

EU KLEMS Growth and Productivity Accounts 2017 Release, Statistical Module¹

Country notes for the United States

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Synopsis of the main points

- Official output and labour data from BEA are released for 1970-2015.
- Official capital data from BEA are released for 1970-2015.
- Gross output and intermediate input prices are from BEA for 1970-2015.
- Labour service from BLS are released for 1998-2015.
- Growth accounts are released for 1999-2015 (VA, VA/H_EMP, GO) and 2001-2015 (VA/EMP).

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Table 5 summarizes the general coverage of the main variables in the 2017 release. Possible scattered gaps in industries or years are not shown in this table.

Table 5: Coverage of main variables in the output file and the capital file

Variable	Period
LAB_QI	1998-2015
VA, VA_QI, VA_P	1970-2015
GO, II	1970-2015
GO_P, II_P	1970-2015
COMP	1987-2015
LAB, CAP	1987-2015
EMP, EMPE	2000-2015
H_EMP, H_EMPE	1998-2015
I_, Ip_, Iq_	1970-2015
K_, Kq_	1970-2015
Growth accounts VA	1999-2015
Growth accounts LP1	1999-2015
Growth accounts LP2	2001-2015
Growth accounts GO	1999-2015

The 2017 EU KLEMS release is the first database to our knowledge that publishes US KLEMS data in accordance with the latest industry classification (ISIC Rev.4/NACE Rev.2)² AND the new European System of National Accounts (ESA 2010). The alignment to current European standards improves the comparability of US KLEMS with the 28 EU KLEMS countries of the 2017 EU KLEMS release. Similar KLEMS files for the US (for example posted on <http://worldklems.net>) are usually in accordance with the North American Industry Classification System (NAICS) and therefore not perfectly comparable to EU KLEMS countries in line with NACE2.

The United States is a special case in the EU KLEMS database since the native industry classification is the NAICS classification. Nowadays, BEA (Bureau of Economic Analysis) releases some files that conform to SNA (system of national accounts) by mapping NAICS industries to NACE2. Once a year, BEA prepares estimates on an SNA basis in response to a questionnaire used by the Organisation for Economic Co-operation and Development (OECD). We relied on official US files in line with NACE2 where the files met our needs and had the necessary industry detail – see Table 6. BEA’s conversion from NAICS to NACE2 is not entirely transparent and there may be inconsistencies in what they did for various file types (e.g. allocation of industries in labour files versus investment files).

The number of persons engaged (EMP), number of employees (EMPE), total hours worked by employees (H_EMPE), and all capital variables (except R&D) stem from BEA. Hours worked by persons engaged (H_EMP) is only released for the total economy on the SNA webpage³ and we add hours of self-employed from an unpublished BLS (Bureau of Labor Statistics) file to hours worked by

² In the remainder of the documentation abbreviated as NACE2

³ Source: <https://www.bea.gov/national/sna.htm>

employees. BLS has developed estimates of actual hours worked by self-employed, based on CPS (Current Population Survey) data using monthly household survey data.

A further uniqueness of the US KLEMS files on euklems.net are full growth accounts with contributions of all five major input factors capital, labour, energy, materials, and services (K-L-E-M-S) to gross output growth for the time period 1999-2015.

Table 6: Sources US KLEMS

Variable	Coverage	Industry classification	Source	Webpage / Notes
LAB_QI	1998-2015	NAICS to NACE2	BLS	https://www.bls.gov/mfp/mprdownload.htm
VA, VA_QI, VA_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
GO, GO_QI, GO_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
II, II_QI, II_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
IIE, IIE_QI, IIE_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
IIM, IIM_QI, IIM_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
IIS, IIS_QI, IIS_P	1970-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
LAB	1987-2015	NAICS to NACE2	BLS	Own calculation incl. labour allocation of proprietors' income
COMP	1987-2015	NAICS to NACE2	BEA	https://www.bea.gov/industry/gdpbyind_data.htm
EMP, EMPE	2000-2015	NACE2	BEA	https://www.bea.gov/national/sna.htm
H_EMPE	1998-2015	NACE2	BEA	https://www.bea.gov/national/sna.htm
H_EMP	1998-2015	NACE2	BEA/BLS	H_EMPE + hours of self-employed (unpublished BLS file)
I_, Ip_, Iq_ (excl. R&D)	1970-2015	NACE2	BEA	https://www.bea.gov/national/sna.htm
I_, Ip_, Iq_ (R&D)	1970-2015	NAICS to NACE2	BEA	http://www.bea.gov/national/FA2004/Details/Index.htm
K_, Kq_ (excl. R&D)	1970-2015	NACE2	BEA	https://www.bea.gov/national/sna.htm
K_, Kq_ (R&D)	1970-2015	NAICS to NACE2	BEA	http://www.bea.gov/national/FA2004/Details/Index.htm

Most of the basic variables from the output file (Table 6) are own conversions from BEA's NAICS files to NACE2. We don't use nominals and volumes of value added from the SNA webpage because the years prior to 1997 are missing and the industries are strongly aggregated so that we would lose the detailed EU KLEMS industry breakdown.

All asset types except 'research and development' stem from BEA's SNA webpage in NACE2. BEA does not split out RD from intangibles in the SNA files. To release the same set of asset types as for the remaining EU KLEMS countries, we calculate all R&D capital variables from BEA's NAICS files. There is no equivalent for section O (Public administration and defence; compulsory social security) in the NAICS capital files and we add government spending on R&D from BEA.⁴

Cultivated assets are not available for the US. The US NIPAs (national income and product accounts) do not treat estimates of cultivated natural resources, such as livestock or orchards, as investment; instead, they are treated as intermediate inputs. BEA's SNA based estimates do not reclassify expenditures on cultivated assets from intermediate purchases to investment. The asset 'other IPP' (OIPP) is calculated by deducting R&D and 'software and databases' from total IPP as for the other EU KLEMS countries.

Our own NAICS-NACE2 concordance table in Table 7 matches the equivalent list that BEA used for labour input by industry on the SNA webpage 1:1. There is no NAICS counterpart for the industries C15 'Manufacture of leather and related products', C21 'Manufacture of basic pharmaceutical products and pharmaceutical preparations', C33 'Repair and installation of machinery and equipment', G45 'Wholesale and retail trade and repair of motor vehicles and motorcycles', J61 'Telecommunications', and U 'Activities of extraterritorial organizations and bodies'. The parent aggregates are therefore calculated excluding these industries. Furthermore T 'Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use' is integrated in S 'Other service activities'.

⁴ Source: <https://www.bea.gov/iTable/iTable.cfm?ReqID=21&step=2#reqid=21&step=8&isuri=1>

Table 7: US NAICS-NACE Rev.2 industry concordance

ISIC Rev. 4 Industry	ISIC Rev. 4 code	NAICS code
AGRICULTURE, FORESTRY AND FISHING	A	111CA, 113FF
MINING AND QUARRYING	B	211, 212, 213
TOTAL MANUFACTURING	C	311FT, 313TT, 315AL, 321, 322, 323, 324, 325, 326, 327, 331, 332, 334, 335, 333, 3361MV, 3364OT, 337, 339
Food products, beverages and tobacco	10-12	311FT
Textiles, wearing apparel, leather and related products	13-15 (15 n.a.)	313TT, 315AL
Wood and paper products; printing and reproduction of recorded media	16-18	321, 322, 323
Coke and refined petroleum products	19	324
Chemicals and chemical products	20-21 (21 n.a.)	325
Rubber and plastics products, and other non-metallic mineral products	22-23	326, 327
Basic metals and fabricated metal products, except machinery and equipment	24-25	331, 332
Electrical and optical equipment	26-27	334, 335
Machinery and equipment n.e.c.	28	333
Transport equipment	29-30	3361MV, 3364OT
Other manufacturing; repair and installation of machinery and equipment	31-33 (33 n.a.)	327, 339
ELECTRICITY, GAS AND WATER SUPPLY	D-E	22, 562
CONSTRUCTION	F	23
WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	G	42, 441, 445, 452, 4A0
Wholesale and retail trade and repair of motor vehicles and motorcycles	45 (n.a.)	-
Wholesale trade, except of motor vehicles and motorcycles	46	42
Retail trade, except of motor vehicles and motorcycles	47	441, 445, 452, 4A0
TRANSPORTATION AND STORAGE	H	481, 482, 483, 484, 485, 486, 487OS, 493, GFE
Transport and storage	49-52	481, 482, 483, 484, 485, 486, 487OS, 493
Postal and courier activities	53	GFE
ACCOMMODATION AND FOOD SERVICE ACTIVITIES	I	721, 722
INFORMATION AND COMMUNICATION	J	511, 512, 513, 514, 5415
Publishing, motion picture, video, television programme production; sound recording, programming and broadcasting activities	58-60	511, 512, 513
Telecommunications	61 (n.a.)	-
Computer programming, consultancy, and information service activities	62-63	514, 5415
FINANCIAL AND INSURANCE ACTIVITIES	K	521CI, 523, 524, 525
REAL ESTATE ACTIVITIES	L	531
PROFESSIONAL, SCIENTIFIC, TECHNICAL, ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	M-N	532RL, 54(5411+5412OP, excl. 5415), 55,561
Public administration and defence; compulsory social security	O	GFGD, GFGN, GSLG, GSLE
Education	P	61
Health and social work	Q	621, 622, 623, 624
Arts, entertainment and recreation	R	711AS, 713
Other service activities	S (S-T)	81
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	T	integrated in S
Activities of extraterritorial organizations and bodies	U (n.a.)	-