	122 884	6,6%
Total	76 993		77 869		1 849 738	

Note: The amounts are in Swedish kronor

7. Results of a sensitivity analysis

In table 17 an effort is made to demonstrate a sensitivity analysis for all high growth establishments in 2005, divided into size classes. The condition here is more than 4 employees 2002.

Figure 5. The percentage share of gazelles of all surviving plants 2002–2005, according to various growth rates, 10%, 20% and 30%.



We have tested how many plants that have grown more than 10%, 15%, 20%, 25%, 30% and 40% respectively. The corresponding numbers of employees in these plants are also in the table. In order to demonstrate the effects for gazelles when increasing the floor from 10% growth to 20% and 30% figure 5 has been constructed. For the

gazelles in the higher size classes the growth level seems to be less important compared to the gazelles in the lowest size classes.

In figure 6 the point with organic and non-organic information is displayed. Here the size limit is set at more than four employees, more adjusted to the plant size in Sweden. Of all high growth plants between 2002 and 2005 a smaller and almost unchanged part was due to non organic growth. The organic growth was more influenced by the business cycle and the boom around the year 2000.

Figure 6. All high growth plants divided into organic and non-organic growth 1994-2005. percentage of all plants 02-05 more than 4 empl.

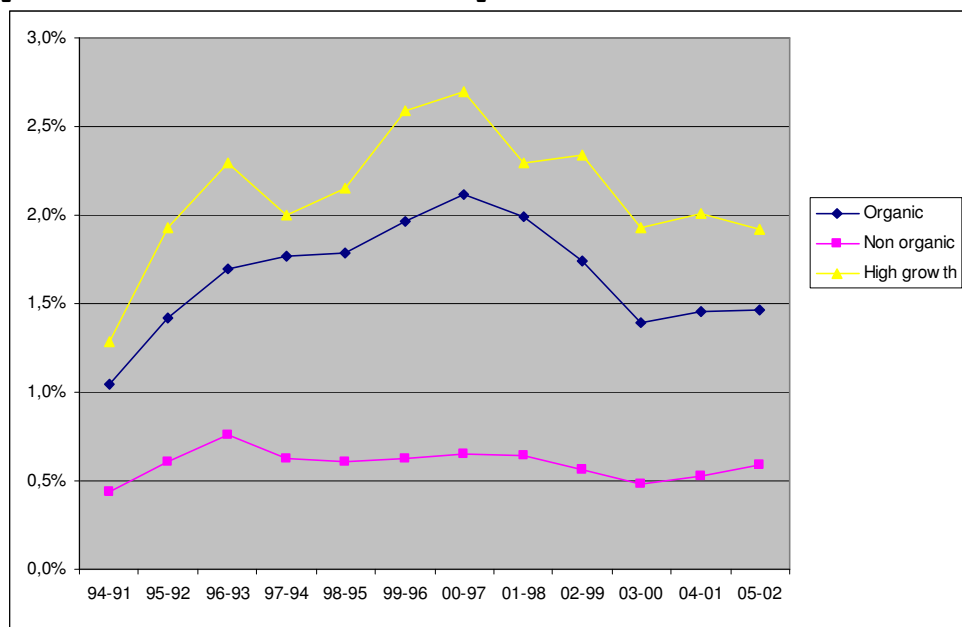


Table 17. A sensitivity analysis, 2002 and 2005.

The number of establishments that fulfils the requirements of growth between 2002-2005 and that have at least 5 employees 2002 and are in the private sector

Variable	The Size of the Establishment 2002					Total
	5 - 9	10 - 14	15 - 19	20 - 29	+30	
Total number of establishments 2002	44 418	16 988	8 697	8 717	14 397	93 217
Total number of employees 2002	289 648	198 540	145 883	207 650	1 402 338	2 244 059
Total number of establishments 2005	46 830	17 558	8 974	8 866	14 336	96 564
Total number of employees 2005	305 691	205 443	150 323	211 088	1 353 355	2 225 900
Total change of employees 02-05	16 043	6 903	4 440	3 438	-48 983	-18 159
Number of establishments 02-05***	38 040	15 037	7 804	7 895	13 194	81 970
The number of employees 05***	262 977	182 292	132 725	190 152	1 236 454	2 004 600
Change of employees 02-05	14 262	6 397	1 811	1 905	-14 589	9 786
Number of establishments growth >=40%* of which are gazelles**	475 325	160 118	60 34	53 34	79 43	827 554
Share of gazelles	0,9%	0,8%	0,4%	0,4%	0,3%	0,7%
number of employees 2005	13 356	8 061	4 418	5 063	20 102	51 000
Change on employees 02-05	10 384	6 200	3 418	3 829	15 359	39 190
Number of establishments growth >=30% of which are gazelles**	912 651	316 207	129 74	119 62	175 100	1 651 1094
Share of gazelles	1,7%	1,4%	0,9%	0,8%	0,8%	1,3%
number of employees 2005	20 416	12 507	7 212	8 998	33 483	82 616
Change on employees 02-05	15 235	8 965	5 141	6 185	23 269	58 795
Number of establishments growth >=25% of which are gazelles**	1 635 954	476 278	194 102	206 99	250 129	2 761 1 562
Share of gazelles	2,5%	1,8%	1,3%	1,3%	1,0%	1,9%
number of employees 2005	29 578	16 426	9 460	13 249	42 919	111 632
Change on employees 02-05	19 293	10 869	6 236	8 395	28 112	72 905
Number of establishments growth >=20% of which are gazelles**	2 500 1335	731 392	318 148	316 143	400 185	4 265 2203
Share of gazelles	3,5%	2,6%	1,9%	1,8%	1,4%	2,7%
number of employees 2005	39 699	21 922	13 274	18 116	61 851	154 862
Change on employees 02-05	23 849	13 370	7 968	10 550	36 709	92 446
Number of establishments growth >=15% of which are gazelles**	2 098 1 957	644 565	364 223	308 218	412 269	3 826 3 232
Share of gazelles	5,1%	3,8%	2,9%	2,8%	2,0%	3,9%
number of employees 2005	55 976	30 946	20 548	26 076	92 957	226 503
Change on employees 02-05	30 080	16 832	10 712	13 555	48 602	119 781
Number of establishments growth >=10% of which are gazelles**	7 782 3 139	2 278 860	1 085 344	989 350	1 287 413	13 421 5 106
Share of gazelles	8,3%	5,7%	4,4%	4,4%	3,1%	6,2%
number of employees 2005	89 851	48 562	32 143	41 499	159 513	371 568
Change on employees 02-05	39 784	21 997	14 053	18 024	68 016	161 874

* Establishments have grown with at least 40 pct. per year.

** Gazelles are establishments that entered during 1997-2002 and did not arise via merge or split.

*** The establishments exists 2002 respectively 2005

Appendix A.

Table A.1. The employees in various wage categories, 2005. selection variable value added.

Wage	High Growth		Gazelles		All others	
	Number	Share	Number	Share	Number	Share
<100.000	24 874	10,9%	10 654	15,0%	180 895	10,9%
100.000-149.999	17 781	7,8%	7 121	10,0%	129 508	7,8%
150.000-249.999	58 193	25,5%	19 836	28,0%	462 086	27,7%
250.000-349.999	74 830	32,8%	19 710	27,8%	541 533	32,5%
350.000-499.999	36 437	15,9%	9 352	13,2%	238 612	14,3%
>500.000	16 372	7,2%	4 232	6,0%	114 058	6,8%
Total	228 487		70 905		1 666 692	

Note: The amounts are in Swedish kronor

Table A.2. The share of employees in various Age and wage categories, 2005. selection variable value added.

Type of firms	Wage	Age		
		<30	30-45	>45
High growth	<100.000	24,3%	61,7%	13,9%
Gazelles	<100.000	21,7%	68,9%	9,4%
All others	<100.000	51,4%	27,5%	21,1%
High growth	100.000-149.999	29,1%	49,9%	21,0%
Gazelles	100.000-149.999	26,9%	59,0%	14,1%
All others	100.000-149.999	37,5%	31,3%	31,2%
High growth	150.000-249.999	27,0%	33,3%	39,7%
Gazelles	150.000-249.999	20,2%	41,6%	38,2%
All others	150.000-249.999	24,5%	41,2%	34,4%
High growth	250.000-349.999	36,1%	46,2%	17,7%
Gazelles	250.000-349.999	28,8%	47,1%	24,2%
All others	250.000-349.999	14,0%	45,1%	40,9%
High growth	350.000-499.999	38,6%	7,9%	53,6%
Gazelles	350.000-499.999	28,6%	11,7%	59,7%
All others	350.000-499.999	5,4%	49,5%	45,1%
High growth	>500.000	2,1%	51,8%	46,1%
Gazelles	>500.000	4,0%	64,7%	31,3%
All others	>500.000	1,1%	44,6%	54,3%

Note: The amounts are in Swedish kronor

Appendix B.

Table B.1. Analysis of private sector year 2005

Section	Industry		The establishments must have at least 5 empl. 2002 and grow at least 20 % per year.		High growth establishments of which			Tot. High growth
			All est** 02-05	Gazelles***		Flyers		
				Organic	Non organic*			
			Number	Number	Number	Number	Number	
A+B	Agriculture, hunting, forestry, and fishing	Tot. Number of est.	27 689					
		Number of est.	1 674	14	4	46	64	
		of which one est. 05	1 428	11	3	37	51	
		of which multiple est. 05	246	3	1	9	13	
		Number of empl. 2005	17 369	382	176	764	1 322	
		Change of empl. 02-05	-833	231	97	396	724	
C+D	Manufacturing and mining	Tot. Number of est.	29 235					
		Number of est.	13 495	139	89	317	545	
		of which one est. 05	10 312	114	49	246	409	
		of which multiple est. 05	3 183	25	40	71	136	
		Number of empl. 2005	641 740	4 295	5 803	16 236	26 334	
		Change of empl. 02-05	-26 742	2 691	3 801	9 915	16 407	
E	Electricity, gas and water supply	Tot. Number of est.	1 426					
		Number of est.	921	19	14	39	72	
		of which one est. 05	315	10	4	18	32	
		of which multiple est. 05	606	9	10	21	40	
		Number of empl. 2005	31 805	620	762	1 753	3 135	
		Change of empl. 02-05	1 466	396	461	866	1 723	
F	Construction	Tot. Number of est.	33 376					
		Number of est.	7 914	154	73	276	503	
		of which one est. 05	6 685	136	54	223	413	
		of which multiple est. 05	1 229	18	19	53	90	
		Number of empl. 2005	128 252	4 134	1 782	7 454	13 370	
		Change of empl. 02-05	792	2 480	1 037	4 279	7 796	
G+I	Wholesale & retail trade; repair: ect.	Tot. Number of est.	77 990					
		Number of est.	28 995	385	172	696	1 253	
		of which one est. 05	17 898	271	99	484	854	
		of which multiple est. 05	11 097	114	73	212	399	
		Number of empl. 2005	555 785	11 375	6 784	26 675	44 834	
		Change of empl. 02-05	-6 003	7 140	4 372	15 348	26 860	
H+O+P	Personal and cultural services	Tot. Number of est.	37 858					
		Number of est.	8 041	155	35	197	387	
		of which one est. 05	6 535	139	27	173	339	
		of which multiple est. 05	1 506	16	8	24	48	
		Number of empl. 2005	139 896	3 775	1 014	5 440	10 229	
		Change of empl. 02-05	-2 765	2 386	608	3 004	5 998	
J+K	Financial intermediation Real estate, renting, and business activities	Tot. Number of est.	57 195					
		Number of est.	14 510	531	207	363	1 101	
		of which one est. 05	8 854	397	138	237	772	
		of which multiple est. 05	5 656	134	69	126	329	
		Number of empl. 2005	347 195	20 463	9 260	15 164	44 887	
		Change of empl. 02-05	-2 151	12 505	5 481	8 470	26 456	
L	Other organizations	Tot. Number of est.	133					
		Number of est.	87	5	1	2	8	
		of which one est. 05	65	2	1	2	5	
		of which multiple est. 05	22	3	0	0	3	
		Number of empl. 2005	2 065	138	17	51	206	
		Change of empl. 02-05	102	84	8	27	119	
M	Education and research	Tot. Number of est.	6 070					
		Number of est.	3 164	102	18	67	187	
		of which one est. 05	2 266	71	9	51	131	
		of which multiple est. 05	898	31	9	16	56	
		Number of empl. 2005	55 600	2 914	529	1 526	4 969	
		Change of empl. 02-05	-574	1 733	280	791	2 804	
N	Health and social work	Tot. Number of est.	12 046					
		Number of est.	3 089	66	19	60	145	
		of which one est. 05	1 556	44	11	34	89	
		of which multiple est. 05	1 533	22	8	26	56	
		Number of empl. 2005	84 384	3 049	597	1 930	5 576	
		Change of empl. 02-05	1 865	1 970	385	1 204	3 559	
Tot. number of est. that exists both 2005 resp. 2002			287 724					
Number of est. that are more than 4 empl.			81 970	1 570	632	2 063	4 265	
of which are one est. 05			55 993	1 195	395	1 505	3 095	
of which are multiple est 05			25 977	375	237	558	1 170	
Number of empl. 2005			2 004 600	51 145	26 724	76 993	154 862	
Change of empl.			-35 005	31 616	16 530	44 300	92 446	

* Establishments that arise via merge or split.

** Establishments in private sector that exists 2002 and 2005, total 287 724. Est. that entered 2003 are not calculated

*** Gazelles are est. that entered during 1997 and 2002. Only employees that belongs to est. are included.