

# European Regional Database

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Cambridge Econometrics' European Regional Database (ERD) is a highly disaggregated dataset across both sectoral and sub-regional dimensions. Eurostat's REGIO database is the primary source of data for the ERD and this source is supplemented with data obtained from AMECO, a dataset provided by the European Commission's Directorate General Economic and Financial Affairs (DG EcFin). The ERD undergoes an extensive revision and updating exercise every year, in line with the release of an additional year of REGIO data. The ERD consists of a wide range of economic and demographic indicators for the EU 28 and Norway. Where possible, the data is published at the NUTS 3 level of disaggregation although some indicators are limited to the NUTS 2 level. The ERD uses the NUTS 2013 regional classification.

Nominal measures of Gross Value Added (GVA), Gross Domestic Product (GDP), Compensation of Employees, and Gross Fixed Capital Formation (GFCF) are deflated to 2005 constant price euros using sectoral price deflators obtained from AMECO. The sectoral price deflators from AMECO are limited in disaggregation to national data only for agriculture, manufacturing & energy, construction and services. This means that, for any given country, the price index for any sub-sector within manufacturing & energy or services will be the same as a result of the limitations in consistent data availability. This does, however, allow for region-specific price deflators to be established on the basis of sectoral structure, under the assumption that a given sector has the same price movements across all regions within a country.

A consistent back series of data is not available for the entire period of the ERD dataset (1980-2015), therefore previous series must be spliced to match more recent series. Splicing the data involves using an overlapping period between the European System of Regional and National Accounts (ESA) 79, ESA 95 or ESA 2010 series to extend the ESA 2010 series backwards using ESA 95 and ESA 79 growth rates. Furthermore, 3 sector ESA79 data must be split to match the 6 sector ESA 95 and ESA 2010 data. Table 1 below shows a correspondence table between the 3, 6 and 10 NACE Rev. 2 sector data.

Some specific notes about the data are noteworthy:

- The region of Flevoland in the Netherlands (NL23) does not appear in the dataset prior to 1986 as it consists of agricultural land reclaimed from the sea and has only recently been populated.
- Prior to 1991, the regional and national data for Germany do not include the data for the eastern Lander and Berlin (DE3, DE4, DE8, DED, DEE and DEG). From 1991 onwards, the five eastern Lander and Berlin are included and are incorporated into the national total. Similarly, data for the former Eastern Bloc countries (BG, CZ, EE, LV, LT, HU, PL,

RO, SI and SK) as well as Cyprus (CY) and Malta (MT) are available only from 1990 onwards and data for Croatia is only available from 1996 onwards.

- The ERD excludes some sub-regions where the region does not provide additional disaggregation. These are denoted in NUTS classification with a zero as the final digit of their NUTS code. An example of this is BE10 and BE100 both of which refer to Brussels Capital Region which is already recorded in the data as BE1, therefore only BE1 is reported in the ERD.
- The ERD does not provide any data for overseas territories denoted by Z, ZZ or ZZZ as their regional classification digits.

A more comprehensive overview of ERD data definitions, sources, disaggregation and an outline of the methodology employed to fill missing values is given below and a more comprehensive list of data availability is given in Table 2, also below.

## ERD Variables

### *Employment*

Definition: Employment covers all persons engaged in some productive activity (within the production boundary of the national accounts). Employed persons are either employees (working by agreement for another resident unit and receiving remuneration) or self-employed (owners of unincorporated enterprises). Employment is a workplace based measure and therefore attributes people to the region in which they *work* rather than where they *live*.

Units: Thousands of people

Source(s): Eurostat, AMECO

Disaggregation: 6 Sectors, NUTS 3

Methodology: Missing data is filled by scaling up data from sub-regions, extrapolation and interpolation. Manual fixes are implemented and the data is scaled to AMECO totals.

### *Gross Value Added*

Definition: GVA is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices deflated to 2005 constant price euros. Output consists of the products created during the accounting period. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. GVA is calculated before consumption of fixed capital.

Units: Millions of Euro in 2005 prices

Source(s): Eurostat, AMECO

Disaggregation: 6 Sectors, NUTS 3

Methodology: GVA is divided by employment to produce productivity. Missing productivity data is filled by scaling up data from sub-regions, extrapolation and interpolation. Productivity is then multiplied by employment to generate GVA. Manual fixes are implemented and the data is scaled to AMECO totals.

### **Gross Domestic Product**

Definition: GDP is defined as Total Gross Value Added plus taxes less subsidies on products. Taxes and subsidies are taxes or subsidies payable (resp. receivable) per unit of some good or service produced or transacted. They include in particular value added taxes, taxes and duties on imports, and taxes such as stamp taxes on the sale of alcohol and tobacco. When calculating value added, output is valued at basic prices whereas intermediate consumption is valued at purchaser's prices, and thus the difference between taxes and subsidies on products has to be put on top of value added. The resulting GDP is then valued at market prices before being deflated to 2005 constant price euros.

Units: Billions of Euro in 2005 prices

Source(s): Eurostat, AMECO

Disaggregation: No sector disaggregation, NUTS 3

Methodology: Missing data is filled by applying GVA growth rates. Manual fixes are implemented and the data is scaled to AMECO totals.

### **Compensation of Employees**

Definition: Compensation of Employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees consists of wages and salaries, and of employers' social contributions. Current price compensation of employees is deflated to 2005 constant price euros

Units: Millions of Euro in 2005 prices

Source(s): Eurostat, AMECO

Disaggregation: 6 sectors, NUTS 2

Methodology: Compensation of Employees is filled by interpolating and extrapolating the ratio between GVA and Compensation of Employees. Manual fixes are implemented and the data is scaled to AMECO totals.

### **Gross Fixed Capital Formation**

Definition: GFCF consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year. Disposals of fixed assets are treated as negative acquisitions. Current price GFCF is deflated to 2005 constant price euros.

Units: Millions of Euro in 2005 prices

Source(s): Eurostat, AMECO

Disaggregation: 6 Sectors, NUTS 2

Methodology: Missing data is filled by interpolating and extrapolating the ratio between GVA and GFCF. Manual fixes are implemented and the data is scaled to AMECO totals.

## Hours Worked

Definition: Hours worked is the number of hours actually worked, defined as the sum of all periods spent on direct and ancillary activities to produce goods and services.

Units: Total annual hours worked (Millions of hours worked)

Source(s): Eurostat, AMECO, OECD

Disaggregation: 6 Sectors, NUTS 2

Methodology: Average weekly hours worked data is converted into total hours worked per worker. Missing data is filled by scaling up data from sub-regions, extrapolation and interpolation. Manual fixes are implemented and the data is scaled to AMECO totals. Total hours worked per worker is multiplied by employment to produce total hours worked.

## Population

Definition: Population consists of all persons, nationals or foreigners, who are permanently settled in the economic territory of the country, even if they are temporarily absent from it, on a given date. A person staying or intending to stay at least one year is considered to be settled on the territory. By convention, the total population includes neither foreign students nor members of foreign armed forces stationed in a country. Population and active population are household based measures, meaning people are allocated to the region in which they *live*, rather than where they *work*. Using these measures to calculate employment rates can therefore give misleading results which do not take account of commuting effects.

Units: Thousands of people

Source(s): Eurostat, AMECO

Disaggregation: No sector disaggregation, NUTS 3

Methodology: Missing data is filled using basic interpolation and extrapolation. Manual fixes are implemented and the data is scaled to AMECO totals.

## Active Population

Definition: The active population includes both employed and unemployed people, but not economically inactive, such as students and pensioners. Population and active population are household based measures, meaning people are allocated to the region in which they *live*, rather than where they *work*. Using these measures to calculate employment rates can therefore give misleading results which do not take account of commuting effects.

Units: Thousands of people

Source(s): Eurostat, AMECO

Disaggregation: No sector disaggregation, NUTS 2

Methodology: Missing data is filled by scaling up data from sub-regions and applying Population growth rates. The data is then scaled to AMECO totals.

Table 1: Sector Correspondence

<b>3 Sector Data (NACE Rev. 2)</b>	<b>6 Sector Data (NACE Rev. 2)</b>	<b>10 Sector Data (NACE Rev. 2)</b>
Agriculture, forestry and fishing (A)	Agriculture, forestry and fishing (A)	Agriculture, forestry and fishing (A)
Industry (B-F)	Industry less construction (B-E)	Industry less construction (B-E)
	Construction (F)	Construction (F)
Services (G-U)	Wholesale, retail, transport, accommodation & food services, information and communication (G-J)	Wholesale and retail trade, transport, accommodation and food service activities (G-I)
		Information and communication (J)
	Financial & business services (K-N)	Financial and insurance activities (K)
		Real estate activities (L)
		Professional, scientific and technical activities; administrative and support service activities (M-N)
	Non-market Services (O-U)	Public administration, defence, education, human health and social work activities (O-Q)
		Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies (R-U)

Table 2: Data availability by time and regions

<b>Country/Regions</b>	<b>Years available</b>	<b>All regions available excluding</b>
Belgium (BE)	1980-2015	BE10, BE100, BE310, BEZ, BEZZ and BEZZZ
Bulgaria (BG)	1990-2015	BGZ, BGZZ and BGZZZ
Czech Republic (CZ)	1990-2015	CZ0, CZ010, CZ020, CZ080, CZZ, CZZZ and CZZZZ
Denmark (DK)	1980-2015	DK0, DK050, DKZ, DKZZ, DKZZZ
Germany (DE) Except (DE3, DE4, DE8, DED, DEE and DEG)	1980-2015	DE50, DE60, DE600, DEC0, DEF0, DEZ, DEZZ AND DEZZZ
DE3, DE4, DE8, DED, DEE and DEG	1991-2015	DE30, DE300, DE80, DEE0, DEG0
Estonia (EE)	1990-2015	EE0, EE00, EEZ, EEZZ and EEZZZ
Greece (GR)	1980-2015	GR30, GR300, GRZ, GRZZ and GRZZZ
Spain (ES)	1980-2015	ES120, ES130, ES220, ES230, ES30, ES300, ES620, ES630, ES640, ES70, ESZ, ESZZ and ESZZZ
France (FR)	1980-2015	FR10, FR30, FR910, FR920, FR930, FR940, FRZ, FRZZ and FRZZZ
Ireland (IE)	1980-2015	IE0, IEZ, IEZZ and IEZZZ
Italy (IT)	1980-2015	ITD10, ITD20, ITZ, ITZZ and ITZZZ
Cyprus (CY)	1990-2015	CY0, CY00, CY000, CYZ, CYZZ and CYZZZ
Latvia (LV)	1990-2015	LV0, LV00, LVZ, LVZZ and LVZZZ
Lithuania (LT)	1990-2015	LT0, LT00, LTZ, LTZZ and LTZZZ
Luxembourg (LU)	1980-2015	LU0, LU00, LU000, LUZ, LUZZ and LUZZZ
Hungary (HU)	1990-2015	HU10, HUZ, HUIZZ and HUIZZZ
Malta (MT)	1990-2015	MT0, MT00, MTZ, MTZZ and MTZZZ
Netherlands (NL) except NL23	1980-2015	NL230, NL310, NLZ, NLZZ and NLZZZ
NL 23	1986-2015	
Austria (AT)	1980-2015	AT130, ATZ, ATZZ and ATZZZ
Poland (PT)	1990-2015	PLZ, PLZZ and PLZZZ
Portugal (PT)	1980-2015	PT150, PT20, PT200, PT30, PT300, PTZ, PTZZ and PTZZZ
Romania (RO)	1990-2015	ROZ, ROZZ and ROZZZ
Slovenia (SI)	1990-2015	SI0, SIZ, SIZZ and SIZZZ
Slovakia (SK)	1990-2015	SK0, SK010, SKZ, SKZZ and SKZZZ
Finland (FI)	1980-2015	FI20, FI200, FIZ, FIZZ and FIZZZ
Sweden (SE)	1980-2015	SE110, SEZ, SEZZ and SEZZZ
United Kingdom (UK)	1980-2015	UKF30, UKK30, UKM50, UKN0, UKZ, UKZZ and UKZZZ
Croatia (HR)	1995-2015	HR0
Norway (NO)	1980-2015	NO0

