Business Demography Statistics: A case study of selected countries in Asia-Pacific

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Abstract

This paper provides a general overview of Business Demography Statistics (BDS) and illustrates current practices through country case studies from the Asia-Pacific region.

First, a review of the main international guidelines and standards is conducted in order to compile a comprehensive typology of demographic events, and a review of the main data sources for the production of BDS. Then, the paper outlines the use and importance of BDS as an instrument for informed policy-making and policy evaluation. Finally, three country case studies (Australia, New Zealand, and the Republic of Korea) are provided with the purpose of offering insight on the business demography statistics produced in the region.

It is the hope of the authors that the paper will motivate national statistical offices (NSOs) in the region to compile BDS for informed decision-making and generate understanding of the need for the development of statistical capacity and infrastructure, especially statistical business registers, for compilation of BDS.

Keywords: business statistics, economic statistics, national accounts, statistical business registers, Asia and the Pacific.

JEL classification: C82, L25, L52, O25
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1 Introduction

High-quality economic statistics is a fundamental prerequisite for enabling policy makers and analysts to address a variety of development issues. Business demography statistics (BDS), the focus of the present paper, are part of the basic underlying data to produce reliable economic statistics.

BDS constitute one of the components of structural business statistics (SBS): Statistics on businesses and business activity. These include key variables, such as value-added, operating surplus, employment, and the number of business units (OECD, 2006). In addition, they are usually disaggregated by economic activity, size of business, and geographic location, among others. SBS provide information to policy-makers on creation of value-added and investment in different economic activity sectors, in order to analyse sectoral productivity or structural shifts in the economy (Eurostat, 2016). There are different components of SBS, including statistics on sectoral or size composition of the economy, data on foreign-controlled enterprises, or information on business creation and destruction through business demography statistics.

When it comes to production of business statistics, the Asia-Pacific region offers a fragmented picture, in which most countries fail to produce and disseminate adequate business-related data and statistics. The Regional Programme for the Improvement of Economic Statistics in Asia and the Pacific (RPES), endorsed by the ESCAP Committee on Statistics, was developed to respond to related capacity constraints and gaps in statistical infrastructure. The RPES promotes the development of Statistical Business Registers (SBRs) as one of the key components of statistical infrastructure needed for improved production of economic statistics. Such efforts are supported by many partners, among others ESCAP project on strengthening economic statistics, ADB’s regional technical assistance project, and SPC’s efforts in building SBRs in the Pacific economies.

In this paper we provide an overview of the major guidelines and manuals that define BDS and demographic events, and data sources used in production of BDS. We also discuss the use of BDS and look at the availability of BDS in Asia-Pacific through selected country case studies.

2 Overview of business demography statistics

According to the dictionary definition, demography is a term that refers to “study of human populations, especially the study of statistics, such as numbers of births and deaths, the incidence of disease, or rates of migration, which illustrate the changing size or composition of populations over time.”¹ The word demography is composed of Greek words for people (demos) and writing (graphos).

The above clearly indicates that the main scope of demography has to do with counting people. However, here we are dealing with business demography, which means that we are talking about the same type of events (i.e. births and deaths), but in the life cycle of an enterprise. Business demography is also concerned with the evolution of businesses in an economy, their survival over time and the development of their characteristics, such as size and type of economic activity.

2.1 Methodological guidelines on business demography statistics

There are three main methodological guidelines that cover definitions on standards and practices relevant to BDS: the Eurostat – OECD Manual on Business Demography Statistics (Eurostat and OECD, 2007), the Business Registers Recommendations Manual (Eurostat, 2010), and the Guidelines on Statistical Business Registers (UNECE, 2015). However, there is no single guide that would govern the production and dissemination of BDS on a global level.

The first one is the Manual on Business Demography Statistics (Eurostat and OECD, 2007). It comes from joint effort of Eurostat and OECD to meet the need for the development of a common framework for business demography, in order to guarantee comparability of data at the European and OECD levels. It is meant as a complementary guide to other methodological statistical manuals developed by the Eurostat. The manual aims to guide statistical offices in using SBRs as the main source for BDS, which is also cost-effective and in the European framework provides for their harmonized statistics throughout the EU Member States.

The other two guidelines, the Business Registers Recommendations Manual (Eurostat, 2010) and the Guidelines on Statistical Business Registers (UNECE, 2015), are guidelines on SBRs. They aim to outline the purpose, use, establishment and maintenance of SBRs. In doing so, they discuss BDS as one of the potential uses for a well-functioning SBR in a statistical organization. However, the main contribution of these guides to BDS is that they define the set of business demographic events, which are summarised below.

2.2 Basic parameters of business demography statistics

BDS are counts of demographic events and aim to provide meaningful information on the creation, destruction and survival of enterprises in a country over a certain period of time. In a nutshell, business demography statistics aim to encompass information on (Eurostat, 2014):

- the population of active enterprises;
- births and deaths of enterprises;
- survival of enterprises after creation (usually for up to 5 years).

The question that directly comes to our mind is what statistical unit should be used for compilation of BDS, with the main statistical units being establishments, enterprises and enterprise groups. Establishment, as the smallest reporting unit, i.e. the local kind of activity unit, are most commonly used for compilation of business statistics for the purposes of national accounts as specified in the 2008 SNA (UN and others, 2009, para. 2.38). However, as BDS intends to provide information on births and deaths of businesses the use of establishment as the statistical unit could cause volatility in the statistics compiled in cases such as a move of production factors from one establishment to another within the same enterprise. Hence, the Eurostat – OECD manual (Eurostat and OECD, 2007) recommends to use enterprise as the statistical unit for the compilation of BDS.

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2 Typology of demographic events is described in section 2.5.
3 See definition of statistical units in the section on the typology of demographic events (section 2.5).
This manual, further, recommends to compile BDS for all economic activities in ISIC Rev.4 sections from B to N and from P to S, with the exception of group 64.2 (Activities of holding companies). This recommendation covers most of economic activities related to production, construction, trade and services. It excludes activities, such as agriculture, public administration, non-market activities of households, and extraterritorial organizations.

This selection is based on the current coverage of statistical business registers. Currently, market oriented legal entities such as limited liability companies, sole proprietors, partnerships, and public corporations are covered by the European SBR but units in the central and local government sectors are not. Some of it might be due to specificities of European statistical system, but we think that the exclusion of these industrial sectors might not be necessary or ideal form a coverage perspective. All these sectors have a place in a comprehensive BDS, and while the inclusion of agriculture may cause identification/collection issues, these apply to small-scale informal farming, and not the larger, formal farming units which should be treated the same as similar units in other industries.4

To provide complete information, BDS should allow for disaggregation according to the characteristics of enterprises, such as the kind of economic activity, the size, and the legal form of enterprise. These various characteristics of enterprises allow BDS to identify the various subgroups of enterprises, e.g. SMEs, or allow policy-makers to see business activity by different industries.

2.3 Data sources

There are several sources that can be used to compile BDS. For instance, administrative Data, Economic Censuses or establishment or enterprise sample surveys. An additional option is any combination of the above, transformed or combined into a SBR. We illustrate the main advantages and trade-offs of the various data sources for BDS (the below is adapted from Eurostat and OECD, 2007; and UNECE, 2015).

2.3.1 Administrative Data

Administrative data is primarily created by governments for the purposes of regulating organisations or more commonly for the collection of taxation. Aspects that need to be considered when using administrative data for BDS compared to other sources are;

- **Coverage** – Tax data usually has a complete coverage of the formal sector of an economy. This is usually the most effective way to identify new businesses. However, it will not include the informal sector which can be identified from an economic census for example. There are other administrative data sources that can also be useful if appropriate links can be established which can provide useful classification, event or location data.

- **Low Cost** – While there are costs in acquiring, transforming and maintaining administrative data, these are a fraction of running an economic census or a survey of sufficient sample size to be meaningful (for BDS purposes).

- **Higher Frequency** – Most countries have annual reporting obligations as a minimum and as such admin data should enable you to identify business deaths, reported turnover and new

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4 For example, both the Australian and New Zealand BDS include the agriculture and public administration sectors.
registered businesses annually. This is especially relevant for the small business sector as many units are unlikely to be selected for targeted surveys and economic censuses are only run infrequently.

- Not designed for Statistical Purposes – The inherent problem in using administrative data, unless you can be involved in its collection, is that the data set isn’t designed for the purposes of BDS (or SBR). Admin data often has data errors and most tax collection is on a legal entity basis (not establishment or enterprise level) and as such it can be hard to identify key events (as discussed in section 2.4).

Due to these benefits of frequency of coverage most BDS published in the Asia Pacific Region are primarily derived from administrative data. We use the term derived as most BDS are created using an SBR, which is created by processing administrative and other data sets. In any case most changes (for example, new business or business deaths) reported in BDS are sourced from administrative data.

2.3.2 Economic census

The main advantage of using economic census for BDS is that it allows for complete coverage of all enterprises (with the exception of household unincorporated enterprises). As a consequence, using census data does not suffer from the same limitations as using SBRs, especially in terms of registration thresholds. However, the costs of an economic census are very high, and the frequency is very low to allow timely production of BDS. As such, given that the economic censuses are infrequent, they would only give a benchmark measure rather than a regular time series. However, when combined with other data sets in a SBR they can be a useful way of identifying or populating key characteristics such as industry and business locations if the data can be successfully linked.

2.3.3 Enterprise or establishment surveys

Surveys admit a greater level of detail and flexibility in the collection of data as compared to SBRs. This allows for more precise information on the circumstances of enterprise births and deaths to be collected, and possibly to capture the creation of some informal enterprises. However, surveys generally provide lower quality data as compared to the census or SBRs, as the coverage of enterprises relies on sampling and is therefore subject to sampling errors. If the sample size is not large enough, it might not allow breaking down data by subgroups.

2.4 Statistical Business Registers (SBRs)

An SBR is a “regularly updated, structured database of economic units in a territorial area, maintained by a national statistical office, and used for statistical purposes” (UNECE, 2015). This means that an SBR is a database or a list of economic units, together with their characteristics, that operate in a territory and are adapted for statistical use, i.e. the list is compiled according to the guidelines required for the production of economic statistics in a country. It should be noted that an SBR is usually compiled and maintained from a range of sources, including administrative data or data collected through censuses and surveys. As such an SBR can have all the benefits of the different data sources.

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5 For further information on SBRs we recommend the following guidelines and manuals: Eurostat, 2010; AfDB, 2012; SPC, 2014; and UNECE, 2015.
The main use of an SBR is to provide a sampling frame for business and economic surveys which requires that SBRs cover up-to-date information on business demographics. Granted that an SBR is updated with good quality administrative and/or survey data and aligned with the definitions of the business demographic indicators, i.e. that it is able to identify mergers and acquisitions, etc. it can have a clear advantage in terms of coverage, timeliness and cost-efficiency. In the case of changes to large and complex units, there may be lags or errors in administrative data updates and surveys may provide more accurate information.

Some of the main advantages of using the SBR to compile BDS are: (1) minimal cost (SBRs are principally produced for other purposes); (2) increased timeliness (SBRs allow for timely and frequent production of BDS); (3) minimum burden on respondents (using SBRs doesn’t require any additional responses from the units); and (4) high coverage (majority of enterprises that satisfy certain requirements are included in the SBR).

However, if an SBR isn’t updated using administrative data on at least an annual basis then it is probably unsuitable for BDS as it will not reflect real world changes in a timely enough manner. In this situation creation of BDS statistics from administrative data would be preferable even if it is inferior from BDS created using an SBR updated using administrative data. This can be seen in Australia, where both the Australian Business Register (ABR) and the Australian Taxation Office (ATO) do produce BDS statistics but they lack the detail and consistency produced by the ABS.

### 2.4.1 Towards a sustainable source for BDS

Based on the above, using SBRs are the best and most efficient way to generate high quality BDS in the long term. The authors of the paper encourage countries in the Asia-Pacific region to engage in development of SBRs and ensure that they are regularly updated as a well maintained SBR is an essential statistical asset for any NSO. An SBR with good coverage and regular updates is the only way to ensure reliable, timely and comparable BDS. This has already been acknowledged as one of the focus areas under the infrastructure component of the Regional Programme on Economic Statistics (RPES) adopted by the ESCAP Committee on Statistics.\(^6\)

As part of the regional efforts there are several initiatives aiming to assist countries in the region to develop or upgrade their SBRs, among others: (1) ADB regional technical assistance project on SBRs involving five countries in Asia (Bhutan, Cambodia, Lao PDR, Malaysia, and Sri Lanka);\(^7\) (2) SPC adoption of standard business registers in the Pacific;\(^8\) (3) ESCAP project on strengthening economic statistics in Asia-Pacific covers also SBRs; and (4) SIAP Regional Course on Statistical Business Registers that took place in January 2015 in Malaysia.\(^9\)

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\(^7\) For more information see: [http://www.adb.org/projects/47108-001/main](http://www.adb.org/projects/47108-001/main)

\(^8\) For more information see the SPC paper to the Asia-Pacific Economic Statistics Week in May 2016 at: [http://communities.unescap.org/system/files/05spc_adoption_of_standard_business_register_in_the_pacific.pdf](http://communities.unescap.org/system/files/05spc_adoption_of_standard_business_register_in_the_pacific.pdf)

\(^9\) For more information on the training course see: [http://www.unsiap.or.jp/e-learning/3_sna/1501_sbr_mys.html](http://www.unsiap.or.jp/e-learning/3_sna/1501_sbr_mys.html)
Other sources could be considered to complement data sources, such as tax registers, statistical surveys and clerical checking are some of the possible alternatives. In the context of an increasingly digitalized world, the use of administrative data can enhance the quality and coverage of SBRs. It is important for an NSO to have close relations with administrative data holders, such as tax administration in the case of SBRs, at all levels for efficient and effective use of administrative data for statistical purposes. This would allow the NSO to source existing data from the tax registers, as well as work with the tax office to build statistical requirements into their databases, which is mostly possible if there are changes in taxation legislation. A good practice from the Australian case is to have statisticians out-posted from the national statistical office to the tax administration.

2.5 A typology of demographic events

Demographic events are all events that have an impact on the existence of a statistical unit (e.g. the enterprise) or on links between statistical units (UNECE, 2015). Understanding these events is crucial for compilation of BDS. All of the three above mentioned manuals discuss the various demographic events. The two guidelines on SBRs (UNECE, 2015 and Eurostat, 2010) provide a very detailed typology of demographic events, which we attempted to summarize in Table 1.

In general, the relevant demographic events should involve distributional or existential changes in the allocation of production factors and/or changes in the organizational structure of an enterprise. The typology of demographic events consists of the following mutually exclusive categories (Eurostat, 2010):

1. Changes of existence of combinations of production factors
   1.1. Emergence of combinations of production factors (births)
   1.2. Disappearance of combinations of production factors (deaths)
2. Changes in the distribution of production factors
   2.1. Redistribution of the production factors within one enterprise
   2.2. Redistribution of the production factors across local units
   2.3. Redistribution of the production factors of more than one enterprise
      2.3.1. Concentration of enterprises (merger, takeover)
      2.3.2. De-concentration of enterprises (split, break)
      2.3.3. Transfer of production factors between enterprises
      2.3.4. Enterprise restructuring
   2.4. Redistribution of the production factors within one enterprise group
      2.4.1. Redistribution of production factors across local units of more than one enterprise
      2.4.2. Redistribution of production factors across enterprises
   2.5. Redistribution of the production factors of more than one enterprise group
      2.5.1. Concentration of enterprise groups
      2.5.2. De-concentration of enterprise groups
      2.5.3. Transfer of production factors between enterprise groups
      2.5.4. Enterprise group restructuring

There are some substantial differences with the demographic events of interest for SBRs as compared to events of interest for BDS. For example there are SBR’s which births and deaths translate into the creation or deletion of identity numbers in the SBR, but not all the insertions or deletions of identity numbers are classifiable as births or deaths. As such, great care needs to be exercised when utilising SBR’s to create BDS. For example it may be necessary to create unit record flags to identify key events such as deaths, births, merger and resurrections taking into the consideration how the SBR is designed.

In order to study demographic events, we first need to define the three most common types of statistical units (UNECE, 2015):

1. Establishment: local unit of an enterprise or part 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, except for certain exceptions, one or more persons work for one and the same enterprise.

2. Enterprise: the smallest combination of legal units that is an organisational unit 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. An enterprise may be a sole legal unit.

3. Enterprise group: an association of enterprises bound together by legal and/or financial links. A group of enterprises can have more than one decision-making centre, especially for policy on production, sales and profits. It may centralise certain aspects of financial management and taxation. It constitutes an economic entity which is empowered to make choices, particularly concerning the unit it comprises.

It is also important to understand the continuity of an enterprise, in terms of the continuity of its production factors. In practice, continuity needs to be tested based on some criteria, such as change in location (for establishments), and changes in economic activity or employment. Statistical units can also be re-activated, usually within the period of 24 month. Such reactivation would not count as death and birth of the unit. In practice, identifying a reactivation may be difficult and may show up as a birth in the business demography data.

Although not constituting a demographic event by itself, the concept of growth (measured in terms of a change in size/employment over time) is also specified as an indicator for studying the development of cohorts of enterprises (Eurostat and OECD, 2007). Measuring growth allows identifying high-growth enterprises, defined as enterprises that have an average annualized growth greater than 20% per year over a three-year period, and the subset of gazelles, which are defined as the high-growth enterprises that are up to five years old.
### Table 1: Summary of main definitions for demographic events

<table>
<thead>
<tr>
<th>Establishments</th>
<th>Enterprises</th>
<th>Enterprise groups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Changes of existence of combinations of production factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.1. Emergence of combinations of production factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Births</strong></td>
<td>Creation of a (partial) combination of production factors at a geographically identified place.</td>
<td>Creation of a combination of production factors, where no other enterprise is involved in the event.</td>
</tr>
<tr>
<td><strong>Deaths</strong></td>
<td>Dissolution of a (partial) combination of production factors at a geographically identified place.</td>
<td>Dissolution of a combination of production factors, where no other enterprise is involved in the event.</td>
</tr>
<tr>
<td><strong>2. Changes in the distribution of production factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.1. Redistribution of the production factors within one enterprise</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1.1. Redistribution of the production factors across local units</td>
<td></td>
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<tr>
<td><strong>2.3. Redistribution of the production factors within one enterprise group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3.1. Redistribution of production factors across local units of more than one enterprise</td>
<td>2.3.2. Redistribution of production factors across enterprises</td>
<td></td>
</tr>
<tr>
<td><strong>2.2. Redistribution of the production factors of more than one enterprise</strong></td>
<td>2.4. Redistribution of the production factors of more than one enterprise group</td>
<td></td>
</tr>
<tr>
<td>2.2.1. Concentration of enterprises</td>
<td>2.4.1. Concentration of enterprise groups</td>
<td></td>
</tr>
<tr>
<td><strong>Merger</strong></td>
<td>Concentrations are characterized by the presence of more than one legal unit before the event and only one legal unit after the event. A concentration is called a merger if all the legal units involved before the event lose their identity after the concentration takes place.</td>
<td>Concentration where both the enterprise groups involved lose their identity.</td>
</tr>
<tr>
<td><strong>Take-over</strong></td>
<td>A concentration where one of the legal units before the event retains its identity after the takeover takes place.</td>
<td>A concentration where one of the enterprise group existing before the event retains its identity after the takeover takes place (although the takeover could bring some changes to the characteristics of the enterprise group that retains its identity, e.g. in terms of size or economic activity).</td>
</tr>
<tr>
<td></td>
<td>2.2.2. De-concentration of enterprises</td>
<td>2.4.2. De-concentration of enterprise groups</td>
</tr>
<tr>
<td>Establishments</td>
<td>Enterprises</td>
<td>Enterprise groups</td>
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<tr>
<td>Split off</td>
<td>De-concentrations are characterized by the presence of a legal unit before and more than one legal unit after the event. A split-off is a de-concentration where the original unit continues to exist and the other legal units after the event are new.</td>
<td>A de-concentration where one of the resulting enterprise groups retains its identity.</td>
</tr>
<tr>
<td>Break-up</td>
<td>A de-concentration where the original legal unit dies and all the legal units after the event are new.</td>
<td>An event where an enterprise group is divided in such a way that none of the resulting enterprise groups retains the identity of the original group.</td>
</tr>
<tr>
<td>Transfer</td>
<td>Transfer of an establishment occurs when an establishment, without ceasing to exist, loses its link with the enterprise it belongs to and a new link with another enterprise comes into being.</td>
<td>Transfer of an enterprise between enterprise groups is an example of complex restructuring, where an enterprise, without losing its continuity, is transferred from one group of enterprises to another.</td>
</tr>
<tr>
<td>Re-structure</td>
<td>While not affecting its continuity, a restructuring may be associated with changes in characteristics of the enterprise (e.g. size or economic activity)</td>
<td>A restructuring within an enterprise group consists in a change (e.g. creation/cessation of enterprises, changes in economic activity and/or size class, etc.) that involves more than one enterprise before and more than one enterprise after the event. All enterprises involved are under common control.</td>
</tr>
<tr>
<td>Complex re-structure</td>
<td>Creation/deletion of a truncated group: a truncated group is the part if a multinational group that comprises only the legal units resident in a particular country. Its creation or deletion is a special case of restructuring within a multinational enterprise group, where the group might change its structure and/or characteristics without losing its continuity.</td>
<td>Involves more than one enterprise group before and afterwards. An example of complex restructuring involving two or more enterprise groups consists in the transfer of an enterprise, parts of enterprises or a number of enterprises from one group to another/others.</td>
</tr>
<tr>
<td>Change of ownership</td>
<td>A new legal unit is formed to take over the activities of an existing enterprise. The event does not affect the continuity of the enterprise and therefore it is not recorded as birth or death of an enterprise (however it can result in the death and/or birth of an administrative unit within the enterprise).</td>
<td>Change of global group head: it involves the replacement of the controlling legal unit by another legal unit, without affecting the continuity of the enterprise group (therefore it is not recorded as birth or death of an enterprise group).</td>
</tr>
</tbody>
</table>
2.6 Comparability of business demography statistics

Comparability of statistics on an international level is an important principle for production of official statistics, which is also enshrined in the principle 9 of the Fundamental Principles of Official Statistics. As such, the use of common standards and guidelines is encouraged to ensure comparability of official statistics, which in turn, depends on many factors.

Above we already discussed several of the factors important for comparability, such as statistical units, coverage of industrial sectors or legal forms, demographic events, and data sources for BDS. As such, definitions of the various demographic events are important to make sure one can distinguish between them. For example, we need to be able to distinguish between births/deaths and mergers or takeovers, as they require different formation of new business units and entries in the data sources. This is closely related to the choice of the source of BDS and if the source captures all the demographic events correctly. For example, is the SBR capable of identifying transfers, i.e. continuing businesses only changing their ownership, as opposed to genuine births? The choice of the source is also important for the coverage, i.e. the thresholds for inclusion of businesses, and reliability of the source.

Timing and periodicity are also important to understand at what point demographic events are recorded, as well as what is the period of measurement, since that will have an impact on inclusion of short-lived enterprises. Finally, the population and temporal basis of the population may play a role in comparability. The population of businesses or people can be used as the denominator for entry/exit rates, and the population may be measured at a specific point in time or over the period in question. In addition to methodological factors, various other factors can influence the comparability, such as size of the economy, demand and supply constraints, impact of tax and subsidy policies, political system and other economic and social factors (Ahmad, 2006).

3 Use of business demography statistics

The production and dissemination of BDS needs to be justified with policy need. In this section we aim to discuss the relevance of BDS for policy-making.

3.1 Use of business demography statistics: a policy perspective

The analysis of demographic events can be particularly relevant for policy makers. Business demography can play an important role in identifying the determinants of enterprise growth, and in conjunction with employment and economic activity can provide us with insight into the levels of business activity. BDS can also provide insight into the state of the economy, such as the degree of

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Sources: Adapted from Eurostat, 2010 and UNECE, 2015
Notes:
* Concentrations and de-concentrations apply only to all-resident and multinational enterprise groups. There are no similar kinds of events for truncated groups.

innovation and entrepreneurship, the analysis of business dynamics and performance, the identification of high-growth enterprises and gazelles and their characteristics.

The inclusion of various “additional” variables (e.g. employment, size), a wider range of statistical unit characteristics (e.g. ownership, legal structure) greatly increases the utility of BDS. Even if the BDS will continue to focus on enterprise numbers, births and deaths, these additional variables and classifications allow for a wider range of micro, meso and macro analyses in order to more comprehensively describe industrial structures and track the changes over time. Traditionally, the variables considered tend to be biased towards production analyses, whereas ownership and financial relationships may be of growing importance, especially with increasing globalisation. Nevertheless, it is also important to point out that the extent to which these variables fall within or outside the scope of BDS is still an open question.

BDS constitute a fundamental tool in the analysis of the determinants of economic growth and productivity. The demand of data on births, deaths and life expectancy of enterprises is increasing over time. Such data can provide the basis for policies to foster competition and economic growth, while creating employment opportunities. The relevance of BDS can be appreciated in terms of their potential for contributing to policy evaluation and analysis. In particular, they allow assessing the impact of policy initiatives on enterprise births and survival rates, providing evidence for policy-making for stimulating sectors in decline, etc.

When it comes to enterprises and the business sector, one main concern is related to economic growth and analysis of its determinants. In order to be able to design policies that can foster growth and innovation, it is fundamental to understand the underlying mechanisms that lead an economy to grow. In this regard, the availability of data on the allocation of resources and production factors among enterprises is essential. BDS related to survival rates and employment sizes of the enterprises are called to play a major role in this process.

In assessing the determinants of growth, it is pivotal that business deaths are correctly identified, together with the variables characterizing contexts that foster growth (through the creation of new businesses and the presence of high-growth enterprises) and ones that lead to enterprise deaths. Policies that aim at enhancing growth should take into account the different dimensions of aggregate productivity, i.e. productivity improvements within firms (within components) and reallocation of market shares between firms accordingly to efficiency criteria (reallocation components). The lack of data on enterprise births and deaths makes it difficult to decompose productivity growth into all its detailed components, and preventing policy makers from having a comprehensive outlook that would allow them to tackle the different aspects of productivity growth.

Another major policy concern for which business demography statistics can play a decisive role is the promotion and maintenance of market competition. By analysing the characteristics of entries (births) and exits (deaths) in the market, it is possible to acquire some indirect evidence on the presence of distortory practices (such as barriers to entry) and to verify theoretical predictions.

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12 See Foster, Haltiwanger and Krizan (2001) for a decomposition of aggregate productivity within firms and over time and a more detailed analysis of the contribution of net entry (births minus deaths) to productivity. It should be noted that other kinds of decompositions (e.g. those comparing productivity allocation across firms in a given year, see Olley and Pakes, 1996) do not strictly require statistics on enterprise births and deaths.
(e.g. markets featuring a high degree of competition typically face a high entry rate, but firms’ survival is on average low due to efficiency reasons).

In practice, BDS can provide information on some relevant issues, such as (Eurostat and OECD, 2007):

- Number of enterprises that were created/destroyed in a given time.
- Number of enterprises that survive for the first 1 to 5 years and their growth rates.
- Number of jobs created by newly established enterprises.
- Identify the rapidly growing industrial sectors, sectors with the highest number of high-growth enterprises, or sectors in decline.

### 3.2 Births and deaths of businesses in Asia-Pacific

The Report on the region-wide capacity screening of economic statistics for Asia and the Pacific (ESCAP, 2015) included a question on whether the respondents have an established method for the identification of business births and deaths. Figure 1 summarizes responses from 46 countries that responded to this question. It emerges that the biggest gaps in methods for recording births and deaths are in the South and South-West Asia subregion, where only 50% of the reporting countries declared to have established methods for birth and deaths, as well as in the Pacific, with around 60% of respondents. It is important to take into account the size of Pacific island states when analysing this figure. With the exception of island states such as Fiji, Samoa and Papua New Guinea, many Pacific island states do not have a large formal business sector.

![Figure 1: Percentage of respondents to the Capacity Screening with established methods for identifying births and deaths of businesses, by sub-region](http://www.unescap.org/sites/default/files/Explanatory_notes_and_statistical_methods_syb2015.pdf)

*Source: ESCAP, 2015.*

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4 Case studies on business demography statistics

4.1 Availability of business demography statistics in Asia-Pacific

There is no comprehensive overview of the production and dissemination of BDS in Asia-Pacific. The global survey on SBRs conducted by UNSD in 2013 can, however, provide an approximate overview of the situation among the respondent countries (UNSD, 2014). The question in the survey asked whether the respondent compiles BDS from SBRs. It should be noted that given other possible sources of data for BDS, this does not give a complete picture of BDS availability.

There were 26 respondents to this global survey from Asia-Pacific, and 12 of them responded that they produce BDS from SBRs, most of which are from the South-East Asia and the North and Central Asia subregions. Reponses by subregion are shown in Figure 2.

Figure 2: Compilation of BDS from SBRs in Asia-Pacific, by subregion

![Compilation of BDS from SBRs in Asia-Pacific, by subregion](source: UNSD, 2014).

4.2 Country examples

In this section we present case studies on BDS in selected countries in Asia-Pacific that publish their BDS on their website. This selection is not meant to be exhaustive and the selection is only for illustration purposes.

4.2.1 Australia

The Australian Bureau of Statistics (ABS) latest BDS publication reports tables of counts of Australian businesses from June 2011 to June 2015 (ABS, 2016). It includes indicators on the

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14 These countries are: Armenia, Australia, Azerbaijan, China, Malaysia, New Zealand, Philippines, Republic of Korea, Russian Federation, Singapore, Thailand, and Viet Nam.

15 For more information on BDS in OECD member countries, see Ahmad (2006).
number of operating businesses and numbers (and rates) of business entries, exits and survivals disaggregated by industry division, main state, institutional sector, type of legal organization, employment size and annual turnover size. The BDS are produced by ABS on a yearly basis covering the period between June of the most recent year and June four years prior to that.

Only businesses which actively traded in goods or services during the reference period in question are included and are sourced from the Australian Business Register (ABR) administered by the Australian Tax Office (ATO). The statistical unit referred to as a business consists of Australian Business Number (ABN) from the non-profiled population, which represents the large majority of units and in most cases is also the legal unit. However, for a relatively small number of businesses that have large, complex structures, the so called profiled population, the statistical unit is the type of activity unit (TAU). BDS exclude some types of units, such as the central bank, general government, NPISHs, charitable institutions, diplomatic missions etc., as well as some industrial classifications, among other police services, religious activities, labour associations etc.  

Figure 3 displays an example of the survival rates of Australian businesses operating in year 2011, disaggregated by employment size classes. The chart shows a clear positive correlation between employment size and survival rates, where enterprises with no employees are the most fragile category in terms of likelihood of exiting the market. The direction of causality behind this correlation might provide relevant insights on employment policies in the business sector.

**Figure 3 Survival of Australian businesses by employment size range**


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4.2.2 New Zealand

Statistics New Zealand disseminates a variety of tables on BDS through their database covering the period from February 2000 to February 2015, in addition to an annual report on BDS, the latest one was published in October 2015 and gives a snapshot as of February 2015. Together they present indicators on enterprise counts, births, deaths and survival rates, geographic units, and employee counts by business type, employee count, industry, control classification, institutional sector, overseas equity, territorial authority, region, and area unit (Statistics New Zealand, 2015).

Statistics New Zealand produces BDS on an annual basis, with February of each year being the point in time when the snapshot is taken. The statistical units are limited to economically significant individual, private-sector and public-sector enterprises that are engaged in the production of goods and services in New Zealand. These enterprises are maintained on the Statistics New Zealand Business Frame, which generally includes all employing units and those enterprises with goods and services tax (GST) turnover greater than $30,000 per year.\(^{18}\)

Figure 4 shows the evolution in the number of births in New Zealand for three industrial sectors, manufacturing (comparable to section C in ISIC Rev.4), construction (comparable to section F in ISIC Rev.4) and retail trade (comparable to section G in ISIC Rev.4), as defined in ANZSIC 2006, between 2006 and 2015. We can see that there is a common trend for all three sectors throughout the period observed. The number of births was declining until 2010/11 and then it started to rise again, but still are at lower levels than in 2006.

Figure 4: Number of births in New Zealand for manufacturing, construction and retail trade sectors, 2006 to 2015


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17 National private control, foreign control, central government control, and local government control.

Statistics New Zealand provides an interesting example as they disseminate statistics on enterprise groups. Looking at enterprises and number of employees on the basis of control by enterprise groups, it emerges that, as of February 2015, only 4.5% of enterprises in New Zealand are controlled by an enterprise group, but these enterprises employ 39.3% of all salary and wage earners (Statistics New Zealand, 2015).

### 4.2.3 Republic of Korea

The Korean Statistical Information Service (KOSIS) database contains annual data on the population of active corporate enterprises. It comprises indicators on the number of enterprises (active/births/deaths) between 2006 and 2014 by industry, scale of regular workers, sex and age of the representatives, type of legal organization and region, as well as indicators on the number of workers disaggregated by sex. The dataset also contains data on the average survival rates of newly born enterprises between 2008 and 2013 by industry, scale of regular workers and region; and on high-growth enterprises and gazelles between 2009 and 2014 by industry and region (Statistics Korea, 2016).

Interesting insight on sex and entrepreneurship can be derived from sex-disaggregated BDS. For example, the number of active enterprises, births and deaths disaggregated by the sex of their representative (or owner for organisations where a single individual owns the enterprise). Figure 5 displays such information for enterprises in the Republic of Korea, for years between 2007 and 2014. While the average number of active enterprises increased over time, the gap between male-run enterprises and female-run enterprises remained stable throughout the years. This might suggest the need for more gender inclusive policies in the corporate sector.

**Figure 5: Number of enterprises in the Republic of Korea by sex of representative, 2007-2014**

![Number of enterprises in the Republic of Korea by sex of representative, 2007-2014](image)

4.3 International databases

There are two main international statistical databases that present information on BDS: the Eurostat Structural Business Statistics database (Eurostat, 2016) and the OECD Structural and Demographic Business Statistics (SDBS) database (OECD, 2016). However, since most countries in Asia-Pacific are not members of these organizations there is no consolidated reporting or obligation for compilation of international data on BDS.

The Eurostat's database entails information on the structure, conduct and performance of economic activities of EU Member States on an annual basis since 1995. The database collects information by domain of activity – namely services, industry, trade, and constructions.

The main variables contained in the dataset can be summarized as follows:
- Business demography variables, such as number of enterprises, number of local units;
- Input-related variables, such as labour inputs (e.g. number of persons employed, number of employees), capital inputs (e.g. gross investment in tangible goods), cost of inputs (e.g. total purchases of goods and services, personnel costs); and
- Output-related variables, such as turnover, production value, value added at factor costs.

The OECD database is designed as the combination of three different databases:
- The Structural Statistics for Industry and Services (SSIS) database, which provides information broken down on the economic variables such as: turnover, value-added, investment, wages and salaries, employees and number of enterprises, etc.
- The Business Statistics by Size Class (BSC) database provides the same information as the SSIS, disaggregated by employment size classes (1-9, 10-19, 20-49, 50-249, 250+). Although it is designed to be consistent and complementary with the information contained in the SSIS, in practice the time series available in the BSC are shorter and, in some cases, the two dataset are not fully consistent with one another.
- The Business Demography (BD) database contains information on variables such as births, deaths and survival rates, high-growth firms and gazelles in some OECD countries. Indicators are broken down by industry classification (ISIC Rev.3) and, for some of them, by employment size-class. Although its development is still at an early stage and the system of questionnaires used for its compiling does not ensure comparability with the other two datasets, it has nevertheless been included in the SDBS database by virtue of its considerable policy relevance.

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19 In addition to the 28 EU Member States data are available also for Norway, Switzerland, Former Yugoslav Republic of Macedonia, Turkey, and Bosnia and Hercegovina.

20 For more detailed discussion see OECD, 2006, p.14.

21 Austria, Canada, Czech Republic, Denmark, Finland, Hungary, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Slovak Republic, Spain, Sweden, the United States.
5 Conclusion

This paper has reviewed existing guidance material on BDS and has on that basis identified best practice as being to produce BDS using an SBR that is updated using administrative data. This ensures that the BDS have sufficient coverage and timeliness of updates for the entire formal economy, compared to all other options.

The guidance material review also produced a list of demographic events that are required to produce BDS according to current guidelines or manuals. The list of events is both long and complex which can make creating BDS quite difficult or complicated. For some of the more complex events, there may be a substantial amount of work required to record the events, but they may only have a minimal impact on BDS. This is in contrast to the simpler events of births and deaths where any improvement in accuracy or quality would have a substantial impact on BDS.

As such, there is a clear need for practical guidelines on the production of BDS statistics from a SBR. These guidelines should be based on best practice from the nations currently producing BDS to identify efficient ways to record key events, how to ensure data quality and which BDS outputs can be produced to maximise user benefits at minimum cost.

The (albeit incomplete) information available indicates that less than half the countries in the Asia-Pacific region produce BDS from SBRs. This is a concern given that low quality BDS can lead to flawed assumptions about the business landscape in a country and hence lead to flawed decisions on business support and taxation schemes for example.

Supporting the development of SBRs in the region will enable more countries to produce BDS or BDS of a higher quality. Moreover, considering that SBRs are not primarily designed for BDS but rather for the production of the National Accounts, using the SBR to produce BDS can be a low cost option.

SBRs have been identified as a key element of the Regional Programme on Economic Statistics and a Task Force has been established by ESCAP to further the development of SBRs in the Asia-Pacific region.

6 References


