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Data Article

A firm-level dataset for analyzing entry, exit, employment and R&D expenditures in the UK: 1997–2012

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ABSTRACT

This data article is related to the research article entitled "Inverted-U relationship between R&D intensity and survival: Evidence on scale and complementarity effects in UK data" (Ugur et al., In press) [1]. It describes the trends in R&D expenditures, employment of R&D personnel and firm entry and exit rates in the UK from 1998 to 2012. We also provide statistics on net employment creation and net R&D investments due to firm entry and exits. In addition, we compute the correlation coefficients between entry and exit rates at the two digit industry level so as to examine whether the correlations are contemporaneous or inter-temporal. Finally, we provide information about the underlying dataset to which secure access is available through *UK Data Service Archive* 7716 at http://dx.doi.org/10.5255/UKDA-SN-7716-1.

Specifications Table

Subject area	*Economics*
More specific subject area	*Survival analysis, R&D*
Type of data	*Tables and graphs*

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How data was acquired	*Data was acquired by merging the ONS datasets on Business Expenditure and Research Database (BERD) and the Business Structure Database (BSD). These databases are available from the UK Data Service repository (https://www.ukdataservice.ac.uk/)*
Data format	*Aggregated, analyzed*
Experimental factors	*We make use of observational data based on annual surveys.* *Our sample was extracted by merging information from the BSD and BERD databases using the STATA software. Sample construction involved various consistency checks.* *The final dataset we make available is a long panel at the firm level from 1997 to 2012.*
Experimental features	*Data on employment, R&D expenditures, entry and exit rates is aggregated from reporting unit to enterprise unit level.*
Data source location	*United Kingdom*
Data accessibility	*Data are within this article. The underlying dataset is available through secure access via UK Data Service Archive SN7716 at:* http://dx.doi.org/10.5255/UKDA-SN-7716-1 [2]

Value of the data

- Figs. 1 and 2 on R&D expenditure and employment of R&D personnel, together with the underlying dataset from 1997–2012, could inform further research on determinants of R&D expenditures and employment of R&D personnel.
- Annual statistics on entry and exit rates in Table 1 highlight the implications of firm dynamics (entry and exit rates) for job creation, job destruction and net R&D expenditure. Furthermore, the underlying dataset can stimulate further research on firm dynamics, labor reallocation and productivity.
- The correlation table between entry and exit rates in Table 2 can inform further research on the lack of sorting out effects in firm dynamics in the UK.
- The link to the underlying dataset provides researchers with consistent and reliable microdata on UK firms from 1997 to 2012. The dataset has significant potential for future research in areas such as: (a) size distribution of firms; (b) firm diversity and survival; (c) geographical spillovers of R&D; and (d) job creation versus job destruction during the crisis and post-crisis periods.

1. Data

In this article, first we present two graphs depicting the trends in R&D expenditure by type (Fig. 1) and by R&D personnel (Fig. 2), drawing on the panel dataset we constructed from two Office for National Statistics (ONS) databases for the period 1997–2012. These are followed by Table 1 on annual entry and exit rates, net balances of employment and net balances of R&D investment, using data for 37,930 UK firms from 1998 to 2012. Table 2 follows with correlations between firm entry and exit rates at 3-digit industry level - with and without correction for industry fixed effects.

2. Experimental design, materials and methods

2.1. Dataset: sources and indicative content

Our dataset was obtained by merging the Business Expenditure on Research and Development (BERD) [3] with the Business Structure Database (BSD) [4]. The BERD database is an annual survey of firms with information on research and development. The BSD database is an annual snapshot of the