Chapter 2.

Measuring business demography at the level of regions: Methods and challenges

This chapter presents an assessment of the methodological challenges associated with the development of a regional business demography database encompassing a large number of OECD countries. The chapter also presents a roadmap for future methodological and statistical work necessary to improve our understanding of entrepreneurship and the geography of employment in OECD regions.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

International comparisons of business demography data: An overview

The national statistical offices (NSOs) of OECD countries generally rely on business registers to compile business demography indicators. Business registers originate from administrative sources, such as tax records or a compulsory register of legal entities operating in a certain territory. In this sense, business registers present the advantage over surveys of offering a complete source of information about the population of firms operating in a given country, since their coverage is universal or semi-universal.

The various definitions used to compile indicators may substantially differ across countries. In order to maximise international comparability, Eurostat and the OECD have provided member countries with the methodological guidelines to be used for the production of business demography statistics at the national level (see OECD/Eurostat, 2007). As a result of the compliance with these methodological notes, national databases have been harmonized *ex ante* and are now available at: https://stats.oecd.org/Index.aspx?DataSetCode=SDBS_BDI.

With the aim of developing a regional business demography database, this section provides a recap of the general methodological issues that may arise from the cross-country comparison of business demography data at the national level – as outlined by Ahmad (2008) and OECD/Eurostat (2007) – and flags some general methodological issues that may arise when comparing regional business demography indicators, which may not benefit from the same degree of standardisation as national indicators.

Definition of a business statistical unit

What constitutes a business? The interpretation of business demography indicators strongly depends on the definition of the business statistical unit, which can differ across countries along several dimensions, as indicated below.

- **Enterprises and establishments:** According to OECD/Eurostat (2007: 12), an enterprise (or firm) is defined as the "smallest combination of legal units […] producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations". Local units, on the other hand, are "enterprises or parts thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. At or from this place economic activity is carried out for which – save for certain exceptions – one or more persons work (even if only part-time) for one and the same enterprise" (OECD/Eurostat, 2007: 86). An enterprise may exercise control over multiple establishments, which in turn may operate across different economic sectors or spread through different geographical areas. On the other hand, a coherent definition of establishment (local unit that is not an enterprise) is missing from the international guidelines. Establishments may be defined as those local production units that belong to the same legal entity as the enterprise but are physically separate from their headquarters. However, even defining what constitutes a "different" geographical area is not trivial, since this definition hinges on the regional unit each NSO considers when developing indicators. The same local unit could be considered as a part of the headquarters in a country that collects indicators at the TL2 level, and a separate production unit in a country that instead collects indicators at a lower level of geographical aggregation.[1] In other words, while enterprise-level indicators are largely comparable across

OECD countries, establishment-based ones are not. The *Eurostat-OECD Manual* recommends that countries use the enterprise as the business statistical unit of choice, when compiling statistics at the national level.

- **Value thresholds for inclusion in the registers:** NSOs may use production value or a distinction in the legal form to discriminate among firms that should be recorded in statistical business registers and indicators, and those that do not form part of the data-collection exercise. For example Belgium only records enterprises subject to value-added tax; Iceland only limited liability enterprises; Mexico only enterprises up to 100 employees; and New Zealand only enterprises that are "economically relevant". The treatment of these phenomena and the very definitions of what constitutes a business may sometime differ across business registers within the same country. For example, in the United States, the Census COS defines as active any establishment with a positive payroll at any time of the year, while the Bureau of Labor Statistics considers a business unit active only if it has a payroll of USD 1 500 in any one quarter (or at least one employee for 20 or more weeks).[2]

- **Employment thresholds for inclusion in the registers:** From the point of view of regional analysis, a particularly important decision regards the inclusion of non-employer firms (self-employed entrepreneurs) in the business demography indicators. Self-employment may originate from different business cycle dynamics with respect to employer firms, such as differences in the tax regimes or the lack of alternative job opportunities. Some NSOs (such as the US Census) exclude self-employed entrepreneurs from the business demography statistics altogether. This is also the approach taken by the OECD *Structural and Demographic Business Statistics database*, which reports national indicators based on employer-only figures. Eurostat provides two separate datasets in its regional business demography database, one for employer and the other for non-employer firms. The possibility to distinguish between these two categories of businesses will be crucial for the cross-country comparability of regional indicators.

- **Selection of sectors of economic activity:** Business registers can differ in scope. Some economic sectors, such as agriculture or private households, are excluded from certain business registers (for example the US Census) and included in others (such as in the US Bureau of Labour Statistics). The Eurostat-OECD guidelines, on the other hand, recommend the exclusion of ISIC Rev. 4 Sections A, O, T and U, for the purpose of calculating indicators. This implies the exclusion of sectors such as agriculture, public administration and households. When harmonising indicators across countries, it is necessary to ensure consistency in the definition of the business population in order to build indicators upon an equivalent sectoral scope. A further issue regards the comparability across the sectoral classification systems. While European countries provide indicators based on NACE Rev. 2 classification, other OECD countries use different classification systems to define sectors of economic activity. These classification systems differ in the level of detail they provide. While the comparability between NACE Rev. 2 and ISIC Rev. 4, for example, is close to optimal (see correspondence tables)[3], in other cases the comparability at the two-digit level might be limited (for example in the case of NAICS to NACE2).[4]

- **How to define employment:** Employment levels can be measured by headcount or full-time equivalent. This distinction is important because it might affect the inclusion of firms in the registers, depending on the employment thresholds. Moreover, it clearly affects the measurement of the employment itself, whether generated or destroyed by entrepreneurial activity. According to OECD-Eurostat guidelines, the full-time equivalent definition is more precise, since the headcount definition may overestimate the volume of work produced, for example, by part-time employment (OECD/Eurostat, 2007: 41). On the other hand, the full-time equivalent definition is not available in all countries and therefore the headcount definition maximises the availability of data.

The production of the enterprise-level indicators, presented in Chapter 3, highlights how these definitions are largely harmonised across countries. Most countries included in the *OECD Regional Business Demography Database* follow the OECD/Eurostat (2007) guidelines very closely in the development of regional statistics. The differences in the definitions of sectors and firm size classes have been *ex post* harmonised in the production of the indicators and whenever differences remain they have been clearly flagged as such in the database. Also, for establishment-level indicators, the definition of sectors and size classes are largely harmonised across countries (see notes to Chapter 4 for details). It is important to highlight that for establishment-level indicators, the size class corresponds to the size of the establishment itself, rather than the size of the parent firm.

Business demography indicators: Definition of demographic events

Business demography data in EU member states benefits from a large degree of comparability, following the adoption of the regulation on business registers for statistical purposes (No. 2186/93). Definitions are therefore largely consistent across this set of economies. The same does not necessarily hold for non-European OECD countries, where birth, death, entry, exit and survival can be defined in different ways in the various business registers.

This section reports the methodological guidelines to record the main demographic events that can affect firms, as defined in the OECD/Eurostat (2007) framework. These are:

- **Births and entries:** The definition of birth is strongly related, in a first instance, to the definition of business. In particular, it is necessary to clarify how each non-European register deals with the distinction between entries and births. While births can be defined as business creations *ex nihilo* (Ahmad, 2008), entries refer to the appearance in the registers of enterprises that were already active in previous periods, but in different forms (perhaps due to de-activations, change of legal form or spin-offs). These events should, in principle, be excluded from the birth statistics (OECD/Eurostat, 2007: 36), but it is necessary to verify that the NSOs maintain this approach when compiling regional-level statistics. Similarly, it is crucial to observe how the NSOs treat the phenomenon of entry by growth, which may arise when a firm surpasses the turnover/employment threshold to be included in the register. This is particularly relevant when dealing with the distinction between an employer and non-employer business: a self-employed entrepreneur may expand the business and enter the population of employer enterprises. In these cases, the resulting employer enterprise should be treated as a birth according to the *Eurostat-OECD Manual* (p.26). However, in situations where the treatment of these demographic events is not consistent across countries, the use of rates might

mitigate the problem (OECD/Eurostat, 2007: 12). This is because entry (and exit) rates are calculated as the ratio of entries to the total business population active in a given region. Therefore comparisons of entries (and exits) rates across countries that use different definitions of demographic events are less problematic than the same comparisons in levels, because bias works in the same direction in both the numerator and the denominator. Practically, the production of regional enterprise-level indicators highlighted that the definition of enterprise births is largely consistent across OECD countries which follow the OECD-Eurostat guidelines. While a clear definition of establishment births is missing from these guidelines, the common practice across countries presented in Chapter 4 is to define establishment births as the time the current production unit started business at its current location (establishment was not active in year *t*-1, but active in year *t*).

- **Death:** This typology of demographic event relates to the dissolution of the firm's legal entity. Symmetrically to births, its definition in the case of a firms' closure is likely to be relatively straightforward and comparable across OECD countries. On the other hand, this demographic event is also related to exits: changes in legal forms of the firm (mergers/break-ups/split-offs), restructuring within enterprises, change of ownership, take-overs, joint ventures and reactivations. As in the case of births, these events should, in principle, be excluded from birth/death statistics (OECD/Eurostat, 2007: 52). Overall, definitions of business deaths are consistent across countries, both in terms of enterprise and of establishment indicators.

- **Survival:** An enterprise is generally considered to have survived if it was present in the business register in previous time periods and is still active in the current one. The OECD/Eurostat (2007: 45) framework defines as survivors as "An enterprise born in year xx or having survived to year xx from a previous year is considered to have survived in year xx+1 if it is active in terms of turnover and/or employment in any part of year xx+1 (= survival without changes)". This definition is largely consistent across countries, both for establishment and enterprise indicators. On the other hand, survival is less easily defined in case of changes in the form of the legal entity constituting the business, such as in the case of mergers/break-ups/split-offs, restructuring within enterprises, change of ownership, take-overs or joint ventures. The OECD/Eurostat (2007: 45) Manual recommends the inclusion of business units in the survival statistics as long as "[…] their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise", even if the legal units have ceased to be active. Chapter 14 of the Eurostat (2010) *Business Registers: Recommendation Manual* defines three additional continuity rules, in addition to the continuity of production factors. These are the continuity of control, of economic activity and of location. Typically, when at least two of these criteria are met, the enterprise is considered to have survived, rather than being a birth (OECD/Eurostat, 2007: 26). Most OECD countries report following precisely the Manual's guidelines in the production of indicators of firm and establishment survival.

- **Reactivation:** This relates to businesses being dormant for a number of consecutive years, then recommencing activity. The OECD/Eurostat (2007) Manual provides precise indications on how to consider this phenomenon. For example, the reactivation of an enterprise should not enter the birth statistics if the enterprise has been dormant for less than two years (OECD/Eurostat, 2007: 36).

- **Growth:** Growth of an enterprise can be defined according to the change in employment or turnover in each given time period with respect to the previous period. The definition of a high-growth enterprise, however, might differ both in terms of thresholds and in terms of the time span upon which the measure is calculated. The OECD-Eurostat guidelines define as high-growth those enterprises in which employment or turnover experienced an average annualised growth greater than 20% per annum, over a three-year period. Gazelles are defined as those high-growth enterprises that are up to five years old (OECD/Eurostat, 2007: 63). On the other hand, Eurostat's regional database defines high growth as those enterprises with average annualised growth in number of employees greater than 10% per year over a three-year period (*t*-3 to *t*) and having at least ten employees in the beginning of the growth (*t*-3). Practically, these indicators are rarely available in the *Regional Business Demography Database*, as non-European OECD countries rarely collect such indicators or the definitions are not comparable across countries.

If a firm moves regions within the same country, the demographic events have to be assigned to regions according to clear rules. The birth of the firm will be assigned to the region where it was first created. The death of the firm is assigned to the region where it was last active before it died. The survival rate is assigned analogously. For instance, a firm created in region *X* at time *t*, which then moves to region *Y* after five years and dies there after another three years should be assigned as follows:

- birth in region *X*
- death in region *Y*
- three-year survival in region *X*.

Methodological challenges posed by a regional approach

The collection and harmonisation of regional business demography statistics presents a different set of challenges with respect to the national indicators. This section describes the main issues arising with the construction of indicators at the subnational level and the possible solutions.

Enterprises, establishments and the headquarter bias

The main methodological issue arising from the compilation of regional business demography statistics pertains to the location of economic activity. Specifically, regional statistics can be collected considering the enterprises (firms) as the statistical unit of choice; or rather, they can be compiled considering establishments (plants) as units (see the section on financing constraints for the relative definitions).

While this distinction does not pose particular problems in the analysis of national-level indicators, it has the potential to substantially affect the interpretation of regional data. This is due to the misallocation of figures to the region of the headquarters rather than to the region of location of the economic activity, which is a particularly concerning issue with respect to employment indicators.[5] For example, if an existing firm with headquarters in region *A* opens a new establishment in region *B,* it is likely to create new jobs in the process. Whenever the statistical unit of choice is the enterprise, the new jobs will result as headquarter growth rather than as growth of employment in region *B*.

When computing the national employment statistics, no useful information will be lost. However, this misattribution can significantly affect the analysis of the regional employment distribution, due to a "headquarter bias". It is likely that at least a fraction of the establishments (and related jobs) will not be physically located in the same region as the headquarters. An incorrect attribution of even a fraction of these jobs, given the overall magnitude of the workforce associated with multi-plant firms, has the potential of introducing a significant bias in the analysis of the regional distribution of employment. In fact, employment indicators based on the enterprise approach do not reflect regional employment, but rather the employment controlled by firms with headquarters in a given region.

The issue of location across different data sources: A comparison

Eurostat and the various NSOs have different approaches with respect to the issue of assigning location to establishments when computing regional indicators. These choices are largely dependent upon data availability.

Overview of the national data sources and of the relative methodological approaches

Table 2.1 presents an assessment of how the issue of location is treated across national data sources. For Chile, Greece, Sweden and Turkey, regional-level information on business demography statistics is not available on public data sources, or it was not possible to access sufficient metadata on the methodology used to develop business indicators to satisfy the harmonisation requirements (Iceland). Among the NSOs that collect business demography statistics at the subnational level, the vast majority collect indicators based on enterprises and 13 collect them both at the enterprise and at the establishment level (Table 2.1, Columns 1 and 2).

On the other hand, Japan, Mexico and New Zealand collect indicators at the level of establishments; for these countries it is not possible to develop indicators at the level of enterprises.

Enterprise approach

Eurostat's *Regional Business Demography Database* maintains the enterprise as the statistical business unit of choice, and in this sense is also consistent with the national methodological framework defined in the previous subsection. This choice is in part driven by data availability, but it is also the result of a trade-off between employment and firm indicators. While the employment indicators included in Eurostat's database cannot be used to determine employment in a given region (as they only express the number of workers controlled by firms registered in it), they are optimal to evaluate entrepreneurial dynamics (such as start-up rates). The analysis of entrepreneurship at a regional level requires firm-level data.

Possible solutions to the measurement issue

The headquarter bias can hamper the interpretation of employment indicators. A solution to this problem is to distribute employment according to the region of activity of the local unit (establishment) rather than legal ownership of the firm (headquarters). This procedure would require shifting the focus from enterprises to establishments, and building business demography indicators accordingly. Constructing indicators at the level of establishments is, however, not possible for those OECD countries for which regional

business demography data are based on enterprise-level data. Furthermore, establishment-level data suffer from lower cross-country harmonisation and comparability. Finally, they also have the drawback of limited information on the nature of new establishments, i.e. whether they belong to existing enterprises or constitute new enterprises. For this reason, and based on the data availability outlined in Table 2.1, this project has developed a main regional database based on the enterprise approach, which maximises coverage by encompassing the 27 OECD countries that collect regional business demography data and at the same time provide indicators based on the enterprise approach (Table 2.1).

Table 2.1. **The issue of location in the national data sources**

Country	Availability of data on enterprise location	Availability of employment indicators at the enterprise level	Availability of data on establishment location	Availability of employment indicators at establishment level
Australia	Yes	No	No	No
Austria	Yes	Yes	Partial	Partial
Belgium	Yes	No	Partial	Partial
Canada	Yes	Yes	Partial	No
Czech Republic	Yes	Yes	No	No
Denmark	Yes	Yes	Partial	Partial
Estonia	Yes	Yes	Partial	Partial
Finland	Yes	Yes	Partial	Partial
France	Yes	Yes	Yes	Partial
Germany	Partial	No	Partial	No
Greece	No	Yes	Partial	Partial
Hungary	Yes	Yes	Partial	Partial
Ireland	Partial	Partial	Partial	Partial
Israel	Yes	No	Partial	No
Italy	Yes	Yes	Partial	Partial
Japan	No	No	Yes	Yes
Korea	Yes	No	Partial	Partial
Latvia	Yes	No	Partial	Partial
Luxembourg	Yes	No	Partial	Partial
Mexico	No	No	Yes	Yes
Netherlands	Yes	Yes	Partial	Partial
New Zealand	No	No	Yes	Yes
Norway	Yes	Yes	Partial	No
Poland	Yes	Yes	Partial	Partial
Portugal	Yes	Yes	Partial	Partial
Slovak Republic	Yes	Yes	Partial	Partial
Slovenia	Yes	Yes	Partial	Partial
Spain	Yes	Yes	Partial	No
Sweden	No	No	Partial	Partial
Switzerland	Yes	Yes	Partial	Partial
United Kingdom	Yes	No	Partial	No
United States	Partial	Partial	Yes	Yes
Number of countries with data availability	27	19	30	24
Number of countries with full data availability	23	16	5	4

Note: Availability is defined as "partial" if data refer to active firms only, but not to births and deaths.

In addition, the project has also gathered a second data source, for the subset of OECD countries that develop regional indicators based on the establishment approach. The availability of these indicators is more limited in scope, but allows a more precise analysis of the spatial distribution of employment in firms. While employment indicators based on the establishment approach portray a precise picture of the spatial distribution of the workforce across regions, the indicators based on the enterprise approach can be best interpreted as the number of workers controlled by a certain region, rather than the number of workers effectively operating in it. When it comes to employment demography indicators, however, enterprise-level data are more reliable due to greater cross-country consistency and the other limitation of establishment data listed above. Nonetheless, the comparison between the two sets of employment indicators (based on the establishment vs. enterprise approach) is interesting in itself, informing regarding the relative concentration of business ownership across regions.

Development of business demography indicators

This section describes some methodological choices made in developing the regional indicators presented in Chapters 3 and 4.

Choice of indicators and relative breakdowns

The two databases provide the following set of indicators across countries:

1. total active population (number of enterprises/establishments)
2. births (number of enterprises/establishments)
3. deaths (number of enterprises/establishments)
4. survivors at one or three years (number of enterprises/establishments)
5. employment levels in births/deaths/survivors (enterprises and establishments)
6. number of high-growth firms (enterprises and establishments).

The definitions of these demographic events largely follow the methodology outlined in the OECD/Eurostat Manual (2007). However, the comparability of establishment and enterprise indicators across countries is defined on a case-by-case basis, and is outlined in Chapter 4.

This choice of indicators was based on their relatively high frequency across the different national data sources. Still, coverage is imperfect and most countries lack one or more of these indicators. The indicators will also be detailed according to the following classifications:

- **Spatial scale:** The database details the regional indicators up to the TL3 level (NUTS3 in the Eurostat classification) or TL2 otherwise.
- **Time dimension:** The time dimension of reference is the year. Enterprises are considered active, for example, if they were active at any point in a given year. The time series will reflect the availability of data provided by the national data sources.

Whenever possible, the indicators are also made available according to the following breakdowns:

- **Breakdown by size class:** The firms (or establishments) are classified into three size classes according to the number of employees in the firm (or in the establishment). To maximise coverage, the enterprise-level database provides three size classes: category "0", or non-employer firms; micro-enterprise (1-9); and larger firms (10+). This classification is directly available for the majority of countries, albeit it is not necessarily available for all indicators. The establishment-level database provides these three size classes and breaks down the category 10+ into different size classes, whenever possible.
- **Breakdown by sector:** Regional indicators have also been compiled by sector of economic activity. Most NSOs already offer this breakdown at the level of regions. The sectoral classification used in the original data sources has been harmonised in order to make it comparable to the ISIC Rev. 4 one-digit classification. The one-digit classification maximises coverage, albeit it presents some minor issues since at times the correspondence tables offer limited guidance at this level of aggregation. Whenever these issues are present, they are clearly flagged within the database.

Additional methodological notes

How to deal with firms that move between regions: Firms can experience demographic events in different regions throughout their lifespan and different countries may deal differently with the issue of relocation of a certain business activity. According to the Eurostat *Business Registers: Recommendations Manual*, continuity of location is only one of the criteria to define continuity of businesses in addition to economic activity and control (Chapter 14). Typically, the change of location only results in a birth in the target region (and a corresponding death in the region of origin) if the firm changes simultaneously location and sector of economic activity, or all three continuity factors at once (OECD/Eurostat, 2007: 26). In other cases (when a firm changes location but not sector, or when it changes only location and legal form), the switch between regions should only result in a growth in the statistics of the active business population of that region, and a removal in the region of origin, but not figure in the birth and death statistics. The countries included in the database follow OECD-Eurostat guidelines, and as such the issue of relocation should be taken into account accordingly.

Confidentiality issues: There are potential confidentiality issues at the subnational level. However, this dataset will only provide aggregate data, and not disseminate the micro-data at the basis of the regional averages. However, at times some breakdowns of the indicators (according to sector and size class) were omitted in the original sources, due to confidentiality issues. In these cases, the database reflects the composition of the original sources.

Highlights and methodological considerations

This report emphasises the importance of the regional dimension for the analysis of entrepreneurship. Entrepreneurial capacity, survival probability and the creation of jobs are all functions of local characteristics, and may in turn result in divergent growth paths for regions within the same country.

This section highlights some methodological considerations that emerge from the analysis of entrepreneurship at the subnational level. These considerations stress the need to expand the coverage of existing business demography statistics, along several dimensions.

These methodological notes outline a roadmap for future work on the development and analysis of business demography statistics for OECD countries.

TL2 dimension is sometimes inadequate to capture the extent of agglomeration economies

Business activity and entrepreneurship do not distribute uniformly across the national territory. Cities tend to attract the largest share of business births, in both relative and absolute terms (Chapter 3), and all countries display a very large concentration of firms across the first two or three urban centres (Chapter 4). The degree of geographic concentration is even higher when observing the distribution of firms across urban regions: capital cities tend to aggregate the largest share of firms in many countries (Chapter 4). Agglomeration economies are also crucial for post-entry growth (Chapter 5).

Due to the role of productive clusters and agglomeration for entrepreneurship, it is important to capture business demography statistics at the lowest level of geographical aggregation possible. Ideally it would be optimal to measure business dynamics at the level of micro-regions (TL3), which would allow a characterisation of small entrepreneurial clusters. Most importantly, this dimension permits to better distinguish cities *per se* from the areas surrounding them. Such distinction is often impossible when using statistics at the level of large regions (TL2).

TL2 regions, or large regions, often cluster together areas that are very vast, and where local economies differ substantially even within the region itself. The most obvious examples are the cases of Australian and US states or Canadian provinces, all of which correspond to the OECD TL2 classification of large regions. These are vast territories, which include both cities and rural areas and very different economies within each state/province. It is likely that the economies of Los Angeles and Dallas have more in common with each other than they have with rural areas in California and Texas, respectively.

However, the development of this database highlights that in many cases enterprise-level regional statistics are only available for TL2 regions: this is particularly the case for non-European OECD countries. Looking forward, a welcome development would be for all countries to converge towards the production of business demography statistics based on TL3 regions.

Enterprise-based indicators is a robust option for assessing the employment generated by new businesses

Chapter 3 highlights how indicators based on the location of firms, rather than on local production units, can produce biased employment statistics. The concentration of enterprises is much higher, in many countries, than the concentration of production plants. The typical case is one in which the capital city of a country gathers a vast number of firms' headquarters, but then operates plants in different regions. Measuring employment on the basis of enterprise-level indicators leads to a misattribution of employment across regions (Chapter 4).

The analysis of employment in business could therefore be complemented by establishment-level indicators. At the moment, these indicators are only partially available for 15 countries and even fewer countries in terms of detailed demography information (see Chapter 4). Moreover, the lack of international guidelines on how to produce these indicators greatly hampers the cross-country comparability of establishment-based business demography statistics.

A harmonisation of micro-data sources at the regional level across countries would allow the identification of the precise location not only of enterprises, but also of their establishments. This would increase the precision of any comparative analysis on the employment dynamics associated with business demography. Due to the limitations of establishment-level data, the enterprise demography indicators are the most reliable source and offer the promising approach to analyse employment creation in regions.

Enterprise-level statistics remain crucial to measure entrepreneurship

Enterprise-level indicators also remain the benchmark for studying the life and development of new firms over time. A new establishment might not necessarily suggest a new presence on the market, but perhaps the opening of a new plant of an existing firm, which might suggest market concentration, rather than competition.

The current state of collection of enterprise-level indicators, however, has room for improvement. In particular, it would be crucial for countries to develop indicators that allow to exclude non-employer firms from other firm statistics. This is because the dynamics of non-employer firms are very different from those that are born with employees: self-employment may be the result of differences in taxation or economic incentives across countries. As a result, the solo-firm cannot necessarily be included under the umbrella of "entrepreneurial venture". The distinction between employer and non-employer firms is, however, not possible for all countries in the database (see Chapter 3 for details), which somewhat reduces the capability to measure the dynamics of entrepreneurship.[6]

Other improvements with respect to enterprise-based data collection regard the coverage of indicators. It would be particularly interesting to study the expansion and shrinkage of firms over time. Even if access to confidential micro-data able to measure such developments cannot be made available to the general public at low levels of geographic detail, these statistics could be compiled by the NSOs and provided as aggregate figures together with other business demography indicators. Indicators of firm expansion and contraction would help towards a better understanding of which firms are successful, and where they are located.

Notes

1. Regions are classified by the OECD into two territorial levels that reflect the administrative organisation of countries. The OECD's large regions (TL2) represent the first administrative tier of subnational government, such as the Ontario region in Canada. Small OECD (TL3) regions are contained within a TL2 region. For example, the TL2 region of Aquitaine in France encompasses five TL3 regions: Dordogne, Gironde, Landes, Lot-et-Garonne and the Pyrénées-Atlantiques. In most cases, TL3 regions correspond to administrative regions, with the exception of Australia, Canada, Germany and the United States.

2. https://www.amstat.org/sections/srms/proceedings/y2005/Files/JSM2005-000327.pdf.

3 Correspondence tables: http://unstats.un.org/unsd/cr/registry/regso.asp?Ci=70.

4 NAICS to NACE2: http://ec.europa.eu/eurostat/ramon/miscellaneous/index.cfm?TargetUrl=DSP_NACE_2_US_NAICS_2007.

5. This misattribution may also arise in the context of particular indicators of business dynamics (for example, when analysing turnover).

6. A firm that is set up without employees at the time of its birth constitutes a non-employer firm birth.

References

Ahmad, N. (2008), "A proposed framework for business demography statistics", in *Measuring Entrepreneurship*, Springer US, pp. 113-174.

Eurostat (2010), *Business Registers: Recommendations Manual*, Eurostat Methodologies and Working Papers, Publications Office of the European Union, Luxembourg, http://dx.doi.org/10.2785/39851.

OECD/Eurostat (2007), *Eurostat-OECD Manual on Business Demography Statistics*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264041882-en.