

PRB

INFORM
EMPOWER
ADVANCE

United Kingdom

STEM Workers Data Sources

BY **MARLENE LEE** AND **NADWA MOSSAAD**

Science, Technology, Engineering, and Mathematics

AUGUST 2010

www.prb.org

POPULATION REFERENCE BUREAU

UNITED KINGDOM STEM WORKERS DATA SOURCES

BY **MARLENE LEE** AND
NADWA MOSSAAD

ABOUT THE AUTHORS

MARLENE LEE is a senior research associate in Domestic Programs at PRB. **NADWA MOSSAAD** is a research associate at PRB.

ACKNOWLEDGMENTS

The authors wish to thank: Ellen Carnevale, PRB's vice president of Communications and Marketing for her assistance with design, and Tyjen Tsai, PRB writer/editor, Lisa Aronson, PRB program assistant, and Jonathan Stall, PRB intern for their assistance. We also wish to acknowledge Jeanne Batalova, Michelle Mittelstadt, and Mark Mather, co-authors of *Immigration: Data Matters*, after which this guide has been modeled.

This project is underwritten through the generosity of the Alfred P. Sloan Foundation.

© 2010 Population Reference Bureau. All rights reserved.



TABLE OF CONTENTS

INTRODUCTION	1
KEY TOPICS (U.K. DATA)	2
KEY RESOURCES ON U.K. STEM WORKFORCE	8
UNITED KINGDOM GLOSSARY	12

POPULATION REFERENCE BUREAU

The Population Reference Bureau **INFORMS** people around the world about population, health, and the environment, and **EMPOWERS** them to use that information to **ADVANCE** the well-being of current and future generations.

www.prb.org

POPULATION REFERENCE BUREAU

1875 Connecticut Ave., NW
Suite 520
Washington, DC 20009 USA

202 483 1100 **PHONE**
202 328 3937 **FAX**
popref@prb.org **E-MAIL**

INTRODUCTION

Businesses, governments, and individuals are trying to understand and plan for shifts in the demand for highly skilled workers, particularly those workers with advanced degrees and experience in science, technology, engineering, and mathematics. Global shifts in production, consumption, education, and training are affecting regional, national, and local economies and their labor markets. To understand and respond to shifts in the demand for and supply of skilled labor, it is critical to have access to authoritative and high-quality data about skilled workers—both those currently in the labor force and those in the education pipeline.

We hope that *STEM Workers: Data Sources* will provide useful information about where to find credible and accessible data on the United Kingdom's skilled labor force. We include information from United Kingdom government sources and international organizations. This guide is by no means a comprehensive list of all sources for data related to the skilled workforce in the United Kingdom. Instead, we are sharing resources identified in our search for comparable indicators with which to assess the stock of skilled workers in the United Kingdom relative to other countries, the flow of skilled workers into the United Kingdom from other countries, and the production of future workers.

GLOBAL MOBILITY**Immigration/
Visa Status**

The U.K. data provide limited information on migrants based on immigration status at the point of entry. The data are collected by ongoing survey and administrative sources; they are not available in census or population-based survey data.

Data are available for individuals who change their country of usual residence for at least a year, so that the country of destination effectively becomes the country of usual residence. Tables provide information on reason for migration and usual occupation prior to migration. Access to individual-level (micro) data is also available for more expert data users.

The U.K. Home Office publishes statistics on U.K. long-term migration as well as data on global applications for entry into the United Kingdom, Commonwealth countries, overseas territories, and U.K. crown dependency destinations. These data apply to people subject to immigration control. British citizens, those Commonwealth citizens who also have the right of abode, other European Economic Area (EEA) nationals, and Swiss nationals are not subject to immigration control and may freely enter and leave the United Kingdom.

Permanent immigrants (settlement): Online reports and supplementary tables provide data on the number of applicants and approval of “grants of settlement” (flow data) within a given calendar year or quarter. Information is provided by type of entry visa (work, family, etc.) and by nationality.

Temporary immigrants (nonsettlement): Online reports provide data on the number of visas (flow data) issued for the U.K. region in a given financial year (April 1 to March 31). Figures and tables show information on the number of visas issued by type of visa endorsement, including settlement visas and other types of visas (nonsettlement visas).

Long-Term International Migration (LTIM) based on International Passenger Survey (IPS), Office of National Statistics (ONS), www.statistics.gov.uk/statbase/Product.asp?vlnk=15053, links to calendar year and midyear tables as well as historical data.

Annually

Control of Immigration Statistics: United Kingdom, Home Office, Research and Development Statistics, <http://rds.homeoffice.gov.uk/rds/immigration-asylum-stats.html>

Quarterly and
Annually

Entry Clearance (Visa) Statistics 2008-2009, The U.K. Border Agency-International Group, Home Office, www.ukvisas.gov.uk/en/aboutus/statistics/

Annually

Key Topics (U.K. Data)	What Is Available	Where Can it Be Found	How Often Is it Updated
International Students	The United Kingdom collects data on students enrolled at all publicly funded higher education institutions during the academic year.	Higher Education Statistics Agency (HESA), www.hesa.ac.uk/index.php?option=com_content&task=view&id=1197&Itemid=266 ; U.K. Council for International Affairs (UKCISA) provides copies of some HESA tables, www.ukcisa.org.uk/about/statistics_he.php and links to other resources.	Annually
	Published tables cross-tabulate student qualifications and programs of study by usual country of residence (domicile). Data are also available on the number of students from top sending countries. These tables usually categorize country of residence as United Kingdom, other European Union, and non-European Union. Requests may be made for special tabulations.	<i>Higher Education Statistics for the U.K.</i> , Higher Education Statistics Agency (HESA), www.hesa.ac.uk/index.php/component?option=com_pubs/Itemid,286/task,show_year/publd,1/versionId,4/yearId,184/	Annually
	Published tables include data on the number of international students by region of usual domicile, gender, qualifications, and location of U.K. institution.		
Multinational Companies	Data on businesses within the United Kingdom are available from the Annual Business Inquiry Division, Office for National Statistics. However, indicators relevant to investment in development of science, engineering, and technology resources are sometimes easily accessed in international databases.	ABI, www.statistics.gov.uk/statbase/Product.asp?vlnk=7381	
	Tables for the latest available year include data on the number of parent corporations and number of foreign affiliates in the country economy. R&D expenditures by foreign affiliates in host economy.	UNCTAD, <i>Annexes in World Investment Reports (1991-2009)</i> , www.unctad.org/Templates/Page.asp?intItemID=1485&lang=1 ; Online information on multinationals (transnational corporations) by country may also be accessed at www.unctad.org/Templates/Page.asp?intItemID=3198&lang=1	Annually
	This database is available separately and as part of other OECD products. It includes data on the performance of foreign affiliates in OECD countries particularly in the areas of production, employment, international trade, and research. Coverage is provided for the manufacturing sector from 1983 onward and for the services sector from 1990 onward, based on ISIC categories. Data are provided in national currency values.	OECD <i>Science, Technology and Industry Scoreboard 2009</i> , www.oecd.org/sti/scoreboard or directly to the online tables: www.oecdlibrary.org/content/book/sti_scoreboard-2009-en OECD Measuring Globalisation database 2009, www.oecdbookshop.org	Every 2 years Annually

Key Topics (U.K. Data)	What Is Available	Where Can it Be Found	How Often Is it Updated
Research Collaborations	Data on international cooperation in R&D, patents, and scientific publications among countries; technological balance of payments; international flows in inventions and doctoral students.	OECD <i>Science, Technology and Industry Scoreboard 2009</i> , www.oecd.org/sti/scoreboard , or directly to the online tables: www.oecdilibrary.org/content/book/sti_scoreboard-2009-en	Every 2 years
EDUCATION			
STEM Graduates	Published tables report on the path of students after completion of part-time or full-time programs at higher education institutions. They provide information about employment and further study or training at a point about six months after completion. Tables include data on type of industry sector and occupation, geographical distribution of leavers, and analysis of destinations by students' attributes such as gender, subject of study, and qualification obtained. Data is based on a survey of those who completed their programs during the academic year (Aug. 1 to July 31).	<i>Destinations of Leavers from Higher Education</i> , Higher Education Statistics Agency (HESA), www.hesa.ac.uk/index.php?option=com_pubs&task=show_pub_detail&pubid=1708&Itemid=286	Annually
	Published tables report on a sample of students up to three and a half years after they have received their qualifications. Tables provide information on the distribution of graduates in broad occupation and industry categories. The sample is intentionally skewed toward foundation degree leavers, those who completed a master's or doctoral degree and nonwhite leavers.	<i>Destinations of Leavers from Higher Education Longitudinal Survey</i> , www.hesa.ac.uk/index.php?option=com_pubs&task=show_pub_detail&pubid=1714&Itemid=286	Annually
Postsecondary Education	See also <i>International Students</i>		
	"World's Best Universities" ranks the top 400 universities worldwide by school subject, including engineering and the IT, natural and physical sciences, and life sciences and biomedicine. The rankings are based on five criteria: academic peer review, employer review, student-to-faculty ratio, citations, and international faculty and students.	<i>U.S. News & World Report's "World's Best Universities,"</i> www.usnews.com/sections/education/worlds-best-universities/index.html	Annually
	Published and online tables provide information about students in higher education institutions during the academic year (Aug. 1 to July 31). The data on which published and online tables are based includes detailed information on students' distribution across programs of studies in 19 subject areas and in four subjects that lie within or cut across the main subjects.	<i>Students in Higher Education Institutions</i> , Higher Education Statistics Agency (HESA), www.hesa.ac.uk/index.php?option=com_pubs&task=show_pub_detail&pubid=1&Itemid=286 ; HESA statistics online www.hesa.ac.uk/index.php/component?option=com_datatables/Itemid,121/	Annually

Key Topics (U.K. Data)	What Is Available	Where Can it Be Found	How Often Is it Updated
Postsecondary Education (continued)	U.K. investment in education compared to other countries: annual expenditure on educational institutions by broad level of education: total, as a percentage of GDP, per student, and public vs. private.	OECD, <i>Education at a Glance</i> , Chapter B “Financial and Human Resources Invested In Education,” www.oecd.org/dataoecd/41/25/43636332.pdf	Annually
Lifelong Learning (formal learning)	Recent lifelong learning statistics for the United Kingdom have been collected as part of European Union (EU) efforts, on the basis of data collected by the Labour Force Survey (LFS) and supplemented by two other surveys: the Continuing Vocational Training Survey (CVTS) and the Adult Education Survey (AES).		
	Data on percent of economically active (employed or seeking employment) adults with professional qualifications by age group and qualification level. Tabulations are based on the Labour Force Survey.	National Learning Targets, Office of National Statistics, www.statistics.gov.uk/	Annually
	Numbers and characteristics of those participating in formal and informal training, including age, gender, educational attainment, and occupation.	Education and Training Database, Eurostat, http://epp.eurostat.ec.europa.eu	Irregular

LABOR FORCE CHARACTERISTICS

STEM Workers

The governments of the United Kingdom collect detailed social, demographic, educational, and economic data on the populations of England, Wales, Scotland, and Northern Ireland. These data may be used to identify STEM workers. STEM workers may be captured in the Census of Population, Labour Force Survey, and the Annual Population Survey.

Published tables provide information on the number of employee jobs classified by industry for Great Britain in detail and for the United Kingdom in less detail.

Customized tables may be created using an online tool for accessing official labor market statistics. Number and characteristics for occupations by major subgroup. Industry and occupation may be cross-tabulated with characteristics such as age, ethnicity, gender, and

Annual Statistical Abstract of Statistics, Office of National Statistics, www.statistics.gov.uk/StatBase/Product.asp?vlnk=94

Nomis, Office of National Statistics, www.nomisweb.co.uk/Default.asp

Annually

Annually

Key Topics (U.K. Data)	What Is Available	Where Can it Be Found	How Often Is it Updated
STEM Workers (continued)	average earnings.	Census 2001 Microdata, Office of National Statistics, www.statistics.gov.uk/census2001/sar_update.asp	Every 10 years
	Researchers may analyze data on individuals to obtain customized tabulations of the number and characteristics of workers by industry and occupation.		
	Researchers may analyze data on individuals to obtain customized tabulations on the number and characteristics of workers by industry and occupation. An online analysis tool (Nesstar) also allows some analysis of these data.	Labour Force Survey and Annual Population Survey, U.K. Data Archive, Economics and Social Data Service, Government Data; Access data at ESDS Nesstar Catalog http://nesstar.esds.ac.uk/webview/ , and microdata available for download.	Quarterly and Annually
Foreign-Born Workers	Household surveys and census data provide estimates of the stock (or number) of non-U.K.-born or non-British nationality people living in the United Kingdom and a wide range of information on their characteristics.		
	Researchers may analyze individual data to obtain the numbers and characteristics of foreign-born workers, including country of birth and ethnicity, employment, unemployment, main occupation, qualifications (education), and industry.	Census 2001 Microdata, Office of National Statistics, www.statistics.gov.uk/census2001/sar_update.asp	Every 10 years
	Researchers may analyze data on individuals to obtain customized tabulations on the number and characteristics of foreign-born workers, including country of birth, date arrived in the United Kingdom, ethnicity, employment, unemployment, main occupation, qualifications (education), and industry. An online analysis tool (Nesstar) also allows some analysis of these data.	Labour Force Survey and Annual Population Survey, U.K. Data Archive, Economic and Social Data Service, Government Data, www.esds.ac.uk/government/aps/ ; Access data at ESDS Nesstar Catalog, http://nesstar.esds.ac.uk/webview/	Quarterly and Annually
Highly Skilled Workers (those with at least a bachelor's degree)	Researchers may analyze data on individuals or use an online analysis tool (Nesstar) to obtain information on the working-age population by level of qualifications (education), including numbers with higher (postsecondary) degrees, where degree was obtained, and main subject in which degree was	Labour Force Survey and Annual Population Survey, U.K. Data Archive, Economics and Social Data Service, Government Data; Access data at ESDS Nesstar Catalog, http://nesstar.esds.ac.uk/webview/	Quarterly and Annually

Key Topics (U.K. Data)	What Is Available	Where Can it Be Found	How Often Is it Updated
R&D INVESTMENT			
	obtained.		
Expenditures	Gross domestic expenditures on R&D: total amount, percent GDP, per capita, by source of funding (government, private, foreign, etc.).	UNESCO Institute for Statistics, Data Centre, Science & Technology Tables, http://stats.uis.unesco.org/	Annually
	R&D spending, venture capital, patents and trademarks, and employment.	OECD <i>Science, Technology and Industry Scoreboard 2009</i> , www.oecd.org/sti/scoreboard , or directly from the online tables: www.oecdilibrary.org/content/book/sti_scoreboard-2009-en	Every 2 years
Employment	R&D workers in sciences and technology fields: total, by gender, by degree level, by field of science.	UNESCO Institute for Statistics, Data Center, Science & Technology Tables, http://stats.uis.unesco.org/	Annually
Patents	Information on the nationality and current residence of the inventors of applied and granted patents.	World Intellectual Property Organization, www.wipo.int/ipstats/en/statistics/patents/ ; OECD <i>Science, Technology and Industry Scoreboard 2009</i> , www.oecd.org/sti/scoreboard ; OECD Patent Database, /www.oecd.org/	Annually

Note: Though international “migrant” is the term used across many data sources in the United Kingdom, the definition varies depending on the source. Most commonly, when speaking of migrants already in the country, migrant is defined as someone whose country of birth is not the United Kingdom. or whose nationality is non-British. With respect to discussion of flows of migrants into the United Kingdom, the definition often adopted is the UN definition: a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence.

U.K. GOVERNMENT SOURCES

- Office for National Statistics Annual Population Survey** The Annual Population Survey (APS) is a combined survey of households in Great Britain. Its purpose is to provide information on key social and socioeconomic variables between the 10 yearly censuses, with particular emphasis on providing information relating to small geographical areas. The APS includes the Quarterly Labour Force Survey (LFS) (waves one and five for the United Kingdom funded by the Office for National Statistics), plus data from the Annual Local (Area) Labour Force Survey (LLFS) Boosts for England, Scotland, and Wales. Since July 2005, APS data have been published on a quarterly basis, with each publication spanning data for the past 12 months. Tables available at www.statistics.gov.uk. Online data analysis (see Nesstar) and microdata available at www.esds.ac.uk
- Annual Business Inquiry** The Annual Business Inquiry (ABI) is conducted in two parts: employment and financial information. The financial inquiry covers about two-thirds of the U.K. economy; that is, production; construction; motor trades; wholesale; retail; catering and allied trades; property; service trades; agriculture (part); and hunting, forestry, and fishing. Employment inquiry coverage is wider. The major strengths of the ABI are its comprehensive coverage of U.K. businesses and the level of industrial detail available. The two-part form of the ABI enables employment and financial data to be linked. In terms of measuring employment, the ABI is the best source for measuring jobs, rather than people in employment, which is better measured by the Labour Force Survey (LFS). The disadvantages of the ABI are that it does not cover the agricultural sector, nor does it include jobs in private households, jobs in organizations not held on the Interdepartmental Business Register (IDBR), homeworkers, jobs in non-U.K. businesses, or the self-employed. ABI home page (www.statistics.gov.uk/abi/). Special tabulations or data extracts may be requested, but there may be a fee charged.
- Business Monitor MA4: Foreign Direct Investment** This publication provides a detailed breakdown of U.K. foreign direct investment (FDI) activity by component, country, and industry.
- The data are principally from the Office for National Statistics' comprehensive annual surveys into foreign direct investment. It includes both investment overseas by a U.K. company and investment in the United Kingdom by a foreign company. Summary results from the annual surveys are released online prior to publication (www.statistics.gov.uk/StatBase/Product.asp?vlnk=9614&Pos=1&ColRank=1&Rank=272). Data from quarterly surveys are published in *Balance of Payments* (www.statistics.gov.uk/StatBase/Product.asp?vlnk=1140). Key changes are being made to the current FDI questionnaire. The amended questionnaire will be used for the annual FDI questionnaire from April 2010.
- Census** The Census collects information every 10 years about the characteristics of people and households in the country. It is used by central and local governments, health authorities, and many other organizations to allocate resources and plan services for everyone. In the United Kingdom, England and Wales will administer a common census in 2011, Scotland will also administer its own in 2011, as will Northern Ireland. The last census for each of these countries was in 2001. Microdata allow cross-tabulation by occupation and industry and relatively small levels of geography.
- International Passenger Survey (IPS)** The International Passenger Survey (IPS) collects data on both credits and debits for the travel account of the *Balance of Payments*, provides detailed visit information on overseas visitors to the United Kingdom for tourism policy, and collects data on international migration. IPS surveys a random sample of passengers entering and leaving the United Kingdom by air, sea, or the Channel Tunnel. Data include: passenger's country of residence (for overseas residents), citizenship, reason for migration, and country of birth. From Jan. 1, 2009, changes to the sample design, weighting, and imputation methodology have produced a break in the series, making some comparisons to previous years inadvisable. Only expert users who are very familiar with the coding and weighting structures should use the individual-level data. Care must be taken when performing time series operations as there are year-to-year changes in variables and codes. Individual-level (microdata) files available for download after approved application at www.esds.ac.uk. Data are also available in published tables. See www.statistics.gov.uk/ssd/surveys/international_passenger_survey.asp

Labour Force Survey (LFS)	The Labour Force Survey (LFS) uses a quarterly sample survey of households living at private addresses in Great Britain. Its purpose is to provide information on the U.K. labor market. The survey provides information on personal circumstances and labor market status during a specific reference period, normally a period of one week or four weeks (depending on the topic) immediately prior to the interview. The LFS is carried out under a European Union Directive and uses internationally agreed concepts and definitions. Seasonally adjusted data are only available at the national level. Those who do not live in private households are usually not represented in this survey. Because of sample size, data available for the subnational level are limited, particularly for local authority district level. See user guides, www.statistics.gov.uk/statbase/Product.asp?vlnk=1537 . Tables available at www.statistics.gov.uk . Online data analysis (see Nesstar) and microdata available at www.esds.ac.uk
Long-Term International Migration (LTIM)	Long-Term International Migration (LTIM) combines information from several sources, providing a more comprehensive estimate of flows of international migration. The MN series tables present statistics on flows of international long-term migrants to and from the United Kingdom and England and Wales. LTIM time series data contain estimates derived from the International Passenger Survey (IPS); Home Office data; estimates of flows between the United Kingdom and the Irish Republic from Central Statistics Office, Dublin (up to 2007); and estimates of flows to and from Northern Ireland from the Northern Ireland Research and Statistics Agency (2008 onward). Adjustments are also made for people whose intentions change with respect to their length of stay such as asylum seekers and their dependents. www.statistics.gov.uk/statbase/Product.asp?vlnk=15053
Nesstar	The ESDS Nesstar Catalog (http://nesstar.esds.ac.uk/webview/) is a virtual library that allows the user to search for, browse and download key indicators from raw data. Frequencies and tables generally need to be weighted, so users need to be comfortable using technical documentation to determine weights to be applied.
Nomis	Nomis, a web-based database of labor market statistics run on behalf of the Office for National Statistics by the University of Durham, contains the following key datasets: Labour Force Survey; Claimant Count; Annual Business Inquiry/Annual Employment Survey/Census of Employment; Vacancies Handled by Job Centres; Population Estimates; 1991 and 2001 Censuses of Population; New Earnings Survey/Annual Survey of Hours and Earnings. Nomis is a free service provided by National Statistics but registration is required for access.

Higher Education Statistics

Agency

Students in Higher Education

The Higher Education Statistics Agency collects data from publicly funded higher education institutions (HEIs) in the United Kingdom on behalf of funding bodies and government departments. Annual data collected on students include: subject of study, level of study, mode of study, age, gender, ethnicity, and disability. Information on overseas student numbers may also be tabulated based on data identifying the usual country of residence. Data are available in online tables and in publications (some also available online). Some data are also available to registered institutional users through an online data tool (Heidi). www.hesa.ac.uk/index.php?option=com_content&task=view&id=1197&Itemid=266

Destination of Leavers for Higher Education (Cross-sectional and Longitudinal)

Destinations of Leavers from Higher Education (DLHE) includes all students who usually reside in the United Kingdom; EU-domiciled students; and those who are reported to HESA as obtaining relevant qualifications, in addition to studying full-time or part-time between Aug. 1 and July 31. Relevant qualifications include: doctorate and master's degrees, and other postgraduate qualifications obtained primarily through supervised research. The longitudinal survey is a follow-up of a sample of those captured in the census of leavers described above. The sample is intentionally skewed toward foundation degree leavers, those who completed a master's or doctoral degree, and nonwhite leavers. www.hesa.ac.uk/index.php?option=com_content&task=view&id=1197&Itemid=266

Heidi

Heidi is a web-based management information service that provides easy access to quantitative data about higher education. Heidi enables the creation of reports by field of study. Information is also available on age group, ethnicity, gender, level of study, region of usual residence, and year of enrollment in program. Institutions must register to use Heidi. Use may be limited to participating U.K. higher education institutions. www.heidi.ac.uk/

Home Office**Research Development
Statistics (RDS) Directorate**

The RDS website provides a range of research and statistics relating to crime, policing, immigration, drugs, and other areas of Home Office responsibility. RDS statistics on immigration, asylum, and nationality include passenger arrivals, applications for settlement, number of asylum seekers, applications, and decisions relating to British citizenship. Most of the data are taken from administrative records. Annual and quarterly immigration control reports available online provide numbers of people applying for temporary and settlement visas. Annual reports include extensive explanatory notes. Supplementary tables include information by country of nationality. Trends on citizenship and settlement are reported on a 12 month comparison period. <http://rds.homeoffice.gov.uk/rds/immigration-asylum-stats.html>

**U.K. Border Agency-
International Group
(UKBAIG)**

The U.K. Border Agency, an agency of the Home Office, protects the U.K. border and is a law enforcement agency in the United Kingdom. The agency's Entry Clearance Statistics are published annually and provide details of all visa applications, issuances, refusals, and appeals worldwide for the UKBA's financial year (April 1 to March 31). All data provided in the annual reports relate to global applications made for entry to the United Kingdom, Commonwealth countries, overseas territories, and U.K. crown dependency destinations, which include Alderney, Isle of Man, Jersey, and Guernsey. www.ukvisas.gov.uk/en/

NON-U.K. GOVERNMENT SOURCES**U.K. Council for
International Student
Affairs**

U.K. Council for International Student Affairs (UKCISA) does not hold or process any official international student statistics. UKCISA publishes a range of materials including education statistics from HESA and surveys of international students. These are intended to help international students and those who work with them. Some are available only to members. Others are available to all, either free or for a fee. www.ukcisa.org.uk/about/stats_and_research.php

**Council for Education in
the Commonwealth (CEC)**

CEC is a parliament-based NGO whose purpose is to inform public opinion on the salient issues concerning education and training in the Commonwealth and to identify appropriate ways in which Britain and the European Union can best contribute to their development. CEC produces periodic updates on international student flows. www.cecomm.org.uk/pages/Publications

U.K. Data Archive

The U.K. Data Archive (UKDA) is curator of the largest collection of digital data of the social sciences and humanities in the United Kingdom. It is a designated place of deposit by the National Archives, allowing it to ingest and preserve public records. Data are available via the web-based download system and the Economic and Social Data Service (ESDS) Nesstar system for online browsing and visualization of the data. UKDA is based at the University of Essex in Colchester. www.data-archive.ac.uk/

INTERNATIONAL SOURCES**World Intellectual Property
Organization (WIPO)**

WIPO, a specialized agency of the United Nations, maintains an international intellectual property (IP) system, www.wipo.int/portal/index.html.en. Its online database allows users to search more than 1.7 million international patent applications, www.wipo.int/pctdb/en/. However, users may need to obtain access to detailed data records for their analysis. Note: The WIPO database records an inventor's nationality at the time of filing; therefore, the data do not capture the contributions of immigrants who became U.K. citizens before filing patent applications.

Eurostat	Eurostat, the statistical office of the European Union situated in Luxembourg, provides the European Union with statistics at European-level that enable comparisons between countries and regions. Themes covered in the databases include education and training, labor market, industry and trade, science, technology, and innovation. In addition to annual publications (<i>Eurostat Yearbook</i> , <i>Regional Yearbook</i> , and others), there is a searchable online database, http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database . Eurostat grants access to anonymized microdata for scientific purposes. Existing microdata include: ECHP (European Community Household Panel), LFS (Labour Force Survey), CIS (Community Innovation Survey), AES (Adult Education Survey), EU-SILC (European Union Statistics on Income and Living Conditions), SES (Structure of Earnings Survey).
OECD Education Indicators	The OECD provides a comparable set of indicators on the performance of education systems in OECD countries. Indicators look at who participates in education, what is spent, how education systems operate, and the results achieved. The latter includes indicators on a wide range of outcomes, from comparisons of students' performance in key subject areas to the impact of education on earnings and on adults' chances of employment. See information on tables available: www.esds.ac.uk/international/support/user_guides/oeecd/educ.asp
OECD Measuring Globalisation	The OECD Measuring Globalisation database provides data on production, employment, and international trade and research of foreign affiliates in OECD countries. Coverage is provided for the manufacturing sector from 1983 onward and for the services sector from 1990 onward, based on ISIC categories. Data are provided in national currency values.
OECD Science and Technology Scoreboard	The OECD Science and Technology Scoreboard brings together indicators that reflect the level and structure of the efforts undertaken by OECD member countries and selected nonmember economies in the field of science and technology with R&D investment data in a time series. Not all countries provide data with the same frequency or of similar reliability.
UNESCO Institute for Statistics (UIS)	UIS, www.uis.unesco.org , is a source of international data on education and science and technology. Users may access data and build statistical tables. The Data Centre contains over 1,000 types of indicators and raw data on education, literacy, science and technology, and culture and communication, collected for over 200 countries.

EEA family permit. A document similar to an entry clearance. The name "EEA family permit" distinguishes it from a visa or entry clearance issued under the Immigration Rules. Instead, EEA family permits are issued under the Immigration (European Economic Area) Regulations 2006 and not the Immigration Rules. This permit is issued for six months in all cases and is free of charge.

Ethnic minority. There is no coding structure for ethnicity that is applicable throughout the United Kingdom. U.K. data tables often report on white and other (nonwhite, including those of mixed origin). Some tables include classifications such as black, Pakistani, Bangladeshi, Indian, and other Asian.

First degree. Bachelor's degree. First degrees in HESA tables may also include first degrees with eligibility for registering to practice (doctor/dentist/veterinary surgeon), first degrees with qualified teacher status (QTS)/registration with the General Teaching Council (GTC), enhanced first degrees, and first degrees obtained concurrently with diplomas.

Flow. Cross-border migration that involves the movements of foreigners and citizens alike.

Foreign student/international student. Higher education captures data on students who are not U.K. nationals, including students who are nationals of countries in the European Economic Area (EEA). U.K. border control data capture information only on students from non-EEA countries. Students who plan to stay in the United Kingdom for less than six months and do not intend to work or extend their stay may enter as student visitors. Whether a student requires a student visa depends on nationality, age, and intended duration of stay.

Foundation degree. Provides vocational higher education qualifications (FdA, FdSc).

GCE. General Certificate of Education. The O (Ordinary)-level has been replaced by GCSE (General Certificate of Secondary Education) in U.K. schools. An O-level is standard U.K. qualification usually taken at the age of 15 or 16. An O-level provides a foundation for further study or employment. They are available in a wide range of subjects covering the whole curriculum. An A-level is an Advanced-level GCE qualification taken after the O-level. This exam is normally taken after two years of A-level study and is available in a broad range of subjects covering the whole curriculum.

GCSE. General Certificate of Secondary Education. GCSE exams and coursework are the main qualification taken by 14-to-16-year-olds, but are available to anyone. Many students take AS- and A-level qualifications in years 12 and 13, after completing their GCSEs. However, adults can take them too. AS- and A-level qualifications are highly valued by schools, colleges, and employers.

Grants of settlement. The main available measure of long-term immigration of individuals subject to immigration control; individuals granted settlement on arrival at ports; and individuals initially admitted to the country subject to a time limit that was subsequently removed.

Great Britain. United Kingdom excluding Northern Ireland.

Highly skilled workers. There is no established international definition. This publication uses education to define these workers and considers those with at least a bachelor's degree as highly skilled.

Lifelong learning. All purposeful learning activity, whether formal, nonformal, or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence. Within the domain of lifelong learning statistics, formal education corresponds to education and training in the regular system of schools, universities, and colleges. Nonformal education and training includes all types of taught learning activities that are not part of a formal education program.

Microdata files. Files that contain information on individuals who took part in a survey. To protect identity and ensure confidentiality of collected information, the individual-level records do not include sensitive information such as respondent's name.

Migrant. This definition varies by data source. Two definitions used in U.K. data referenced here are: (1) someone whose country of birth is not the United Kingdom, or whose nationality is non-British. With respect to discussion of flows of migrants into the United Kingdom, (2) a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence.

NVQ. National Vocational Qualification is an alternative to the more traditional and academic GCE A-levels (or equivalent). It is a "competence-based" qualification, which means students learn practical, work-related tasks designed to help develop the skills and knowledge to

do a particular job effectively. See framework comparing qualifications at www.direct.gov.uk/en/EducationAndLearning/QualificationsExplained/DG_10039017

Patent. “A patent is a document which describes an invention which can be manufactured, used and sold with the authorization of the owner of the patent. An invention is a solution to a specific technical problem. A patent document normally contains at least one claim, the full text of the description of the invention, and bibliographic information such as the applicant’s name. The protection given by a patent is limited in time (generally 15 to 20 years from filing or grant). It is also limited territorially to the country or countries concerned.” (World Intellectual Property Organization, Glossary)

Postgraduate qualifications. Doctorate degrees, master’s degrees, higher bachelor’s degrees, postgraduate diplomas and certificates, and postgraduate certificate in education (PGCE).

Right of abode. The right to live permanently in the United Kingdom without any immigration restrictions. Persons with this right do not need an immigration officer’s permission to enter the United Kingdom and may live and work there without restriction. All British citizens and some Commonwealth citizens have this right.

STEM. Science, Technology, Engineering, and Mathematics. There is no consistent definition of STEM occupations, industries, or workers. In this publication, we consider STEM-related occupations as architecture and engineering occupations; computer and mathematical occupations; life, physical, and social science occupations; and health care practitioner and technical occupations. STEM industries may be defined in relation to the concentration of STEM-related occupations in the industry group. STEM-educated workers are those with advanced (postsecondary) degrees in fields relevant to the STEM occupations.

Stock. Represents snapshots of a population at a single point in time by counting (as in a census) or estimating (as in a survey) the distribution of that population according to some characteristic, such as place of birth, citizenship, age, income, or gender.

Links To Useful Research and Other Resources

Atlas of International Student Mobility
<http://atlas.iienetwork.org/>

Ben Marriott, "Scientists, Engineers, and Technologists in Great Britain," *Labour Market Trends* 114, no. 4 (2006): 109-16, accessed at www.statistics.gov.uk/CCI/article.asp?ID=1474&Pos=&ColRank=1&Rank=224.

Office for National Statistics, "Estimating International Migration: An Exploration of the Definitional Differences Between the Labour Force Survey, Annual Population Survey, International Passenger Survey and Long-Term International Migration," accessed at www.statistics.gov.uk/downloads/theme_population/International_migration_data_differences.pdf.

Office for National Statistics, *Migration Statistics Quarterly Report Statistical Bulletin*, accessed at www.statistics.gov.uk/statbase/Product.asp?vlnk=15230.

Nicolas Perrin, Michel Poulain, and Ann Singleton, eds., *THESIM: Towards Harmonised European Statistics on International Migration* (Louvain-la-Neuve, Belgium: Presses Universitaires de Louvain, 2008), accessed at www.uclouvain.be/en-12321.html.

Parliamentary Office of Science and Technology, "International Migration of Scientists and Engineers," *PostNote* no. 309 (June 2008): 1-4, accessed at www.parliament.uk/documents/post/postpn309.pdf.

UNESCO Institute for Statistics, *Global Education Digest 2009* (Montreal: UNESCO Institute for Statistics, 2009), accessed at www.uis.unesco.org/template/pdf/ged/2009/GED_2009_EN.pdf.
