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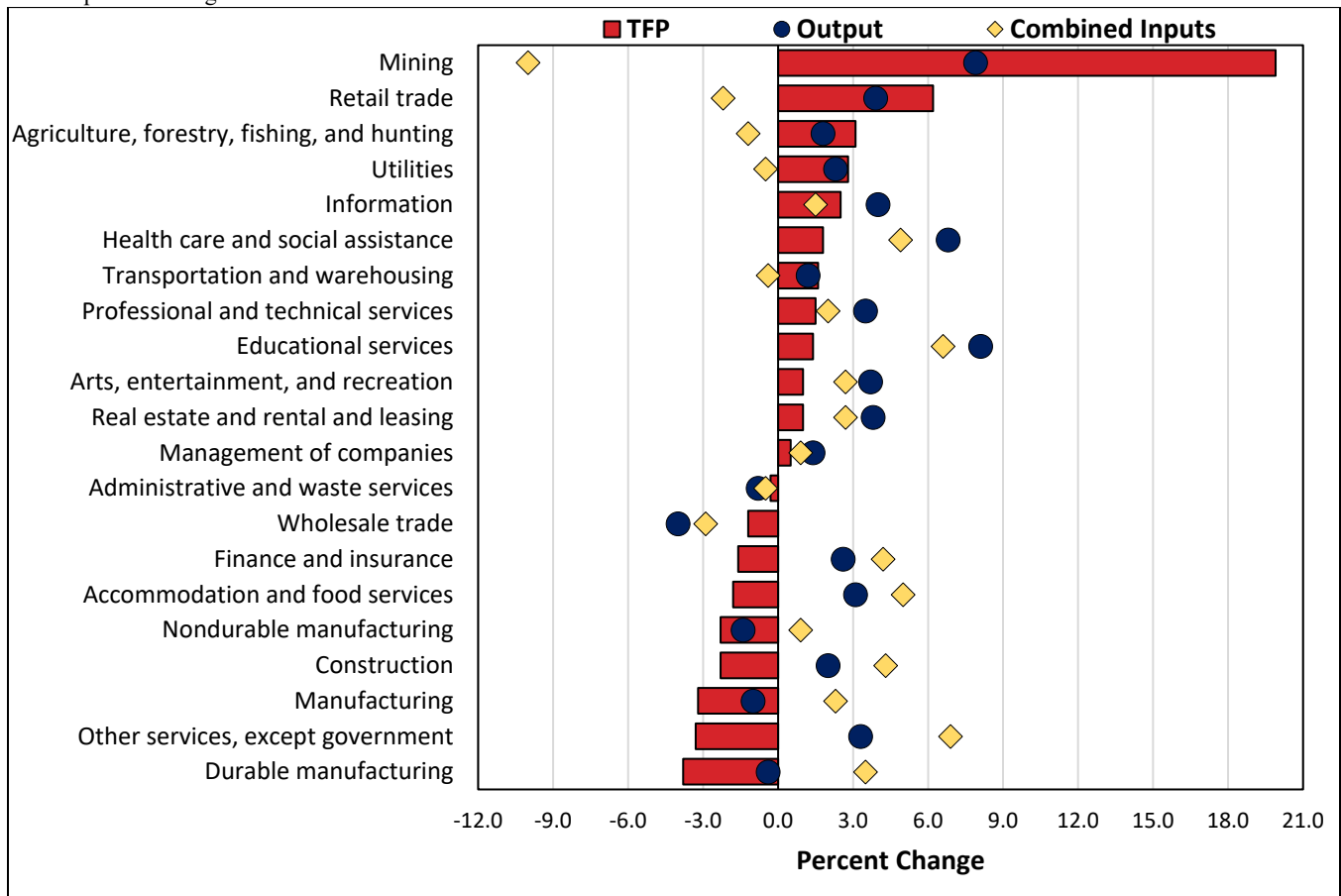
TOTAL FACTOR PRODUCTIVITY FOR MAJOR INDUSTRIES – 2023

Total factor productivity (TFP) increased in 12 out of 21 major industries in 2023, the U.S. Bureau of Labor Statistics reported today, led by the mining and retail trade industries. The TFP increases in 2023 were driven by output growth outpacing the growth in combined inputs of capital, labor, and the intermediate inputs of energy, materials, and services. (See chart 1.)

Output increased in 16 of 21 major industries in 2023. Among the top 4 TFP growth industries, output grew while combined inputs declined. Within these four industries (mining; retail trade; agriculture, forestry, fishing, and hunting; and utilities) intermediate inputs drove the combined inputs decline. (See chart 1 and table 1.)

Chart 1. Total factor productivity, output, and combined inputs, by major industry, 2023

Annual percent change



Methodology Change Regarding Taxes and Subsidies in TFP Related Measures

Data in this release reflect an improved treatment of taxes and subsidies in TFP related measures. New source data and methods have been introduced to improve the removal of net taxes on product from measured output and improve the allocation of net taxes on production to measured capital and labor inputs. Background on the method can be found at www.bls.gov/productivity/technical-notes/taxes-and-subsidies-method-improvement-for-total-factor-productivity.htm.

Over the current 2019-23 business cycle, 12 of 21 industries experienced TFP growth, while TFP declined in 9 industries. Output growth was positive in 18 of 21 industries over the period, indicating that output is above its 2019 level. Output in the remaining 3 industries (manufacturing, durable manufacturing, and nondurable manufacturing) is still below pre-COVID-19 pandemic levels. Labor input has grown in 17 of 21 industries during the 2019-23 cycle, demonstrating that these industries have recovered from labor losses in 2020. (See table 3.)

TFP is defined as output per unit of combined inputs. TFP shows the relationship between changes in real sectoral output and changes in the combined inputs of capital input (K), labor input (L), and intermediate inputs (energy (E), materials (M), and services (S)) used in production of final goods and services. It reflects economic growth that is not due to growth in measured KLEMS inputs, including technological change, organizational changes in the production process, and other efficiency improvements.

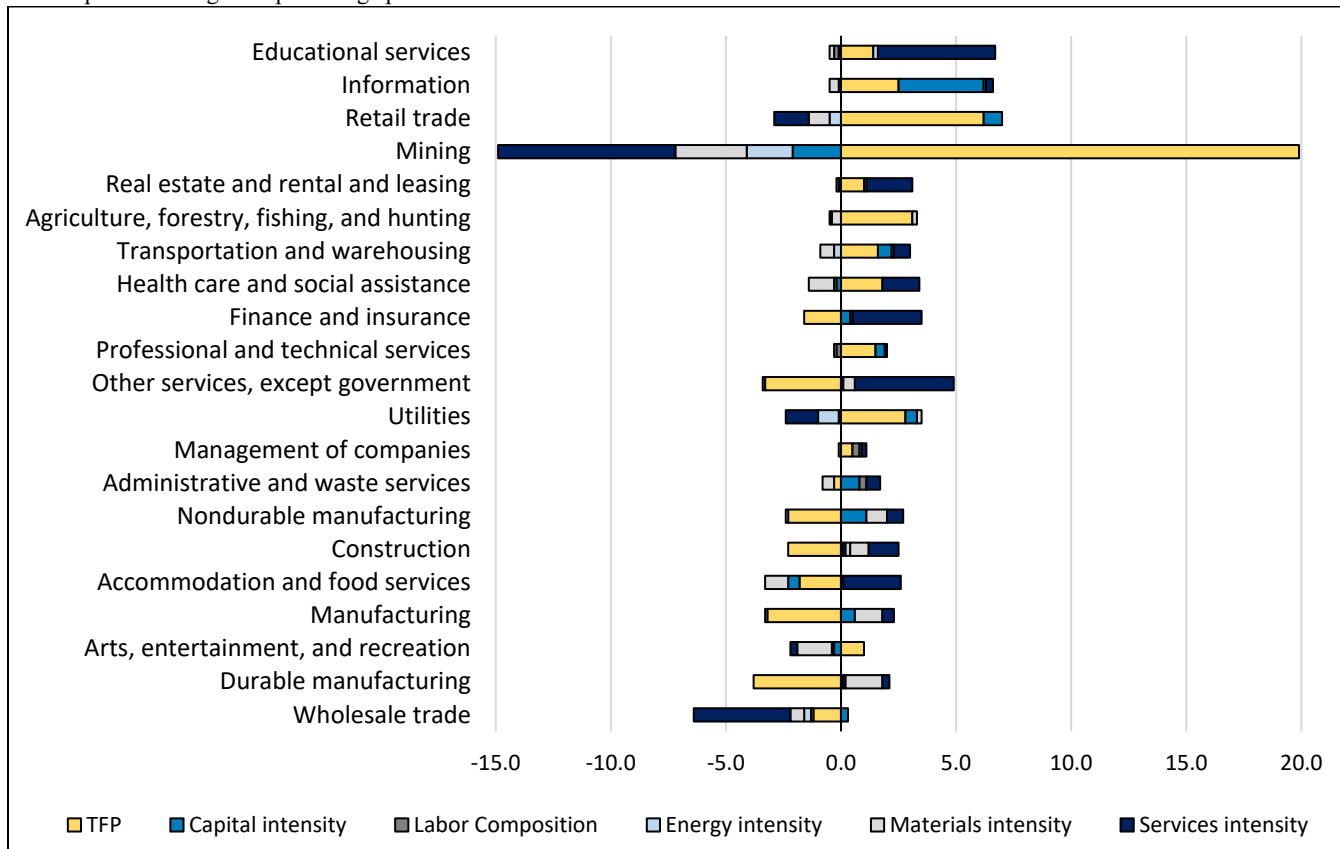
Total factor productivity and KLEMS as sources of labor productivity growth

Labor productivity increased in 16 of 21 industries in 2023 as output growth outpaced the growth of hours worked. Labor productivity can be expressed as the sum of six components: TFP growth and the contributions of capital intensity, labor composition, energy intensity, materials intensity, and services intensity. The contribution of each KLEMS input is defined as the ratio of the services provided by that input to hours worked in the production process, weighted by its share of sectoral output. Examining input contributions and TFP changes reveals the substitution effect of increased use of an input relative to labor on an industry's labor productivity. (See table 5 and chart 2.)

Of the 16 industries with labor productivity growth in 2023, TFP was the largest contributor in 8 industries. TFP's contribution to labor productivity growth was particularly strong in mining and retail trade industries. Service intensity made a significant contribution to the 6.4 percent growth in labor productivity for the educational services industry. Service intensity also made notable positive contributions to labor productivity growth in the finance and insurance and other services, except government industries. The labor composition index estimates the effect of shifts in the composition of the workforce on hours worked, using information on age, education, gender, and relative wages as a proxy for experience. In 2023, 14 of the 21 industries measured had negative or no contribution from labor composition.

Chart 2. Sources of labor productivity for major industries, 2023

Annual percent change and percentage points

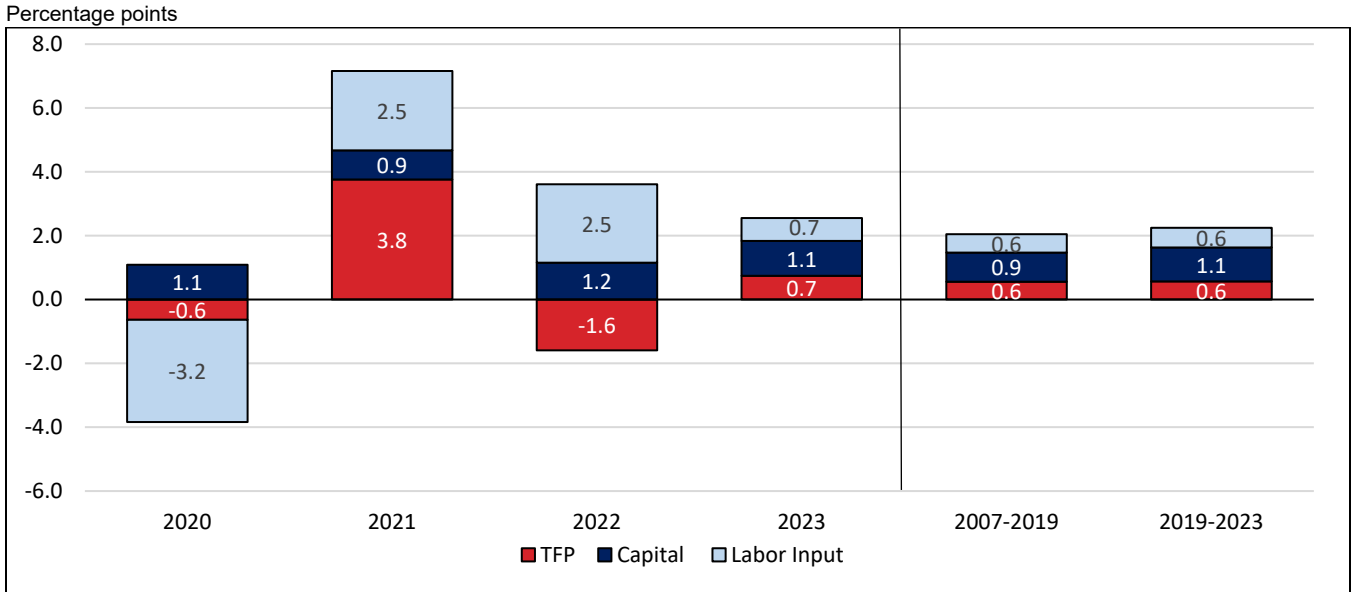


TFP and input contributions to output

The nation's private business sector output growth can be viewed as the sum of three components: total factor productivity, contribution of capital input, and contribution of labor input. The driver of output growth for the private business sector in 2023 was capital with a 1.1-percentage-point contribution. TFP and labor input each contributed 0.7-percentage-point. (See chart 3.)

Productivity growth is often viewed as a long run measure, encompassing many economic shocks like the COVID-19 pandemic. While TFP growth and contributions of capital and labor have been volatile over the last 4 years, the current business cycle of 2019-23 shows similar contributions to aggregate output growth as the previous 2007-19 business cycle.

Chart 3. Contribution to output for the private business sector, 2020-23 and select business cycles

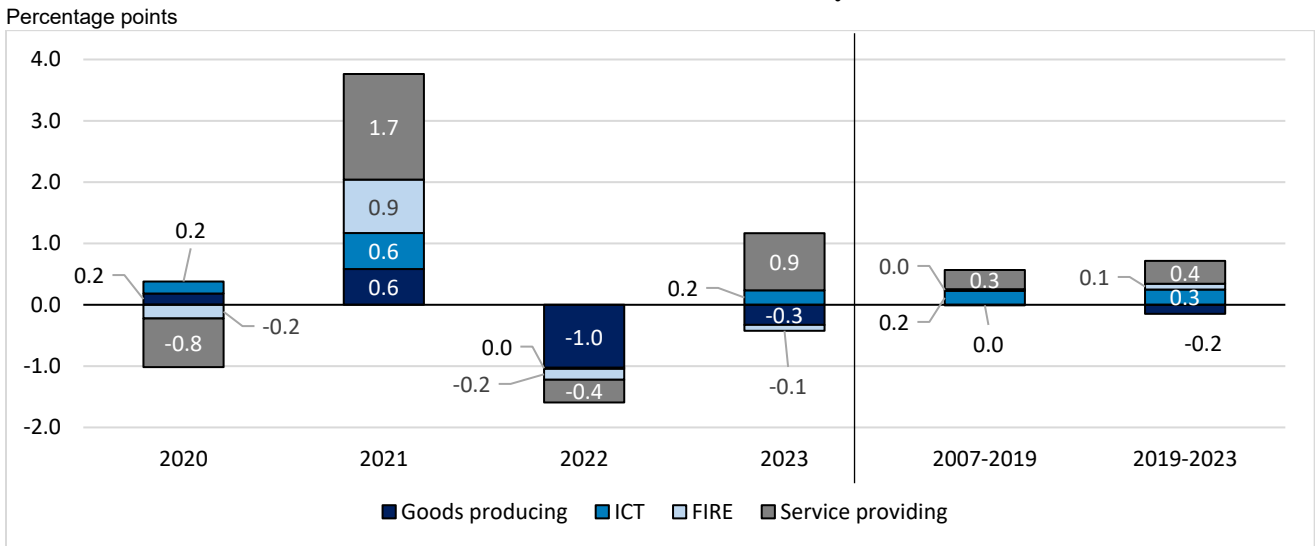


The private business sector can be divided into four broad sectors: goods producing; information and communication technology (ICT); finance, insurance, and real estate (FIRE); and service providing. Looking at these sectors provides further insights into how different sectors of the economy contribute to output. (See technical notes for industry makeup of each sector.)

TFP’s contribution to output

Total factor productivity’s contribution to private business output rebounded from a negative 1.6-percentage-point contribution in 2022 to a positive 0.7-percentage-point contribution to output growth in 2023. The 2.3-percentage-point change in TFP’s contribution to output is due in large part to service-providing industries, as their contribution increased from negative 0.4-percentage-point in 2022 to positive 0.9-percentage-point in 2023. The strong service-providing sector upturn was driven by the retail trade industry (0.8-percentage-point). TFP in the goods-producing sector had a negative contribution (-0.3-percentage-point) to private business output in 2023 and is the only sector with a negative contribution in the 2019-23 business cycle. (See chart 4 and tables 6-11.)

Chart 4. Sector contributions to TFP 2020-23 and select business cycles

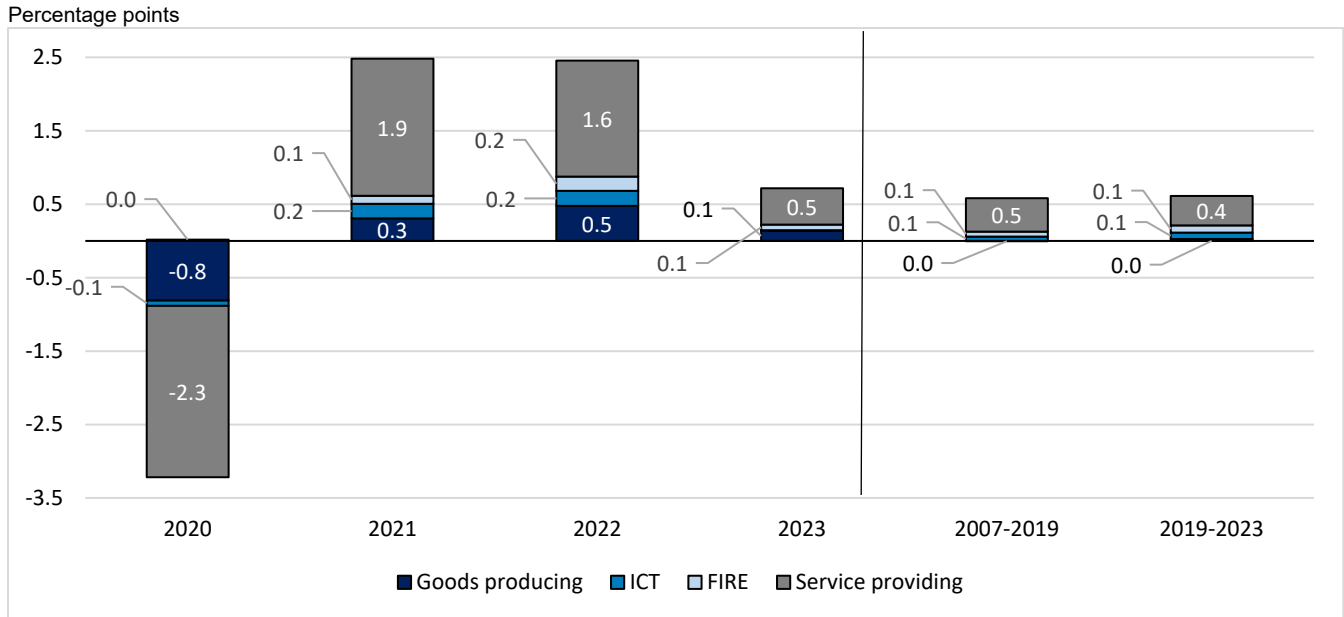


Note: Contributions may not sum due to aggregation, rounding, and integration of top line to industry

Labor's contribution to output

Labor's significant decrease in contribution to private business output growth from 2.5-percentage-points in 2022 to 0.7-percentage-point in 2023 was due to contribution declines in all four sectors. The service-providing sector contribution declined from 1.6-percentage-points in 2022 to 0.5-percentage-point in 2023 due to large declines in contributions from the professional and technical services industry (0.3-percentage-point in 2022 to 0.1-percentage-point in 2023). Looking at the business cycle of 2019-23, labor's 0.7-percentage-point contribution in 2023 is in line with the current business cycle's contribution. (See chart 5 and tables 6-11.)

Chart 5. Sector contributions to labor 2020-23 and select business cycles



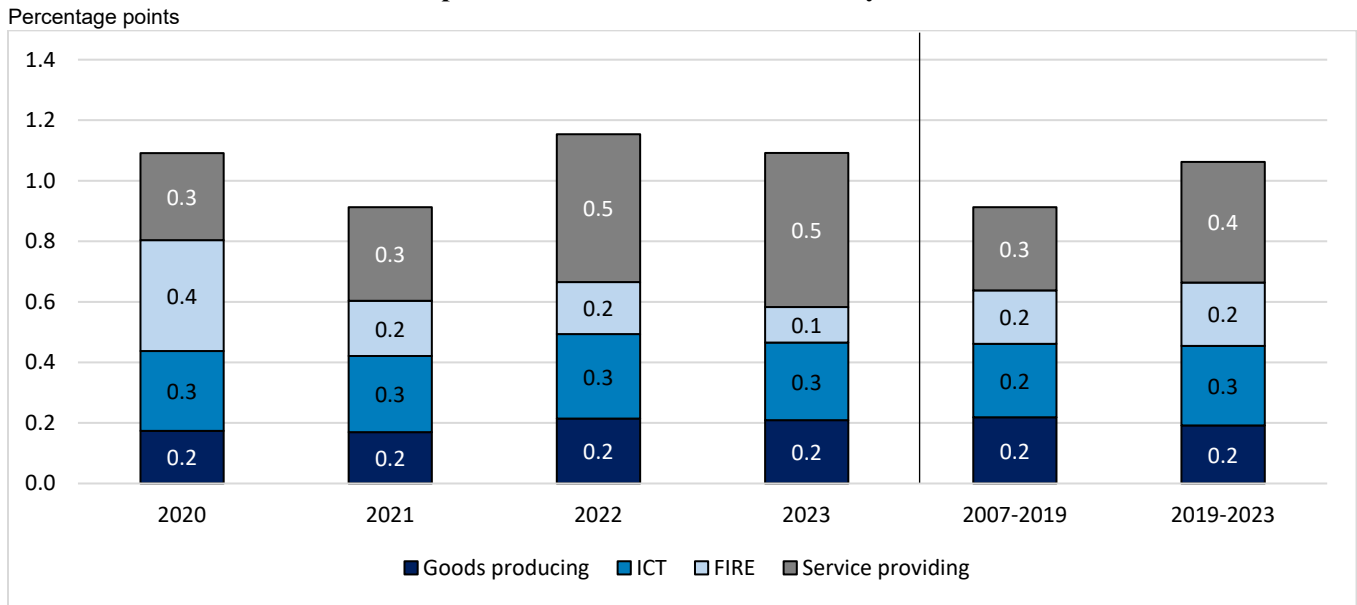
Note: Contributions may not sum due to aggregation, rounding, and integration of top line to industry

Capital’s contribution to output

All sectors experienced positive capital contributions to private business output growth in 2023 (1.1-percentage-point). The service-providing sector made the largest positive contribution (0.5-percentage-point), led by wholesale trade (0.1-percentage-point) and retail trade (0.1-percentage-point) industries.

Capital had similar positive contributions for the years 2020 to 2023 and the two most recent business cycles. The slight increase in capital contribution from the service-providing sector from the 2007-19 business cycle to the 2019-23 business cycle (0.3-percentage-point to 0.4-percentage-point, respectively) was driven by the retail trade industry (0.0-percentage point to 0.1-percentage-point, respectively). (See chart 6 and tables 6-11.)

Chart 6. Sector contributions to capital 2020-23 and select business cycles



Note: Contributions may not sum due to aggregation, rounding, and integration of top line to industry

Technical Notes

Goods producing sector

This sector contains industries within agriculture, forestry, fishing, and hunting (NAICS 11), mining (NAICS 21), utilities (NAICS 22), construction (NAICS 23), and manufacturing (NAICS 31-33) except computer and electronic products (NAICS 334).

Information and communications technology (ICT) sector

Information and communication technology (ICT) contains the following industries: computer and electronic products (NAICS 334), broadcasting and telecommunications (NAICS 515,517), data processing, internet publishing, and other information services (NAICS 518,519) and computer systems design and related services (NAICS 5415). This definition is generally comparable to that used by the Organization for Economic Cooperation and Development (OECD), which defines the ICT sector using the International Standard Industrial Classification (ISIC) (OECD 2011).

FIRE sector

The finance, insurance, and real estate (FIRE) sector contains industries within finance and insurance (NAICS 52) and real estate and rental and leasing (NAICS 53).

Service providing sector

This sector contains industries within trade (NAICS 42,44-45), transportation and warehousing (NAICS 48-49), publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), and industries within services (NAICS 54-81) except computer systems design and related services (NAICS 5415).

Capital input

Data on investment for fixed assets are obtained from BEA. Data on inventories are estimated using data from BEA and additional information from IRS Corporation Income Returns. Data for land in the farm industry are obtained from USDA. Nonfarm industry detail for land is based on IRS book value data. Current-dollar value-added data, obtained from BEA, are used in estimating capital rental prices.

Labor input

Hours at work data reflect Productivity and Costs data as of the November 7, 2024 “Productivity and Costs” news release (USDLE-24-2266).

Labor input is obtained by chained superlative Tornqvist aggregation of the hours at work, classified by age, education, and gender with weights determined by each group’s share of total wages. The growth rate of labor composition is defined as the difference between the growth rate of weighted labor input and the growth rate of the hours.

Energy, materials, and services

Data on energy, materials, and services are obtained from BEA based on BEA annual input-output tables. Tornqvist indexes of each of these three input classes are derived at the NAICS industry level and then aggregated to the industries. Materials inputs are adjusted to exclude transactions between establishments within the same industry for goods producing industries. Services are adjusted to exclude transactions between establishments within the same industry for all non-goods producing industries.

Sectoral output

The output concept used to measure total factor productivity for industries is “sectoral output”. Sectoral output equals gross output (sales, receipts, and other operating income, plus commodity taxes plus changes in inventories), excluding transactions between establishments within the same industry.

2023 manufacturing output measures are estimated based on historical relationships between BLS industrial output, BLS price indexes, and data on industrial production from the Federal Reserve Board. For select service providing industries, output measures are estimated using data from the Quarterly Services Survey from the Census Bureau. For all other nonmanufacturing industries, sectoral output is based on indexes of real quantity and cost measures from the BEA. Data sources by industry can be found at www.bls.gov/opub/hom/msp/data.htm.

Other information

Detailed information on methods used in this release can be found in the BLS Handbook of Methods. Productivity Measures: Business Sector and Major Sector section at www.bls.gov/opub/hom/msp/home.htm.

Comprehensive tables containing more detailed data than that which is published in this news release are available upon request at 202-691-5606 or at www.bls.gov/productivity/tables.

Industry specific contributions to output are available at www.bls.gov/productivity/highlights/contributions-of-total-factor-productivity-major-industry-to-output.htm.

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Table 1. Total factor productivity and related data, 2023

Industry	2017 NAICS Code	Percent change					
		TFP	Output	Combined Inputs	Capital Input	Labor Input	Intermediate Inputs ¹
Agriculture, forestry, fishing, and hunting	11	3.1	1.8	-1.2	-1.0	-0.7	-1.9
Mining	21	19.9	7.9	-10.0	0.1	4.5	-22.5
Utilities	22	2.8	2.3	-0.5	2.3	0.7	-4.0
Construction	23	-2.3	2.0	4.3	2.9	2.1	6.6
Manufacturing	31-33	-3.2	-1.0	2.3	2.2	0.3	3.5
Durable Manufacturing	321,327,33	-3.8	-0.4	3.5	1.9	1.5	5.8
Nondurable Manufacturing	31,322-326	-2.3	-1.4	0.9	2.4	-1.8	0.9
Wholesale trade	42	-1.2	-4.0	-2.9	3.3	1.8	-8.6
Retail trade	44,45	6.2	3.9	-2.2	3.5	-0.1	-6.7
Transportation and warehousing	48-49	1.6	1.2	-0.4	2.0	-0.7	-1.4
Information	51	2.5	4.0	1.5	7.6	-1.7	-2.6
Finance and insurance	52	-1.6	2.6	4.2	2.0	0.7	12.2
Real estate and rental and leasing	53	1.0	3.8	2.7	0.5	1.3	4.6
Professional and technical services	54	1.5	3.5	2.0	4.8	1.5	1.7
Management of companies	55	0.5	1.4	0.9	0.6	0.9	0.9
Administrative and waste services	56	-0.3	-0.8	-0.5	5.5	-1.1	-1.4
Educational services	61	1.4	8.1	6.6	1.2	0.9	10.8
Health care and social assistance	62	1.8	6.8	4.9	2.7	4.4	5.8
Arts, entertainment, and recreation	71	1.0	3.7	2.7	3.3	4.6	1.3
Accommodation and food services	72	-1.8	3.1	5.0	0.9	4.1	7.8
Other services, except government	81	-3.3	3.3	6.9	3.6	1.7	12.7

1. Intermediate inputs is an aggregation of energy, materials, and services

Table 2. Total factor productivity intermediate inputs, 2023

Industry	2017 NAICS Code	Percent change		
		Energy Input	Materials Input	Services Input
Agriculture, forestry, fishing, and hunting	11	5.2	-3.2	-1.8
Mining	21	-31.4	-17.6	-23.1
Utilities	22	-2.7	9.1	-8.7
Construction	23	9.9	4.0	15.7
Manufacturing	31-33	-5.3	3.8	4.2
Durable manufacturing	321,327,33	2.3	6.7	4.0
Nondurable manufacturing	31,322-326	-8.3	0.3	5.7
Wholesale trade	42	-19.3	-18.3	-7.6
Retail trade	44,45	-17.5	-19.1	-4.3
Transportation and warehousing	48-49	-4.3	-14.7	2.2
Information	51	-8.2	-7.9	-1.1
Finance and insurance	52	9.1	-0.2	12.8
Real estate and rental and leasing	53	8.0	-3.0	5.1
Professional and technical services	54	-3.4	0.1	2.4
Management of companies	55	-12.7	3.1	1.2
Administrative and waste services	56	-3.8	-6.8	0.5
Educational services	61	10.2	-0.5	13.1
Health care and social assistance	62	9.3	-3.8	9.7
Arts, entertainment, and recreation	71	4.7	-15.6	4.2
Accommodation and food services	72	2.1	-4.4	14.3
Other services, except government	81	4.1	4.8	18.0

Table 3. Total factor productivity and related data, 2019-23

Industry	2017 NAICS Code	Annual percent change					
		TFP	Output	Combined Inputs	Capital Input	Labor Input	Intermediate Inputs ¹
Agriculture, forestry, fishing, and hunting	11	0.9	0.2	-0.7	1.9	-0.9	-4.1
Mining	21	3.6	2.0	-1.6	-1.9	-3.6	0.9
Utilities	22	0.1	0.1	0.0	2.8	0.8	-3.1
Construction	23	-1.5	0.3	1.8	2.1	0.9	2.6
Manufacturing	31-33	-0.5	-0.5	0.0	1.8	0.4	-1.4
Durable manufacturing	321,327,33	-1.1	-0.7	0.4	1.4	0.3	-0.2
Nondurable manufacturing	31,322-326	0.2	-0.4	-0.6	2.2	0.7	-2.3
Wholesale trade	42	-1.2	1.0	2.2	2.4	0.6	3.1
Retail trade	44,45	-0.1	2.8	2.9	3.2	-0.3	5.7
Transportation and warehousing	48-49	-0.8	0.7	1.4	1.5	3.4	-0.6
Information	51	2.0	6.4	4.3	6.4	1.5	4.0
Finance and insurance	52	-0.9	2.0	3.0	3.3	1.2	5.3
Real estate and rental and leasing	53	1.5	4.4	2.8	1.1	1.7	4.3
Professional and technical services	54	2.7	5.6	2.9	6.0	2.1	3.3
Management of companies	55	3.3	4.9	1.6	0.4	1.1	2.7
Administrative and waste services	56	1.2	2.3	1.1	4.6	1.0	0.3
Educational services	61	-0.4	3.2	3.6	1.2	0.3	5.9
Health care and social assistance	62	0.7	3.1	2.4	2.6	2.2	2.6
Arts, entertainment, and recreation	71	0.1	3.3	3.2	2.0	1.4	4.9
Accommodation and food services	72	0.2	2.2	2.0	0.6	-0.5	5.6
Other services, except government	81	-1.4	1.9	3.4	2.3	0.6	6.5

1. Intermediate inputs is an aggregation of energy, materials, and services

Table 4. Total factor productivity intermediate inputs, 2019-23

Industry	2017 NAICS Code	Annual percent change		
		Energy Input	Materials Input	Services Input
Agriculture, forestry, fishing, and hunting	11	-11.4	-3.0	-3.0
Mining	21	-2.3	4.7	-0.1
Utilities	22	0.0	-1.1	-7.0
Construction	23	-0.9	1.2	9.3
Manufacturing	31-33	-4.5	-1.6	-0.4
Durable manufacturing	321,327,33	-2.2	0.0	-0.5
Nondurable manufacturing	31,322-326	-5.7	-2.5	-0.6
Wholesale trade	42	-0.9	3.7	3.2
Retail trade	44,45	1.9	0.1	6.7
Transportation and warehousing	48-49	-3.1	-5.1	1.0
Information	51	4.3	1.7	4.6
Finance and insurance	52	-6.3	2.0	5.8
Real estate and rental and leasing	53	-3.7	0.7	4.9
Professional and technical services	54	-1.3	5.6	2.7
Management of companies	55	-3.3	11.3	2.1
Administrative and waste services	56	-1.5	-1.4	0.9
Educational services	61	0.0	0.5	7.2
Health care and social assistance	62	-0.5	1.4	3.1
Arts, entertainment, and recreation	71	1.4	-3.6	6.6
Accommodation and food services	72	0.6	-1.3	9.5
Other services, except government	81	1.2	6.6	6.8

Table 5. Sources of labor productivity, 2023

Industry	2017 NAICS code	Percent change	Percentage Point					
		Labor Productivity	TFP	Capital Intensity	Labor Composition	Energy Intensity	Materials Intensity	Services Intensity
Agriculture, forestry, fishing, and hunting	11	2.8	3.1	0.0	0.0	0.2	-0.4	-0.1
Mining	21	2.9	19.9	-2.1	0.0	-2.0	-3.1	-7.7
Utilities	22	1.2	2.8	0.5	-0.1	-0.9	0.2	-1.4
Construction	23	0.2	-2.3	0.1	0.1	0.2	0.8	1.3
Manufacturing	31-33	-1.2	-3.2	0.6	0.0	-0.1	1.2	0.5
Durable								
Manufacturing	321,327,33	-1.7	-3.8	0.1	0.1	0.0	1.6	0.3
Nondurable								
Manufacturing	31,322-326	0.3	-2.3	1.1	0.0	-0.1	0.9	0.7
Wholesale trade	42	-6.0	-1.2	0.3	-0.1	-0.3	-0.6	-4.2
Retail trade	44,45	4.0	6.2	0.8	0.0	-0.5	-0.9	-1.5
Transportation and warehousing	48-49	2.1	1.6	0.6	0.1	-0.3	-0.6	0.7
Information	51	6.3	2.5	3.7	0.1	-0.1	-0.4	0.3
Finance and insurance	52	1.9	-1.6	0.4	0.0	0.1	0.0	3.0
Real estate and rental and leasing	53	2.9	1.0	-0.1	0.0	0.1	-0.1	2.0
Professional and technical services	54	1.6	1.5	0.4	-0.2	0.0	-0.1	0.1
Management of companies	55	0.9	0.5	0.0	0.3	-0.1	0.1	0.2
Administrative and waste services	56	0.8	-0.3	0.8	0.3	0.0	-0.5	0.6
Educational services	61	6.4	1.4	-0.1	-0.2	0.2	-0.2	5.1
Health care and social assistance	62	2.0	1.8	-0.2	-0.1	0.0	-1.1	1.6
Arts, entertainment, and recreation	71	-1.3	1.0	-0.3	-0.1	0.0	-1.5	-0.3
Accommodation and food services	72	-0.7	-1.8	-0.5	0.1	0.0	-1.0	2.5
Other services, except government	81	1.3	-3.3	0.1	-0.1	0.0	0.5	4.3

Table 6. Industry contributions¹ to private business output by component, 2020

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	0.18	0.17	-0.81
Agriculture, forestry, fishing, and hunting	11	0.02	0.00	-0.01
Mining	21	0.23	-0.06	-0.13
Utilities	22	0.12	0.04	0.00
Construction	23	0.08	0.07	-0.28
Manufacturing[2]	31-33	-0.26	0.13	-0.39
Durable manufacturing[2]	321,327,33	-0.34	0.04	-0.33
Nondurable manufacturing	31,322-326	0.08	0.09	-0.06
ICT[3]	51x	0.20	0.26	-0.07
FIRE	52-53	-0.22	0.37	0.02
Finance and insurance	52	-0.12	0.22	0.11
Real estate and rental and leasing	53	-0.10	0.14	-0.09
Service providing	42-49,54-81	-0.79	0.29	-2.33
Wholesale trade	42	0.32	0.03	-0.21
Retail trade	44,45	-0.08	0.09	-0.17
Transportation and warehousing	48-49	-0.37	0.02	-0.15
Information[4]	51	0.11	0.01	-0.06
Professional and technical services[5]	54	0.08	0.08	-0.27
Management of companies	55	0.10	0.00	-0.05
Administrative and waste services	56	-0.04	0.04	-0.23
Educational services	61	-0.09	0.00	-0.04
Health care and social assistance	62	-0.30	0.03	-0.11
Arts, entertainment, and recreation	71	-0.20	0.00	-0.17
Accommodation and food services	72	-0.28	-0.02	-0.63
Other services, except government	81	-0.05	0.00	-0.27

1. Contributions may not sum due to aggregation, rounding, and integration of the top line to industry

2. Goods producing sector except for computer and electronic products (NAICS 334)

3. Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)

4. Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)

5. Service providing sector, except for computer systems design and related services (NAICS 5415)

Table 7. Industry contributions¹ to private business output by component, 2021

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	0.58	0.17	0.31
Agriculture, forestry, fishing, and hunting	11	0.05	0.03	0.00
Mining	21	-0.17	-0.01	-0.02
Utilities	22	-0.10	0.04	0.00
Construction	23	0.01	0.00	0.16
Manufacturing[2]	31-33	0.79	0.10	0.17
Durable manufacturing[2]	321,327,33	0.19	0.02	0.11
Nondurable manufacturing	31,322-326	0.61	0.08	0.06
ICT[3]	51x	0.59	0.25	0.20
FIRE	52-53	0.87	0.18	0.11
Finance and insurance	52	0.30	0.16	0.04
Real estate and rental and leasing	53	0.57	0.02	0.07
Service providing	42-49,54-81	1.72	0.31	1.87
Wholesale trade	42	-0.39	0.03	0.11
Retail trade	44,45	-0.27	0.07	0.12
Transportation and warehousing	48-49	0.24	0.01	0.27
Information[4]	51	0.30	0.02	0.10
Professional and technical services[5]	54	0.58	0.07	0.33
Management of companies	55	0.17	0.00	0.10
Administrative and waste services	56	0.24	0.02	0.23
Educational services	61	0.00	0.00	0.02
Health care and social assistance	62	0.21	0.04	0.20
Arts, entertainment, and recreation	71	0.11	0.00	0.08
Accommodation and food services	72	0.53	0.03	0.19
Other services, except government	81	-0.01	0.00	0.12

- Contributions may not sum due to aggregation, rounding, and integration of the top line to industry
- Goods producing sector except for computer and electronic products (NAICS 334)
- Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)
- Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)
- Service providing sector, except for computer systems design and related services (NAICS 5415)

Table 8. Industry contributions¹ to private business output by component, 2022

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	-1.03	0.21	0.48
Agriculture, forestry, fishing, and hunting	11	-0.05	0.06	-0.01
Mining	21	-0.21	-0.01	0.05
Utilities	22	-0.10	0.05	0.01
Construction	23	-0.52	0.01	0.18
Manufacturing[2]	31-33	-0.15	0.11	0.24
Durable manufacturing[2]	321,327,33	0.08	0.03	0.17
Nondurable manufacturing	31,322-326	-0.22	0.09	0.08
ICT[3]	51x	-0.02	0.28	0.20
FIRE	52-53	-0.18	0.17	0.19
Finance and insurance	52	-0.49	0.13	0.12
Real estate and rental and leasing	53	0.32	0.05	0.07
Service providing	42-49,54-81	-0.37	0.49	1.58
Wholesale trade	42	-0.43	0.14	0.11
Retail trade	44,45	-0.45	0.09	-0.01
Transportation and warehousing	48-49	-0.18	0.02	0.21
Information[4]	51	0.00	0.06	0.12
Professional and technical services[5]	54	0.19	0.08	0.31
Management of companies	55	0.23	0.00	0.03
Administrative and waste services	56	0.15	0.03	0.18
Educational services	61	0.04	0.00	0.02
Health care and social assistance	62	0.17	0.05	0.13
Arts, entertainment, and recreation	71	0.07	0.01	0.08
Accommodation and food services	72	-0.13	0.01	0.25
Other services, except government	81	-0.04	0.01	0.14

1. Contributions may not sum due to aggregation, rounding, and integration of the top line to industry

2. Goods producing sector except for computer and electronic products (NAICS 334)

3. Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)

4. Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)

5. Service providing sector, except for computer systems design and related services (NAICS 5415)

Table 9. Industry contributions¹ to private business output by component, 2023

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	-0.33	0.21	0.14
Agriculture, forestry, fishing, and hunting	11	0.07	-0.01	0.00
Mining	21	0.61	0.00	0.02
Utilities	22	0.10	0.04	0.00
Construction	23	-0.27	0.04	0.09
Manufacturing[2]	31-33	-0.84	0.14	0.03
Durable manufacturing[2]	321,327,33	-0.50	0.04	0.06
Nondurable manufacturing	31,322-326	-0.34	0.10	-0.04
ICT[3]	51x	0.24	0.26	0.01
FIRE	52-53	-0.10	0.12	0.08
Finance and insurance	52	-0.24	0.09	0.06
Real estate and rental and leasing	53	0.15	0.03	0.02
Service providing	42-49,54-81	0.93	0.51	0.49
Wholesale trade	42	-0.15	0.11	0.07
Retail trade	44,45	0.76	0.10	-0.01
Transportation and warehousing	48-49	0.09	0.03	0.01
Information[4]	51	0.08	0.08	-0.01
Professional and technical services[5]	54	0.14	0.07	0.09
Management of companies	55	0.02	0.00	0.02
Administrative and waste services	56	-0.02	0.04	-0.04
Educational services	61	0.02	0.00	0.00
Health care and social assistance	62	0.24	0.04	0.19
Arts, entertainment, and recreation	71	0.02	0.01	0.03
Accommodation and food services	72	-0.12	0.01	0.11
Other services, except government	81	-0.15	0.01	0.03

1. Contributions may not sum due to aggregation, rounding, and integration of the top line to industry

2. Goods producing sector except for computer and electronic products (NAICS 334)

3. Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)

4. Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)

5. Service providing sector, except for computer systems design and related services (NAICS 5415)

Table 10. Industry contributions¹ to private business output by component, 2007-19

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	-0.01	0.22	0.00
Agriculture, forestry, fishing, and hunting	11	0.02	0.00	0.00
Mining	21	0.08	0.03	0.01
Utilities	22	0.03	0.04	0.00
Construction	23	-0.02	0.00	0.00
Manufacturing[2]	31-33	-0.12	0.16	-0.02
Durable manufacturing[2]	321,327,33	-0.01	0.04	-0.01
Nondurable manufacturing	31,322-326	-0.11	0.12	0.00
ICT[3]	51x	0.23	0.24	0.06
FIRE	52-53	0.03	0.18	0.07
Finance and insurance	52	-0.04	0.10	0.05
Real estate and rental and leasing	53	0.06	0.08	0.01
Service providing	42-49,54-81	0.31	0.27	0.45
Wholesale trade	42	-0.02	0.05	0.01
Retail trade	44,45	0.13	0.04	-0.01
Transportation and warehousing	48-49	0.01	0.02	0.04
Information[4]	51	0.04	0.04	0.00
Professional and technical services[5]	54	0.05	0.04	0.07
Management of companies	55	0.03	0.00	0.06
Administrative and waste services	56	0.03	0.02	0.04
Educational services	61	0.00	0.00	0.01
Health care and social assistance	62	0.04	0.03	0.14
Arts, entertainment, and recreation	71	0.01	0.01	0.01
Accommodation and food services	72	0.01	0.01	0.05
Other services, except government	81	-0.02	0.00	0.04

1. Contributions may not sum due to aggregation, rounding, and integration of the top line to industry

2. Goods producing sector except for computer and electronic products (NAICS 334)

3. Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)

4. Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)

5. Service providing sector, except for computer systems design and related services (NAICS 5415)

Table 11. Industry contributions¹ to private business output by component, 2019-23

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
Goods producing [2]	11-33	-0.15	0.19	0.03
Agriculture, forestry, fishing, and hunting	11	0.02	0.02	0.00
Mining	21	0.11	-0.02	-0.02
Utilities	22	0.01	0.04	0.00
Construction	23	-0.17	0.03	0.04
Manufacturing[2]	31-33	-0.11	0.12	0.01
Durable manufacturing[2]	321,327,33	-0.14	0.03	0.00
Nondurable manufacturing	31,322-326	0.03	0.09	0.01
ICT[3]	51x	0.25	0.26	0.09
FIRE	52-53	0.09	0.21	0.10
Finance and insurance	52	-0.14	0.15	0.08
Real estate and rental and leasing	53	0.23	0.06	0.02
Service providing	42-49,54-81	0.37	0.40	0.40
Wholesale trade	42	-0.16	0.08	0.02
Retail trade	44,45	-0.01	0.09	-0.02
Transportation and warehousing	48-49	-0.05	0.02	0.09
Information[4]	51	0.12	0.04	0.04
Professional and technical services[5]	54	0.25	0.08	0.12
Management of companies	55	0.13	0.00	0.02
Administrative and waste services	56	0.08	0.03	0.04
Educational services	61	-0.01	0.00	0.00
Health care and social assistance	62	0.08	0.04	0.10
Arts, entertainment, and recreation	71	0.00	0.01	0.00
Accommodation and food services	72	0.00	0.01	-0.02
Other services, except government	81	-0.06	0.01	0.01

1. Contributions may not sum due to aggregation, rounding, and integration of the top line to industry

2. Goods producing sector except for computer and electronic products (NAICS 334)

3. Information and communication technology sector (NAICS 51x), is the information major industry (NAICS 51) less publishing, except internet (includes software) (NAICS 511) and motion picture and sound recording (NAICS 512), plus computer and electronic products (NAICS 334) and computer systems design and related services (NAICS 5415)

4. Information sector less Broadcasting and telecommunications (NAICS 515,517) and data processing, internet publishing, and other information services (NAICS 518,519)

5. Service providing sector, except for computer systems design and related services (NAICS 5415)