

High-Growth Enterprises

chapter **8**

8.1 Definition

A variety of approaches can be considered as providing the basis for defining high-growth enterprises. Many studies, for example, have focused on indicators that define high-growth enterprises as the top Y% of companies, for example Birch type measures, which marry absolute and relative changes in growth as a way of overcoming the small enterprise bias inherent in measuring enterprise growth rates.

$$Growth = (x_{t_1} - x_{t_0}) \frac{x_{t_1}}{x_{t_0}}$$

Where x_t is either employment, turnover or some other indicator of size in year t . Or the “Davis, Haltiwanger, Schuh” measure used by US statistical agencies for example, which measures growth on the following basis (a second order approximation to rates measured in logs):

$$Growth = (x_{t_1} - x_{t_0}) / (x_{t_1} + x_{t_0}) / 2$$

Perhaps the simplest type of indicator however, and moreover one that has clearer interpretability, is one that defines high-growth enterprises as those that satisfy some predetermined threshold that distinguishes them as high-growth, with a secondary qualification that enterprises have to be above a certain size, to mitigate any small enterprise growth bias. This is the approach used in this manual. Like the measures above, thresholds are selected by convention based largely on individual country studies/experiences.

High-growth enterprises can be defined both in terms of employment (number of employees) and in terms of turnover. In order to study the phenomenon of high growth enterprises, it is recommended that both criteria are used.

The definition of high-growth enterprises recommended is as follows:

All enterprises with average annualised growth greater than 20% per annum, over a three year period should be considered as high-growth enterprises. Growth can be measured by the number of employees or by turnover.

A meaningful size threshold (t) should be set to avoid the growth of small enterprises distorting the picture. For instance, an enterprise growing from one to two employees would automatically be a high growth enterprise, using the above growth threshold, although this growth occurs at a very low level with relatively negligible economic impact. On the other hand, the size threshold should be low enough to avoid excluding too many enterprises. A provisional size threshold has been suggested as 10 employees at the beginning of the growth period, but a final recommendation is expected after tests have been performed using different thresholds.

Note that the provisional size threshold of 10 or more employees holds for both the turnover and employment measures. The advantage of this is that the initial population is the same, regardless of whether growth is measured in employment or turnover. Moreover, it would be difficult to apply a consistent turnover threshold across all countries participating in the data collection. In order to compare high-growth enterprises of roughly the same size, it would in any case be necessary to identify a turnover threshold that corresponds to a certain employment size.

8.2 Calculation

When trying to identify high-growth enterprises, it is not necessary to check the change in employee numbers or turnover from one year to the next over a three-year period. It is sufficient to consider only the population of active enterprises reaching the employee threshold (N_t) in year $xx-3$ and to measure the number of employees in year xx . As *average annualised growth* has to be measured, the formula describing high-growth enterprises is:



Measured in employment

$$\sqrt[3]{\frac{\text{employees}_{(xx)}}{\text{employees}_{(xx-3)}}} - 1 > 0.2$$

Measured in turnover

$$\sqrt[3]{\frac{\text{turnover}_{(xx)}}{\text{turnover}_{(xx-3)}}} - 1 > 0.2$$

In practice, average annualised growth of 20% over three years would be equal to 72.8% growth from xx-3 to year xx. Thus, the easiest way to find out which of the population $N_{i,xx-3}$ can be considered high-growth enterprises in year xx is to

- check by ID number comparison which enterprises in population $N_{i,xx-3}$ are still in population $N_{i,xx}$, and then
- check whether the number of employees, or turnover respectively, in year xx is at least 1.728 times higher than in year xx-3.

If at any time (xx-1 or xx-2, and xx for turnover based measures) the number of employees falls below the employee threshold the enterprise can still be regarded as a high-growth enterprise so long as between xx-3 and xx total growth is 72.8% or higher.

8.3 Exclusions

When identifying the population of high-growth enterprises for a given reference year xx, enterprises that were born three years ago should be excluded from the population. This is because the population $R_{i,xx-3}$ (newly born enterprises with at least t employees) were born at different points in time during year xx-3, and so *on average* these enterprises were born around 1st July. Consequently their average turnover in the birth year is significantly lower than in following years simply because of the shorter average period of activity in the birth year. A seeming turnover growth from the birth year to following years may be due only to the fact that the operating period in the birth year was only a few months long. Therefore the data on high-growth enterprises should be ‘cleaned’ by removing units that were born in year xx-3. Otherwise it would be necessary to annualise turnover in the birth year, which would introduce imprecision and make it necessary to identify the date when the enterprise first generated turnover.

The same problem would not occur if only employment were measured, because it is measured as an annual average over the operating period and does not accumulate over the year. However, to ensure that high-growth enterprises are always identified from the same base population, population $R_{i,xx-3}$ should be removed also from high-growth enterprises measured by employee growth.

If growth in the number of employees or turnover was due to mergers or take-overs, the enterprise in question should not be considered a high-growth enterprise.

In practice, the problem of growth by *merger* should not occur if a new ID number is assigned to the new enterprise resulting from the merger. An enterprise that was in population $N_{i,xx-3}$ will no longer be found in population $N_{i,xx}$ if it merged with another enterprise.

A *take-over* may also increase employment and turnover considerably, so that the enterprise could mistakenly be considered a high-growth enterprise. While the enterprise that is taken over ceases to exist, the enterprise taking over the other one continues and keeps its ID number. As information on take-overs should be a by-product of the methodology used for identifying enterprise deaths (section 7.1), this information could also be used to identify units that show high growth because of such a take-over, and that should therefore be excluded from the results.

8.4 Gazelles

Gazelles are the subset of high-growth enterprises which are up to five years old. The definition is

All enterprises up to 5 years old with average annualised growth greater than 20% per annum, over a three year period, should be considered as gazelles.

The difference in scope and data reporting is that we consider populations of newly born enterprises (R_t) rather than entire populations of active enterprises (N_t).

In principle, the high-growth period of 3 years, referring to a population R_t , can occur at different stages in the five-year monitoring and survival period. In a given reference year xx , gazelles may be in the different cohorts of newly born enterprises R_{xx-3} , R_{xx-4} or R_{xx-5} , i.e. enterprise in their third, fourth or fifth year of survival (remembering that the birth year itself of an enterprise is considered as year zero). To be consistent with the exclusions suggested for high-growth enterprises in general, survivals from population R_{xx-4} and R_{xx-5} should be considered, but not from population R_{xx-3} .

To summarise, potential high growth enterprises in reference year xx must have been in population N_{xx-3} . Gazelles as a subset must fulfil the additional condition that they were in population R_{xx-4} or R_{xx-5} .

The identification of high-growth enterprises on an annual basis may lead to the inclusion of an enterprise in the population of high-growth enterprises in several years. The question arises whether a high-growth enterprise, and thus also a gazelle, should be counted in more than one reference year if it fulfils the given definition. The recommendation is to do so. For instance, a gazelle born in year xx could be counted as such either once or twice, if it shows high growth over a three year period from the first to the fourth survival year and/or from the second to the fifth survival year. As the data on high-growth enterprises are collected on an annual basis, the question whether an enterprise was identified as a high-growth enterprise in any previous year is not relevant.

8.5 Indicators

Data on high-growth enterprises and gazelles should be produced in terms of the numbers of enterprises. Employment and turnover should be used as measures of growth and thus criteria for the identification of high-growth enterprises, but not as characteristics to be reported in the statistics.

The following indicators based on the numbers of enterprises may be produced:

- Rate of high-growth enterprises: Number of high-growth enterprises as a percentage of the total population of active enterprises with at least t employees.
- Rate of gazelles among newly born enterprises: Number of gazelles as a percentage of all active enterprises with at least t employees that were born four or five years ago.