Analysis

Job creation in firms – does Finland lack gazelles?

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The establishment and growth of new firms is important for job creation, but companies are not all the same. A small number of firms create a significant portion of new jobs, while in a large portion of firms job creation remains limited or the number of jobs is actually decreasing. New firms include a relatively high number of 'gazelles', firms that increase the number of jobs at a rapid pace. At the same time, however, only a small portion of new firms survive the 'valley of death' of the first years following entry. It is difficult to identify rapidly growing businesses in advance, and high growth at the outset does not typically predict high growth in the future.



Major changes at firm level

The debate on job creation in Finland often remains on a very general level. Objectives for the creation of new jobs and higher employment rates have been set year after year without anyone actually saying where and how jobs can be created. The macro-level employment and unemployment figures conceal tens of thousands of new and terminated spells of employment and unemployment each quarter.[1] However, not all companies create new jobs.

An analysis of firm-level data reveals that the number and size of firms change markedly each year.[2] New firms start up, and around an equal number close down. Firms' survival rates vary over time, and so do their growth and contraction figures.

Although a large number of firms are growing businesses, a large proportion of all new jobs are created by a very limited group of companies. At the same time, in a large proportion of firms, job creation remains very limited. The number of firms that downsize is substantial, irrespective of the business cycle, while at the same time the number of firms in which employment remains unchanged is surprisingly small.

The reference period plays an important role, too. Fluctuations within a year are considerable, but

what is of essential interest is more permanent changes in the number of jobs. For this reason, the present article focuses mainly on changes in employment over three-year periods. From the perspective of employment growth, it is important to analyse the birth and survival of firms, as well as the growth of surviving firms and the persistence of this growth. Correspondingly, downsizing and firm exits mean job losses.

Startups employ less than before

Each year a large number of firms start up and around the same number close down. Startups – if successful – potentially create new jobs, while exits generate job losses. Thus, changes in the total number of jobs depend essentially on changes in the total number of firms, as well as on the size of firms and the number of jobs in continuing firms.

The number of startups and exits has remained fairly stable in Finland since the turn of the millennium (Chart 1), although in many countries the number of startups has declined in the past 10 years.[3] However, the share of startups in the total number of firms in Finland is among the lowest in international comparisons: in many countries, startups account for about 15–25% of all firms, compared with less than 10% in Finland.[4]

The average size of startups and exiting firms in Finland has, in turn, contracted. The number of employees in startups and exits in manufacturing, in particular, was still exceptionally high by international standards at the turn of the millennium. According to an OECD study covering 18 countries, at that time Finland was only preceded by France. Since the turn of the millennium, however, the number of employees in startups and exiting firms has moved closer to the international average. Hence, startups employ less than before in Finland (Chart 2).[5]

Chart 1.

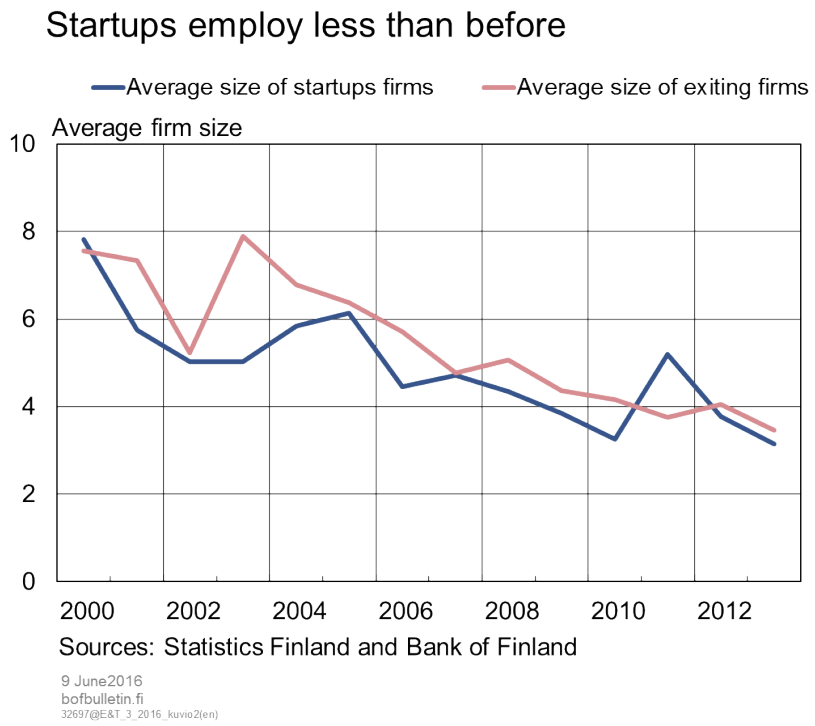
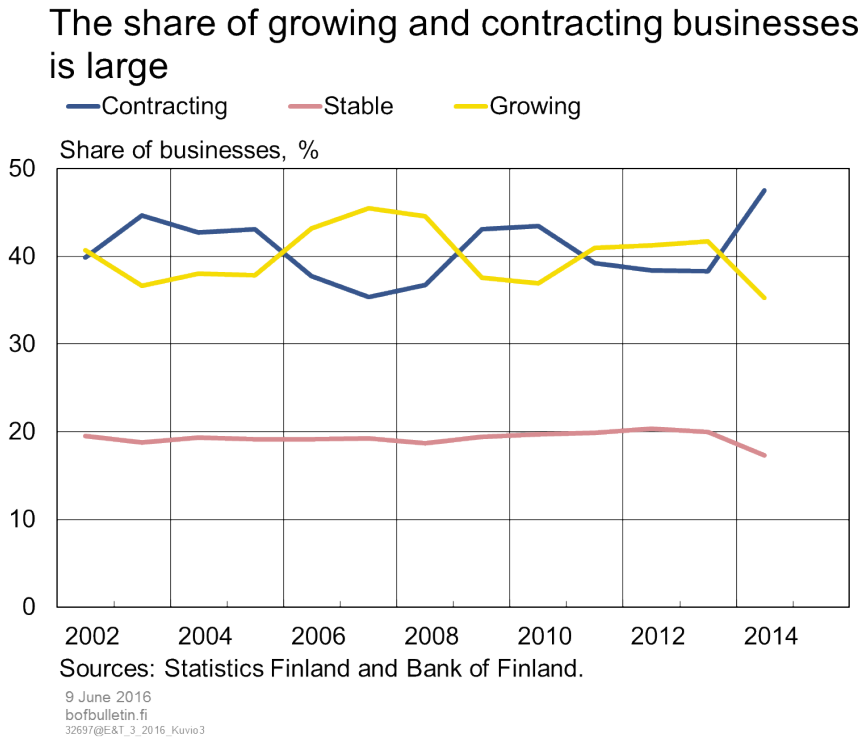


Chart 2.



Young companies often exhibit 'up-or-out' dynamics. Only a small portion of these firms survive

the 'valley of death' of the first years following entry.[6] Even though a large share of startups do not succeed and close down in the first few years, the surviving firms often grow at a rapid pace, especially in the immediate years after entry.

About 30% of businesses less than two years old are very rapidly growing 'gazelles', while for firms over 10 years old the corresponding figure is only 7%.[7,8] The growth rate of a firm moderates after the first few years.[9] On the other hand, a relatively small number of the very youngest firms are contracting, whereas in the case of firms over 10 years old the corresponding figure is almost 50%.

Table 1.

Percentage growth rate of number of employees in firms of different age and firms' share of all firms in the respective company age category

Age	*Contracting*	*No change*	*Growing*	*Growing rapidly*	*Growing very rapidly*	*Total*
<2	23	15	9	14	39	100
2–4.	36	18	14	13	20	100
5–9.	40	19	16	11	12	100
>10	46	17	20	10	8	100

Companies have been categorised in five classes according to average annual percentage growth rate of number of employees over a three-year period: 1) contracting (negative growth over −1% p.a.), 2) no change (growth between −1% and +1% p.a.), 3) fair growth (over 1% but up to 10% p.a.), 4) rapid growth (over 10% but up to 20% p.a.) and 5) very rapid growth (over 20% p.a.).

Sources: Statistics Finland and Bank of Finland.

Majority of firms grow or shrink

The number of employees either grows or contracts in the large majority of firms (Chart 3). The numbers may fluctuate over time according to the economic environment, business cycle, competitive situation or technological changes. Growing and contracting firms (change over +/−1%) have each made up over 40% of all businesses since the turn of the millennium. About 20% of firms on average have remained fairly unchanged in terms of size (change below +/−1%).

The share of growing firms increases in an economic upturn, while the share of contracting firms declines, and vice versa in times of recession. The share of very rapidly growing gazelles fluctuates less than the share of firms that grow at a slower pace (Chart 4). The share of firms that have remained unchanged in terms of size has not fluctuated much with the business cycle. In 2014, however, their share declined somewhat, while the share of contracting firms increased.

Chart 3.

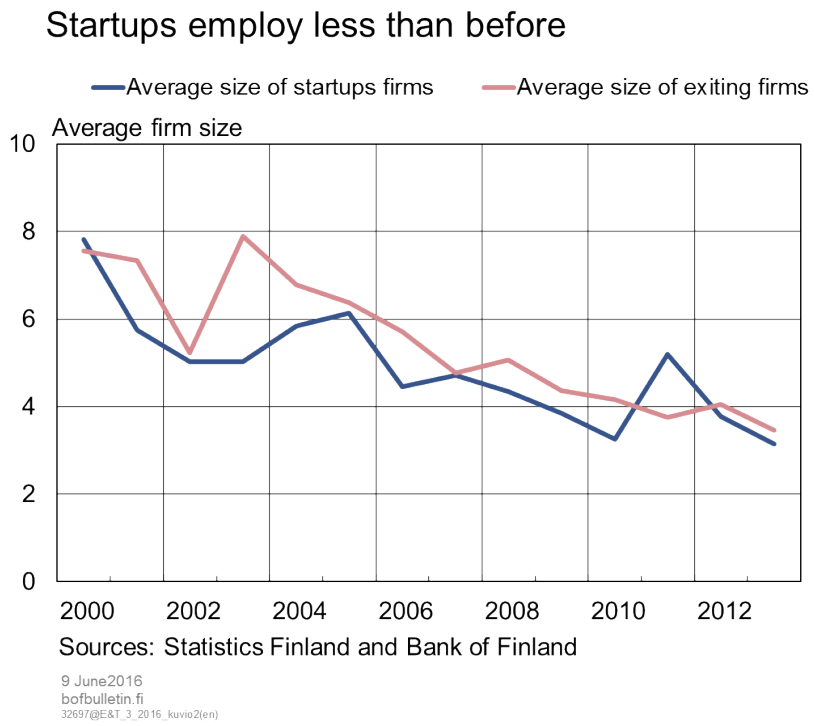
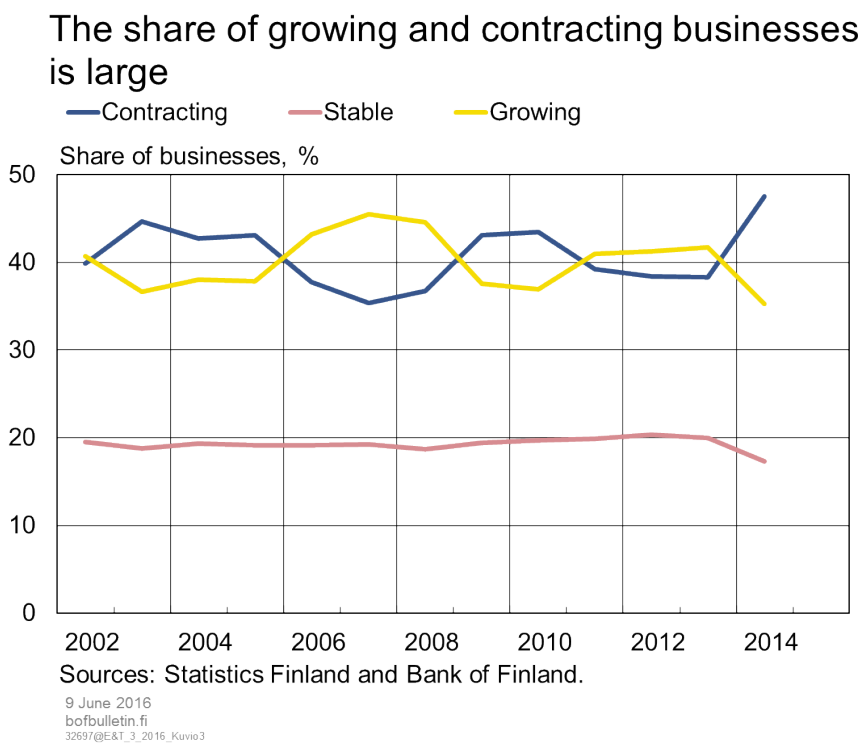


Chart 4.



A small group of gazelles creates a large share of jobs

Growing firms contribute very asymmetrically to job creation. Gazelles that create jobs at a rapid pace have featured prominently in the latest research literature. A relatively small group of very rapidly growing firms typically accounts for the majority of new jobs, while an average company creates a fairly limited contribution to changes in employment in the economy as a whole.[10,11]

In Finland, very rapidly growing gazelles (annual growth over 20%) account only for about 6% of all companies, but create over half of all new jobs. The remaining new jobs are created by a larger group of firms that grow at a slower pace.

Table 2.

Effect of business growth on employment			
	Share of firms, %	***Share of employees, %***	***Share of job creation, %***
Contracting	28	31	–81

Sources: Statistics Finland and Bank of Finland..

Effect of business growth on employment			
No change	12	10	0
Fair growth	18	26	25
Rapid growth	8	9	23
Very rapid growth	6	10	52
Not defined	27	13	0
Total	**100**	**100**	
The categories have been determined so that the annual growth rate is below −1% for contracting firms, between −1 and +1% for stable firms, 1–10% for growing firms, 10–20% for rapidly growing firms and over 20% for very rapidly growing firms.			

Sources: Statistics Finland and Bank of Finland..

Company growth rates fluctuate considerably

The growth rate in the number of jobs rarely remains unchanged in a company for an extended period of time (Table 3). Moderation of growth is typical, at least for very rapidly growing firms. A three-year period of rapid growth (20% p.a.) is followed by another three-year period of rapid growth only in a small fraction (0.6%) of companies. For firms with a declining workforce, in turn, protracted trends in the number of jobs are much more common: as many as 15.8% of all businesses in the sample are shedding staff over a prolonged period.[12]

Table 3.

Changes in firm growth rates relative to employment							
	Declining, %	***No change, %***	***Fair growth, %***	***Rapid growth, %***	***Very rapid growth, %***	***Total, %***	***Total firms, %***
Declining, %	15.8	6.6	10.2	6.5	4	43.1	636,416

Sources: Statistics Finland and Bank of Finland.

Changes in firm growth rates relative to employment							
No change, %	6.3	7.6	2.9	2	0.9	19.5	288,297
Fair growth, %	7.5	2.6	5.5	2.8	1.6	20	294,766
Rapid growth, %	5.1	1.9	2	1.6	1.1	11.7	172,468
Very rapid growth, %	3	0.8	0.5	0.7	0.6	5.7	83,724
Total, %	**37.7**	**19.5**	**21.1**	**13.6**	**8.2**	**100**	**1,475,671**

The figures in rows present growth rates of firms over a 3-year period, while the figures in columns present the situation over the previous 3-year period. The calculations pertain to all firms. For example, in the first row, number 4 means that 4% of all firms are companies which grew at a very rapid pace in the previous three-year period but which have a declining workforce in the current three-year period.

Sources: Statistics Finland and Bank of Finland.

It is interesting to note that more than half of the very rapidly growing firms have previously been firms in which employment has decreased. Correspondingly, almost one in ten of firms that have downsized have previously been very rapidly growing firms.

All in all, there is only a relatively small difference in growth dynamics between all businesses and limited liability companies. In terms of firm size, however, the results already deviate to some degree. In very small firms (less than two employees), the share of very rapidly growing firms is negligible.[13] Even in this size category, the results are dominated by companies that have downsized. These companies account for more than half of all firms, and in over half of them employment has either declined or remained unchanged over the previous three-year period.

If the reference period is shortened from three years to one, the results are already considerably different.[14] The share of contracting companies is 25% instead of 15.8%, and correspondingly, the share of very rapidly growing firms increases to more than 3% (i.e. accounting for almost half of very rapidly growing firms in the sample).

A similar result can be obtained by calculating correlation coefficients from employment growth time series. Data representing three-year growth gives, for consecutive observations, the value 0.51, but if the correlation is calculated using a three-year lag, the value is –0.09. In other words, periods of very rapid growth do not last long. Rather, they entail a return to a normal trend, i.e. periods of very rapid employment growth are followed by a period of slower or even negative employment growth, and vice versa.

If the focus is only on annual growth figures, this data, too, is negatively correlated. This implies that changes in employment contain a vast amount of temporary phenomena: at the company level, employment does not follow a trend but entails a significant random component. This is consistent with the above-presented results: roughly half of companies downsize and half upscale (Table 3). Therefore, even if employment remains stable overall, the micro-level changes are substantial.

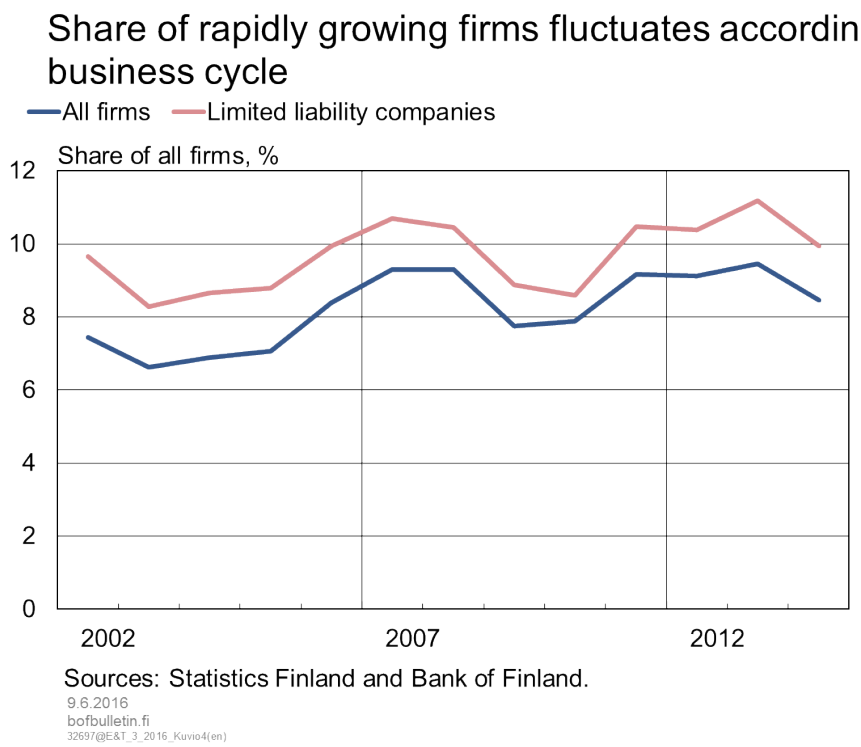
It is also interesting to compare changes in employment with changes in output. An examination of the variable for the value added of rapidly growing (and other) firms shows that employment-related regularities apply equally to changes in value added. The growth figures are slightly higher on average, however, because changes in value added are, due to productivity growth and inflation, greater than changes in employment. Once again we can conclude that the growth of very rapidly growing firms does not usually last long. Of the companies in the sample, only about 3% grow at a very rapid rate for consecutive three-year periods (however, when examining single consecutive years, the figure is 10%). As in the case of employment, a striking feature is companies in which the volume of output has declined. The decline has continued from one three-year period to another in the case of as many as 16% of companies.

In this case, too, the correlation coefficients for three-year output growth are similar to those presented in Table 3.

Share of downsizing firms has increased

Of all companies, the share of firms that have downsized has followed changes in the business cycle, although there have also been changes among these companies (Chart 5). The share of firms that have downsized markedly has increased in times of recession, first in 2009 and thereafter to a notable degree in 2012–2014. These changes have also been reflected in net employment.

Chart 5.



As already discussed above, employment declines after the growth phase in a significant share of very rapidly growing firms. In fact, employment declines by more than 50% in a third of these companies. Of small firms with less than two employees, 40% downsize to an equal degree, while in the case of companies with more than 100 employees such job losses are observed only for 15% of firms. In other words, large gazelles are quite rarely faced with a situation in which they have to downscale radically. It is possible that some of these radical changes are connected with corporate restructuring, but some are probably corrections after a period of overly rapid growth.

Functioning of employment and financial markets also important for company growth

The term 'gazelle' may perhaps give a wrong impression of rapidly-growing firms, because there is no permanent group of companies that would grow significantly faster than other firms year after year. It is just that some firms grow notably faster over their life cycle than others, either by themselves or via corporate acquisitions/mergers. The downside of high growth is, at least in the latter case, that companies exit the markets and the total number of employees may even decline on net. From the perspective of economic policy, it must be taken into consideration that firm growth is typically only temporary and hard to predict. This aspect should be stressed when considering business subsidies that are still relatively important in fiscal terms.

The term ‘gazelle’ easily evokes an image of a high tech company, but a preliminary analysis of the data shows that such an association is unjustified: very rapidly growing firms exist in all industries and sectors. This is an interesting field for further research.

Movements in labour markets at the company-level are notable even when aggregate employment remains essentially unchanged. An important objective would therefore be to increase labour market movement figures to the same level as in other advanced economies. From the perspective of employment, key measures would be those that lower the threshold for recruitment in firms and the costs for establishing new firms.

Well-functioning financial markets play a key role in terms of the selection of firms. The functioning of financial markets may impact on business growth if the providers of funding guide funds to firms with good growth prospects (private investors having better incentives to obtain information on companies’ outlook for growth). On the other hand, it is also important to understand when to stop financing a company. Therefore, well-functioning financial markets both start up but also close down business projects.[15] The selection of funding offered by public investors is often more inefficient than selection via the financial markets and may lead to the birth of firms with weaker growth prospects but which nevertheless survive.

Sources

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Notes

1. See Schauman – Vanhala – Virén (2014). ↑
2. The calculations presented in this article are based on Statistics Finland's Financial Statements Statistics for 1999–2014. The minimum firm size is set at one employee (>=1). The figures have not been adjusted for corporate restructuring, mergers etc. ↑
3. According to OECD data used by Criscuolo et al. (2014), the number of startups increased somewhat in Finland until 2009 and contracted in 2010–2011. ↑
4. Criscuolo – Gal – Menon (2014). ↑
5. The figures presented here take into account the minimum firm size specified above (at least one employee). ↑
6. The term generally refers to the early years of a company when the cash flow may be negative and the business is not yet profitable. ↑
7. Even though there is no unambiguous definition for the term 'gazelle', in research literature it typically refers to businesses which grow at a very high rate over a certain time period. For example, according to the OECD definition, gazelles are all enterprises up to 5 years old with average annualised growth greater than 20% p.a. over a 3-year period and with ten or more employees at the beginning of the period. Since the share of very small firms is fairly large in Finland, in this article the term refers in a broader sense to all firms that grow at a very rapid pace. ↑
8. The high proportion of very rapidly growing firms in young companies is partly due to the measurement method. As measurement is by percentages, the figures for high-growth firms are biased in favour of small businesses, because in a small firm even a relatively small increase in the number of employees is a relatively large change in percentage terms. ↑
9. Even though a large share of young firms are very rapidly growing, young gazelles account only for slightly over a tenth of all very rapidly growing businesses. The reason for this is that there are so many more old firms that, even though gazelles make up only a small share of old firms, they represent about a third of all very rapidly growing businesses. ↑
10. Coad et al. (2014), Henrekson – Johansson (2010). ↑
11. For example, according to Nesta (2009), 6% of all companies created about 50% of all new jobs in the United Kingdom in 2000–2008, and according to Daunfeldt et al. (2013), the fastest growing 6% of firms created 42% of jobs in Sweden in 2005–2008. ↑
12. It is worth noting that a lag extending to 6 years in maximum has an essential effect on the number of companies in the sample because the original data only covers the period 1999–2014. ↑
13. In Statistics Finland's data, the number of employees is presented in decimal figures. Thus, a company with less than two (e.g. 1.6) employees may have one full-time and one part-time employee. ↑
14. In this case, the comparison is between two consecutive three-year periods with a one-year time lag (two years overlap). ↑
15. Kerr – Nanda (2009). ↑

Keywords

employment, Finland, firms