THE DEVELOPMENT OF SMALL AREA BUSINESS STATISTICS IN THE UNITED KINGDOM

Invited paper submitted by the Office for National Statistics, United Kingdom[*]

Overview

1.   There is a growing interest in regional statistics in the UK, with increasing demand for data for very small geographic areas. Statistical surveys often do not have the sample sizes necessary to support this level of detail, so registers are increasingly being used as direct sources of data. Under the "Neighbourhood Statistics" programme, there has been considerable investment in the UK statistical business register (the Inter-Departmental Business Register, or IDBR) to produce better quality data on enterprises and local units for small areas. A range of data is now published on the internet, and has generated considerable user interest.

2.   This paper describes what has already been achieved, examines the various issues currently faced, and considers the impact of recent developments related to a review of economic statistics in the UK.

Neighbourhood Statistics

3.   The Neighbourhood Statistics Service was established to meet the needs of the National Strategy for Neighbourhood Renewal. This central government initiative aims to improve information on small geographical areas within the UK, to allow more accurate targeting of development support and other policies to areas of social and economic deprivation.

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[*] Prepared by Steve Vale, Office for National Statistics, United Kingdom. Paper posted on Internet as received from the author.

4.   A key part of the Neighbourhood Statistics programme is the development and dissemination of small-area business data sets. The following enterprise and local unit data sets, taken from the business register, have already been published on the internet[1].

- Counts of Enterprises by Broad Industry Group
- Counts of Enterprises by Employment Size Band
- Counts of Enterprises by Public/Private Status, Single/Multi Site
- Counts of Local Units by Broad Industry Group
- Counts of Local Units by Employment Size Band
- Counts of Local Units by Public/Private Status, Single/Multi Site

5.   Data by age of business, and by a new urban / rural classification will be added later this year.

6.   An example of a table created interactively using the Neighbourhood Statistics web site, based on business register data, is given below. These data can be viewed alongside a range of other social and socio-economic data, to give an overall picture of conditions in a particular area.

|	Counts of Local Units for CAS Wards by Employment Size Band, TOTAL[1] ⓘ Local Units Count Mar04	Counts of Local Units for CAS Wards by Employment Size Band, 0-4 Persons Employed[1] ⓘ Local Units Count Mar04	Counts of Local Units for CAS Wards by Employment Size Band, 5-9 Persons Employed[1] ⓘ Local Units Count Mar04	Counts of Local Units for CAS Wards by Employment Size Band, 10-19 Persons Employed[1] ⓘ Local Units Count Mar04	Counts of Local Units for CAS Wards by Employment Size Band, 20+ Persons Employed[1] ⓘ Local Units Count Mar04
Allt-yr-yn ⓘ Ward	290	190	55	20	25
Alway ⓘ Ward	110	80	15	10	5
Beechwood ⓘ Ward	85	55	10	5	10
Bettws ⓘ Ward	60	25	15	10	5
Caerleon ⓘ Ward	215	155	30	15	15
Gaer ⓘ Ward	85	45	15	10	10
Graig ⓘ Ward	110	90	5	5	10
Langstone ⓘ Ward	150	110	20	10	10
Liswerry ⓘ Ward	..	..	..	..	..

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[1] See http://www.neighbourhood.statistics.gov.uk

Other publications

7.   Various other publications are produced using business register data with a geographic dimension. These use different levels of geography reflecting the multi-layer hierarchy used in the UK, from the ward level data needed for Neighbourhood Statistics purposes to the much larger regions used for higher level aggregates.

Further analyses of small area data

8.   The small area data published via the Neighbourhood Statistics web site have allowed various detailed analyses of register coverage to be carried out. The map below is an example of this. It was produced by Yell Ltd. and shows business register local unit coverage compared to that of the 'Yellow Pages' telephone directories. The blue areas show where the register has more units, whereas the red areas show where Yellow Pages have better coverage, the darker the colour, the greater the difference.
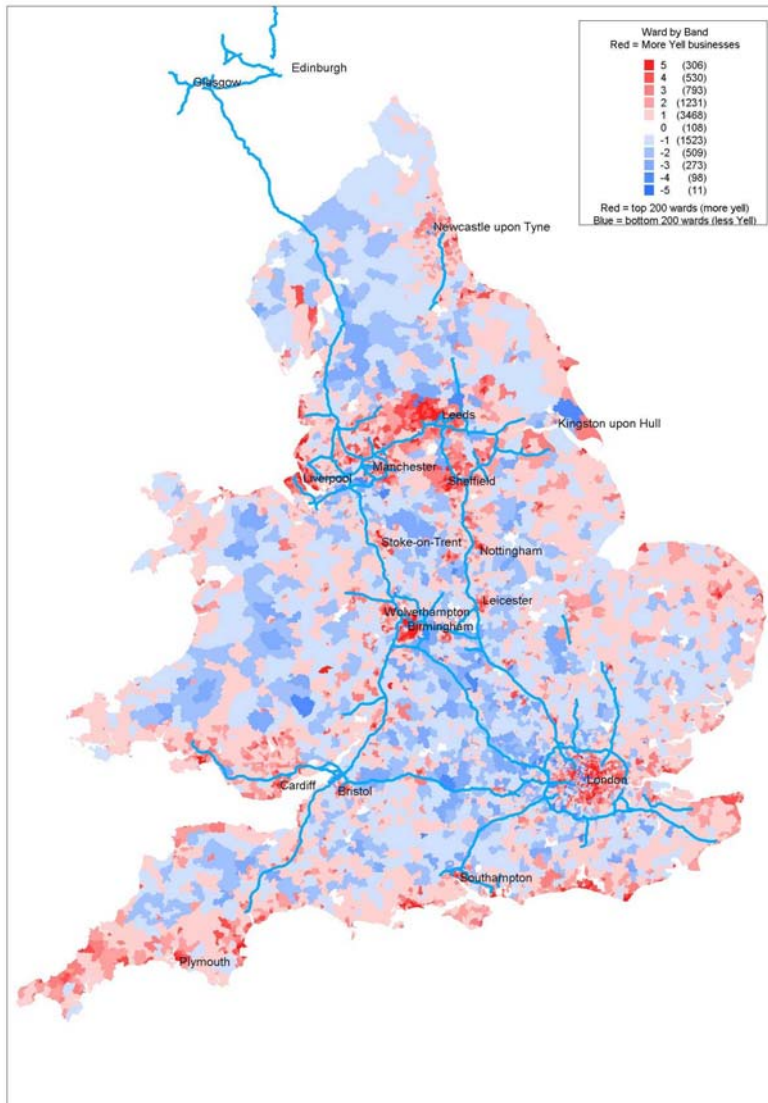
9.   This map, and the underlying data, show some interesting results, firstly that register coverage is greater in rural areas, the assumption here is that certain types of businesses do not tend to advertise in the Yellow Pages, e.g. farms, and some specialist consultants and other such professionals living in relatively affluent areas around major cities. The coverage of the Yellow Pages is higher than the register in coastal areas (possibly due to small bed and breakfast, and similar tourism related businesses operating below the register threshold), and in areas immediately surrounding city centres (possibly due to relatively low income service type businesses operating below the register threshold).

10.   One thing that this sort of analysis clearly shows is the usefulness of further research into register coverage, with the aim of better understanding and documenting current strengths and weaknesses. This in turn will better inform register users about the quality of the data they receive.

Issues to be Resolved

11.   **Units** – Most register data have previously been published at enterprise level, however, this is not really suitable for detailed analysis of small areas. Local units are preferable for most purposes, but at present have to be created and maintained by statistical surveys (mainly the "Business Register Survey"). Resource constraints mean that only the larger businesses can be included in this survey every year, therefore data "freshness" is an issue. We are currently investigating possible other sources of local unit data from both the public and private sector to see whether alternative local unit identification and updating mechanisms are feasible.

12.   **Coverage** – It is widely documented that the register does not cover up to two million businesses in the UK[2]. These businesses have no employees and a low turnover. Some are operated on a part-time basis. As their contribution to the UK economy is very low (estimated at 1-2%), this does not matter for most statistical purposes, however this group become more important in the context of small area analyses as they may have more of an impact on local economies.

13.   **Reconciling different sources** – Data on employment by region from the Labour Force Survey and the population census differ from those from the business register and business surveys. The reasons for this have been analysed, and one specific issue is that a business and an employee might have different views on location. This is a common problem for employment agencies where their employees are usually allocated to an office of the agency for register purposes, but are likely to give the location where they actually work if they are asked directly. The ONS (like many other statistical offices) provides another good example of this problem. Our social and household survey interviewers work from home throughout the UK, but, in line with Eurostat recommendations, they are allocated to the office of ONS from which they receive

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[2] See the publication "Small and Medium-sized Enterprise (SME) Statistics for the UK" by the Small Business Service of the Department for Trade and Industry - http://www.sbs.gov.uk/analytical/statistics , and the paper "Estimating Under-coverage of Very Small Enterprises" by Steve Vale and Claire Powell, presented at the 16th International Roundtable on Business Survey Frames, Lisbon, October 2002 - http://forum.europa.eu.int/Public/irc/dsis/businessurvey/library?l=/2002_lisbon/demography_continuity/s es3ukpaperpdf/_EN_1.0_&a=d

their instructions on the business register. Enterprise groups may also record employment through holding companies, rather than the operating company where the people actually work. These cases can distort the distribution of employment, the most notable effect is to inflate data for London based on the business register and business surveys.

14.　　**False businesses** – Tax incentives have encouraged a large number of people who previously operated as employees to register as limited liability companies that provide services on a contract basis to their previous employers. It is difficult to estimate the scale of this, but between 200,000 and 500,000 "businesses" are thought to operate in this way, mainly in construction, consultancy and IT related activities. Such companies typically only have one employee and one customer, and, for the people concerned, little changes in practice, other than they pay less tax. To facilitate this change, a number of businesses offering management services have appeared. They take care of all registrations and associated paperwork in return for a regular fee. This means that the only address available to the administrative sources is that of the management services business. This problem has recently been made worse by the introduction of further tax incentives for businesses that submit administrative returns electronically. Small businesses that are not able to do this themselves are also turning to management services businesses to ensure they get at least part of the tax benefit. These phenomena together result in artificially high, and often spectacular growth rates for the areas in which the management services businesses are located, thus giving a distorted view of business start-up rates and migration patterns.

15.　　**Geographies** – A number of different geographical hierarchies are currently used in the UK. The most common are the administrative hierarchies based on local government areas. Unfortunately these tend to be subject to frequent boundary changes, and are thus not suitable for time-series data. To get around this, and to standardise the geographical dimension of the different outputs used for Neighbourhood Statistics, a new statistical geography hierarchy has been created, based on areas used for the 2001 population census. This "output area" based system is not ideal for business statistics, as the areas are determined by the size of the human population, the most extreme problem here is the City of London, an area with a very high number of businesses, but a very low residential population. Output areas do, however, provide a common standard for small area statistics.

Recent developments

16.　　The development of the geographic dimension in UK business statistics was recently given a considerable boost by a high level review of economic statistics led by Christopher Allsopp[3]. The Allsopp review made a number of recommendations including that regional accounts should be produced within the UK, and that the business register and business surveys should be enhanced to meet that goal.

17.　　For business register purposes this means strengthening local unit data to form a better basis for the apportionment of financial variables to geographic areas. This will be reflected in

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[3] See:
http://www.hm-treasury.gov.uk/consultations_and_legislation/allsop_review/consult_allsopp_index.cfm

improvements to the Business Register Survey, and will boost work to look at alternative data sources. Early work suggests that data from the Valuation Office Agency on rateable values and floor space for non-domestic buildings may be useful in this context. A data matching exercise is currently under way to evaluate this source.

18.   Another recommendation of the Allsopp review was to develop a network of regional offices. These will be used to provide local knowledge to quality assure register and survey outputs, and to liaise with local authorities to ensure there data needs are met as far as possible.

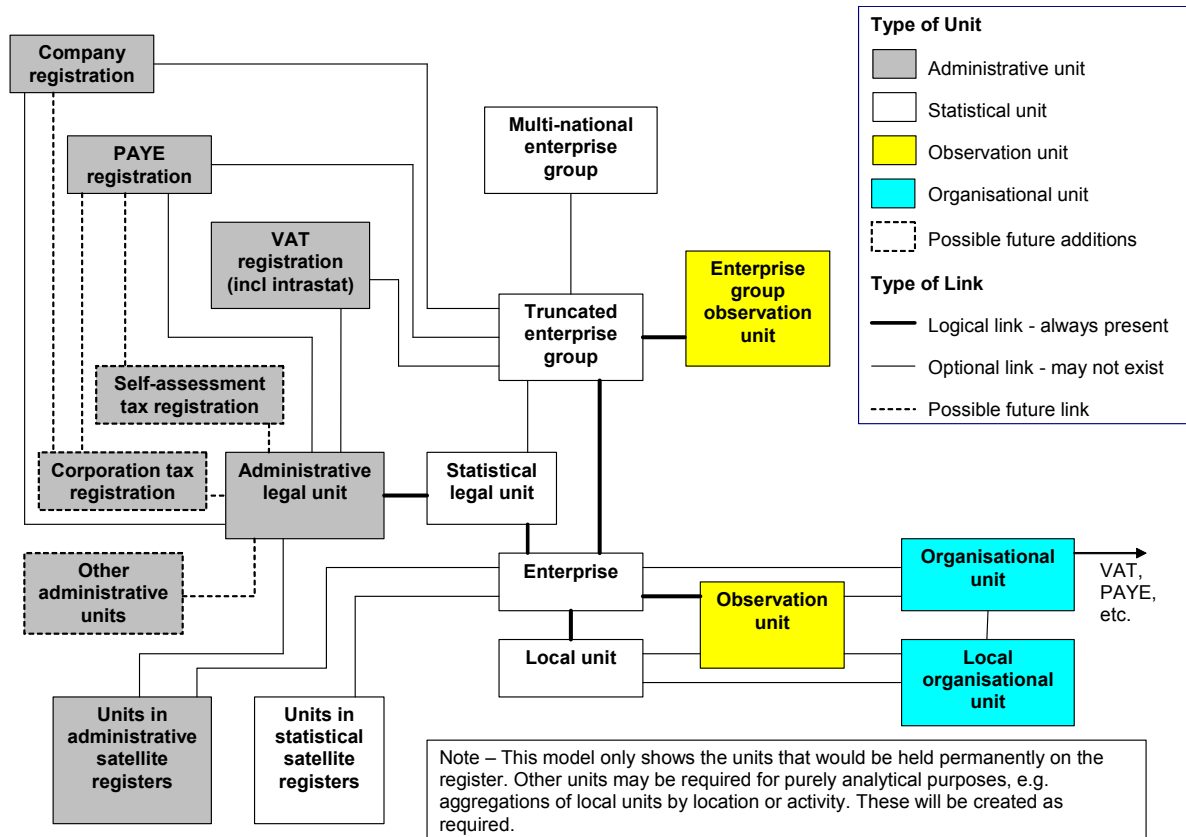Impact on the business register

19.   The ONS is currently part way through a programme to re-engineer its main statistical systems, including the business register. The increasing requirements for geographic data are being reflected in the work to design this new register in several ways.

20.   The new register will have improved flexibility for data collection structures to allow the collection of data at the lowest level possible within a business. To facilitate this, the organisational structure of businesses will be profiled so that data collection units are as relevant as possible to businesses.

21.   Businesses often have local organisational units, which may not correspond to statistical local units. There are examples of businesses providing details for over fifty local organisational units at the same address in electronic returns for the Business Register Survey, where large, multiple-site businesses are encouraged to submit data taken from their internal accounting systems. Thus local organisation units can facilitate the collection of site-level information, and can be combined to construct statistical local units.

22.   There will also be increased flexibility for analytical purposes, particularly in terms of groupings of local units within an enterprise by geographical area or economic activity. These new analytical units have been given the working titles of "geographic aggregation unit" and "economic activity aggregation unit".

23.   The relationships between the different units proposed for the new register is shown in the following diagram:

Type of Unit

▆ (grey)	Administrative unit
▢ (white)	Statistical unit
▆ (yellow)	Observation unit
▆ (cyan)	Organisational unit
⌷ (dashed)	Possible future additions

Type of Link

▬▬	Logical link - always present
──	Optional link - may not exist
----	Possible future link

Note – This model only shows the units that would be held permanently on the register. Other units may be required for purely analytical purposes, e.g. aggregations of local units by location or activity. These will be created as required.

Diagram units: Company registration, PAYE registration, VAT registration (incl intrastat), Self-assessment tax registration, Corporation tax registration, Administrative legal unit, Other administrative units, Units in administrative satellite registers, Units in statistical satellite registers, Multi-national enterprise group, Truncated enterprise group, Enterprise group observation unit, Statistical legal unit, Enterprise, Observation unit, Local unit, Organisational unit, Local organisational unit, VAT, PAYE, etc.

Conclusion

24.   The increasing interest in the geographic dimension of business data has led to a re-evaluation of how the business register is constructed and maintained. Local units are now considerably more important than they were a few years ago, and new methods and sources are required to guarantee the quality of their data. A new version of the UK statistical business register is currently in development, which will improve the flexibility to adapt to new sources, and to collect statistical data on a regional or local basis.