

Typology of Demographic Events

chapter **4**



4.1 Typology

This chapter explores the relationships between the main demographic events affecting enterprises. It develops a typology that describes these events and takes account of the links between them. This typology is then interpreted from the point of view of both business demography and statistical business registers.

Chapter 12 of the EU Business Registers Recommendations Manual sets out a general typology of demographic events covering a range of statistical units including the enterprise. These events are split into existential changes (i.e. those involving the emergence or disappearance of combinations of production factors) and distribution changes (i.e. changes in the distribution of production factors between units).

Chapters 13 and 14 develop this typology specifically for the enterprise, by considering the continuity of enterprises, and the number of enterprises present before and after a particular demographic event. In this way, existential changes (births and deaths) can be defined as events that involve the transition from no enterprises to one enterprise, or vice versa. Changes in the distribution of production factors, however, require that at least one enterprise is present both before and after the event.

This approach is summarised in the table below, which contains the main demographic events for which it is considered that there is demand for data:

Event	Real, observable world		Business register	
	Enterprises before the event	Enterprises after the event	Creations	Deletions
Enterprise birth	-	1	1	-
Enterprise death	1	-	-	1
Change of ownership	1	1	-	-
Merger	n	1	1	n
Take-over	n	1	-	n-1
Break-up	1	n	n	1
Split-off	1	n	n-1	-
Creation of a joint venture	n	n+1	1	-
Cessation of a joint venture	n	n-1	-	1
Restructuring within an enterprise	1	1	-	-
Restructuring within an enterprise group	n	n	0 or more	0 or more
Change of group	1	1	-	-
Complex restructuring	n	n	0 or more	0 or more

Note: n = 2 or more

This table does not cover separately employer or economic enterprise births or deaths, defined in Chapter 5, because these events do not necessarily have an effect on the units covered in the business register, depending on the coverage of the business register; namely if non-employer enterprises are included. Entries by growth (reaching the respective employee threshold) are events related to units that already exist in the business register. Equally, exits by decline (moving below an employee threshold) may lead to the removal of a unit from the business register only with a delay, if at all.



The continuity rules set out in chapter 14 of the EU Business Registers Recommendation Manual consider three continuity factors, continuity of control, economic activity and location. The rules vary depending on the definition used for births. For enterprise births they can be summarised in the following way (read by column):

Change of controlling legal unit	No	Yes	No	No	Yes	No	Yes	Yes
Change of principal activity	No	No	No	Yes	No	Yes	Yes	Yes
Change of main location	No	No	Yes	No	Yes	Yes	No	Yes
Continuity of Enterprise?	Yes	Yes	Yes	Yes	See note	No	No	No

Note – for enterprise births, these rules generally follow the approach that if two out of three of the continuity factors change, there is no continuity of the enterprise. There is, however, one exception. This is where an unincorporated business simultaneously moves to a new location and changes its legal form to become incorporated (and therefore limited liability). The convention is that there is continuity of the enterprise in such cases. For employer enterprise births however all changes in the controlling legal unit that see an enterprise move from having no employees to 1 or more employee are treated as a birth (and for economic births, 2 or more employees).

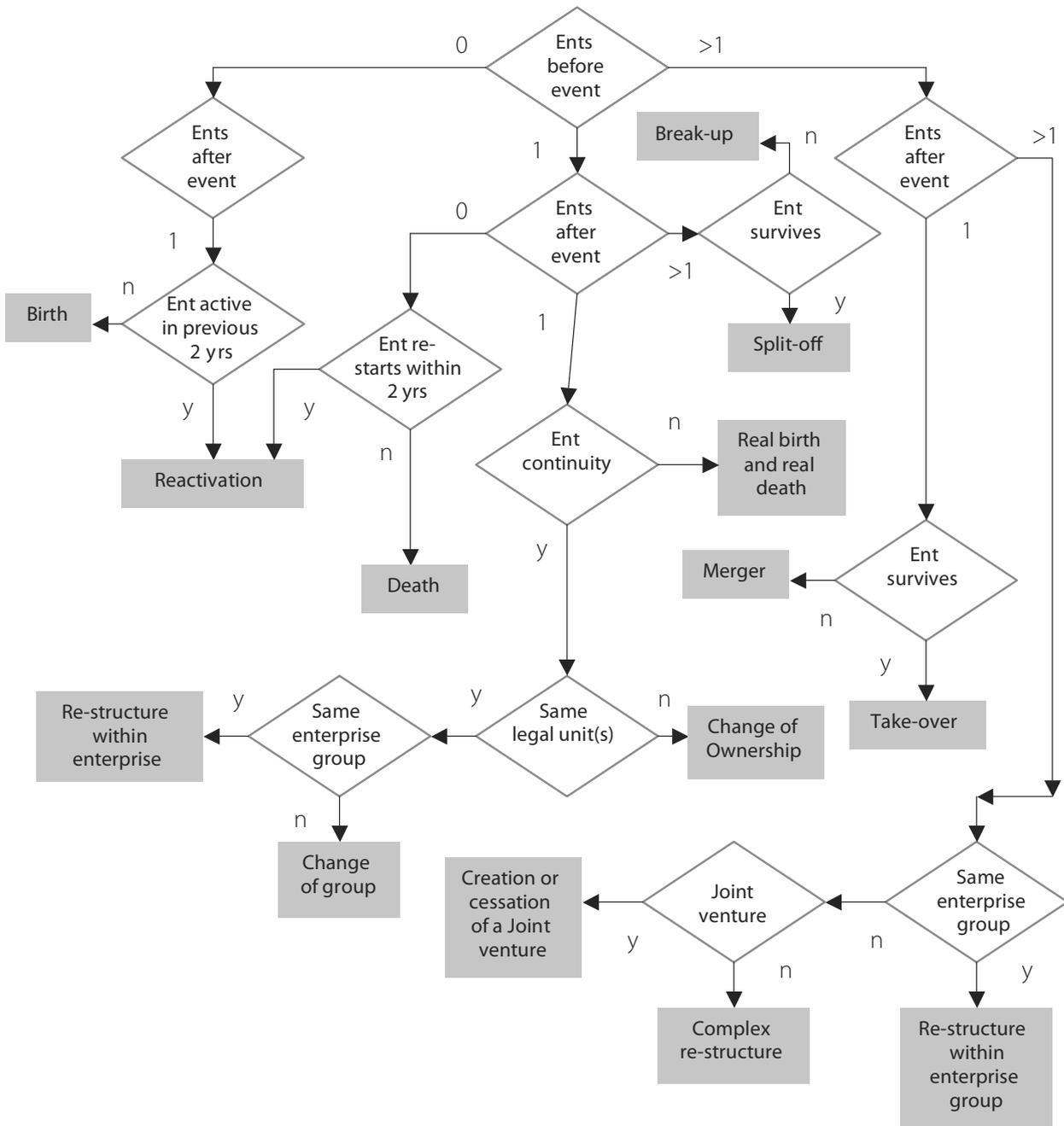
Continuity of employment may also be an important factor, particularly in the (relatively rare) cases where the above rules may lead to the conclusion that two separate enterprises are continuations of a single previous enterprise. Continuity of employment is, however, often difficult to measure in practice, particularly for smaller enterprises, hence it is excluded from the main rules above. It could also be argued that the more measurable factors of principal activity and location are in fact proxies for employment.

There are, however, certain events such as mergers, split-offs, take-overs and restructuring that are not fully covered by these rules. These events are considered further below. The approach followed here is to create a decision matrix that can be used to determine whether or not a particular event has happened, then to look in more detail at the possible outcomes.

Demographic Events Decision Matrix

The decision matrix below is designed to help determine the type of event that has taken place, by drawing together the typology and the continuity rules given above, recalling that the population at the start is dependent in each case on the definition used for births and deaths. The key events for business demography are births and deaths, though other events are relevant when determining whether or not an enterprise has survived.

Note: Ent = enterprise





The outcomes of the decision matrix above can be considered in terms of their implications for both business demography and statistical business registers, although naturally much depends on the coverage of businesses in the statistical business register, or the use of employment thresholds for the definition of the population of active enterprises. Because the matrix above starts with the assumption that the target population is consistent with that used in the birth definition, entries by growth and exits by decline are not represented in the matrix above, for example a merger of two businesses with 1 employee will signal a birth under the economic enterprise birth definition but this is not shown above because, for the definition of economic enterprise births, businesses with 1 employee are not in the population scope.

The following assumes that in each case the coverage of the population of active enterprises is consistent with the business demography concept (birth, death) being followed. In other words it assumes that for the:

Enterprise birth concept – all enterprises that have employment and/or turnover are in the population of active enterprises.

Employer Enterprise birth concept – only enterprises with 1 or more employees are in the population of active enterprises.

Economic Enterprise birth concept – only enterprises with 2 or more employees are in the population of active enterprises.

- **Birth** – This is an independent event affecting only one enterprise in the population of active enterprises. Three concepts of birth exist as shown above. For **Enterprise births** this involves the creation of a new combination of factors of production, and, typically, the creation of a new enterprise reference on the business register, depending on the coverage of the business register. *Employer and Economic Enterprise births* may also coincide with the appearance of a creation on the business register but, where the business register covers all enterprises, some of these births will not coincide with these creations and instead they will appear as births entries by growth, see below.
- **Reactivation** – This event involves an enterprise becoming dormant for a period of less than two years, then re-commencing activity in a way that complies with the definition of continuity. In terms of business demography this event does not constitute a birth or death. The enterprise is considered to have survived as long as the period of inactivity does not encompass a whole calendar year. On the business register, there would be continuity of the enterprise reference, but ideally, the enterprise should have a marker to show that it is dormant during the period of inactivity. If the definition of continuity is not met, e.g. an entrepreneur re-commences trading but with a different activity and at a different location, this would be considered as a death followed by a birth.
- **Enterprise Death** – This is an independent event affecting only one enterprise, and involving the dissolution of a combination of factors of production. It involves the deletion of an enterprise reference on the (live) business register.
- **Re-structure Within Enterprise** – This type of event only involves one enterprise, which survives throughout, but changes structure in the process. Examples include opening or closing local units. This event is of no real interest or significance from the point of view of business demography, and has no impact on the demographic variables held at the enterprise level on business registers.
- **Break-up** – This event involves a splitting of the production factors of an enterprise into two or more new enterprises, in such a way that the previous enterprise is no longer recognisable. There is no continuity or survival, but the closure of the previous enterprise is not considered to be a death. Similarly the new enterprises are not considered to be births. In the business register, this event would be reflected by the deletion of an enterprise reference (from the live register), and the creation of two or more new enterprise references.
- **Split-off** – This event is similar to a break-up, but in this case the original enterprise does survive in a recognisable form, and therefore there is both continuity and survival. There is no death, but one or more new enterprises are created. This would be recorded in the business register by the creation of one or more new enterprise references.
- **Merger** – This event can be seen as the opposite of a break-up. It involves a consolidation of the production factors of two or more enterprises into one new enterprise, in such a way that the previous enterprises are no longer recognisable. There is no continuity or survival, but the closures of the previous enterprises are not considered to be deaths. Similarly the new enterprise is not considered to be a birth. In the business register, this event would be reflected by the deletion of two or more enterprise references, and the creation of one new enterprise reference.



- **Change of Ownership** (one-to-one take-over) - This event simply involves the re-structuring of the legal basis of an enterprise. Typically this would be a re-registration with the legal authorities, e.g. due to a change in the legal form of an enterprise. The enterprise remains live and active throughout. No other enterprises are involved. This event would have no impact on demographic variables at the enterprise level in the business register.
- **Take-over** - This event can be seen as the opposite of a split-off. Enterprises taken over are not considered to be deaths. In this case, one of the original enterprises does survive in a recognisable form, and therefore there is both continuity and survival. The remaining original enterprises are closed. This would be recorded in the (live) business register by the deletion of one or more enterprise references.
- **Creation or Cessation of a Joint Venture** – A joint venture is created when two or more independent enterprises agree to commit some of their resources to work together on a common project or towards a common goal. An important feature of a joint venture is that none of the original enterprises exercise outright control over the entity created, therefore, it is considered to be an enterprise. For business demography purposes, joint ventures may be considered to be births if they involve the creation of new factors of production. This is recorded in the business register by the creation of a new enterprise reference.

The cessation of a joint venture mirrors the above. It can be considered a death if less than half of the employment is transferred to the participating enterprises. It is recorded as the deletion of an enterprise reference from the (live) business register.

- **Re-structure Within Enterprise Group** – This event involves the creation and/or cessation of one or more enterprises under common ownership. It does not involve a significant change in the total production factors controlled by the group. It does not therefore result in any births or deaths, but will involve the creation and/or deletion of one or more enterprise references on the (live) business register.
- **Complex Re-structure** – This event is similar in principle to a re-structure within an enterprise group, but concerns two or more enterprise groups. There are many different scenarios, but a typical example is where two or more enterprise groups trade subsidiary enterprises. This does not involve a significant change in the total production factors within the economy, and does not, therefore result in any births or deaths. It may involve the creation and/or deletion of one or more enterprise references on the (live) business register.

The above rules are conditional on the business demography concept and population of active enterprises being tracked. In EU countries, and some non EU countries too, the statistical business register is, in theory, supposed to cover all enterprises that have employment and/or turnover. Assuming this coverage of the register the typology above can be extended to the following demographic events.

- **Entry by growth** – An entry by growth occurs if an enterprise was already active, but its employment was below the employee threshold for at least two years before the year when it reaches the employee threshold. This is an event that occurs only in the context of demographic data based on a threshold of one or two employees.
- **Employer Enterprise Birth** – An Employer Enterprise Birth occurs either as an enterprise birth with at least one employee in the year of birth, or as an entry by growth reaching the threshold of one employee.
- **Economic Enterprise Birth** – An Economic Enterprise Birth occurs either as an enterprise birth with at least two employees in the year of birth, or as an entry by growth reaching the threshold of two employees.
- **Exit by Decline** – An exit by decline occurs if an enterprise continues to be active, but moves below the employee threshold for at least two years. This is an event that occurs only in the context of demographic data based on a threshold of one or two employees.
- **Employer Enterprise Death** – An Employer Enterprise death occurs either as an enterprise death with at least one employee in the year of death or as an exit by decline, moving below the threshold of one employee.
- **Economic Enterprise Death** – An Economic Enterprise death occurs either as an enterprise death with at least two employees in the year of death or as an exit by decline, moving below the threshold of two employees.