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**TOTAL FACTOR PRODUCTIVITY FOR MAJOR INDUSTRIES – 2022**

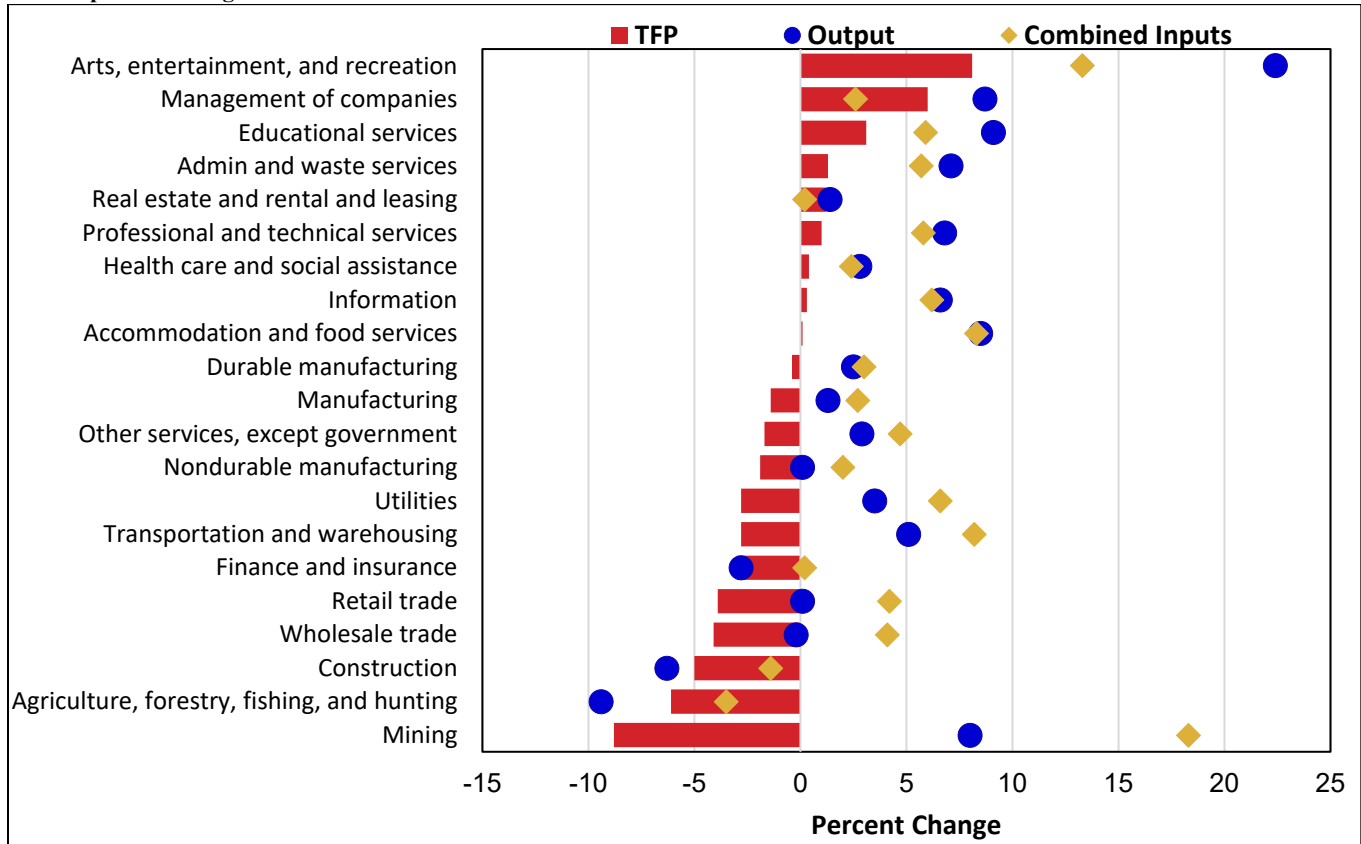
**Total factor productivity (TFP)** increased in 9 out of 21 major industries in 2022, the U.S. Bureau of Labor Statistics (BLS) reported today, led by service providing industries. Many of the TFP increases in 2022 were driven by strong output growth outpacing increases in the combined inputs of capital, labor, energy, materials, and services. (See chart 1.)

Output increased in 17 of 21 major industries in 2022. Over the longer 2019-22 time period, 13 of the 21 industries had positive or no output growth. This illustrates that output in the remaining 8 industries is still below pre-COVID-19 pandemic levels. (See tables 1 and 3.)

Combined inputs increased in 19 of the 21 industries in 2022. All goods producing industries experienced combined input growth greater than output growth, leading to declining TFP for these industries. (See table 1.) Over the 2019-22 time period, labor input has grown in 14 of 21 industries, demonstrating that these industries have recovered labor losses from 2020.

**Chart 1. Total factor productivity, output, and combined inputs, by major industry, 2022**

Annual percent change



**2017 NAICS Reclassification**

All industry series have been updated to reflect industry definitions consistent with the 2017 North American Industry Classification System (NAICS). All indexes are rebased to 2017=100 to reflect the new definitions.

Total factor productivity 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**

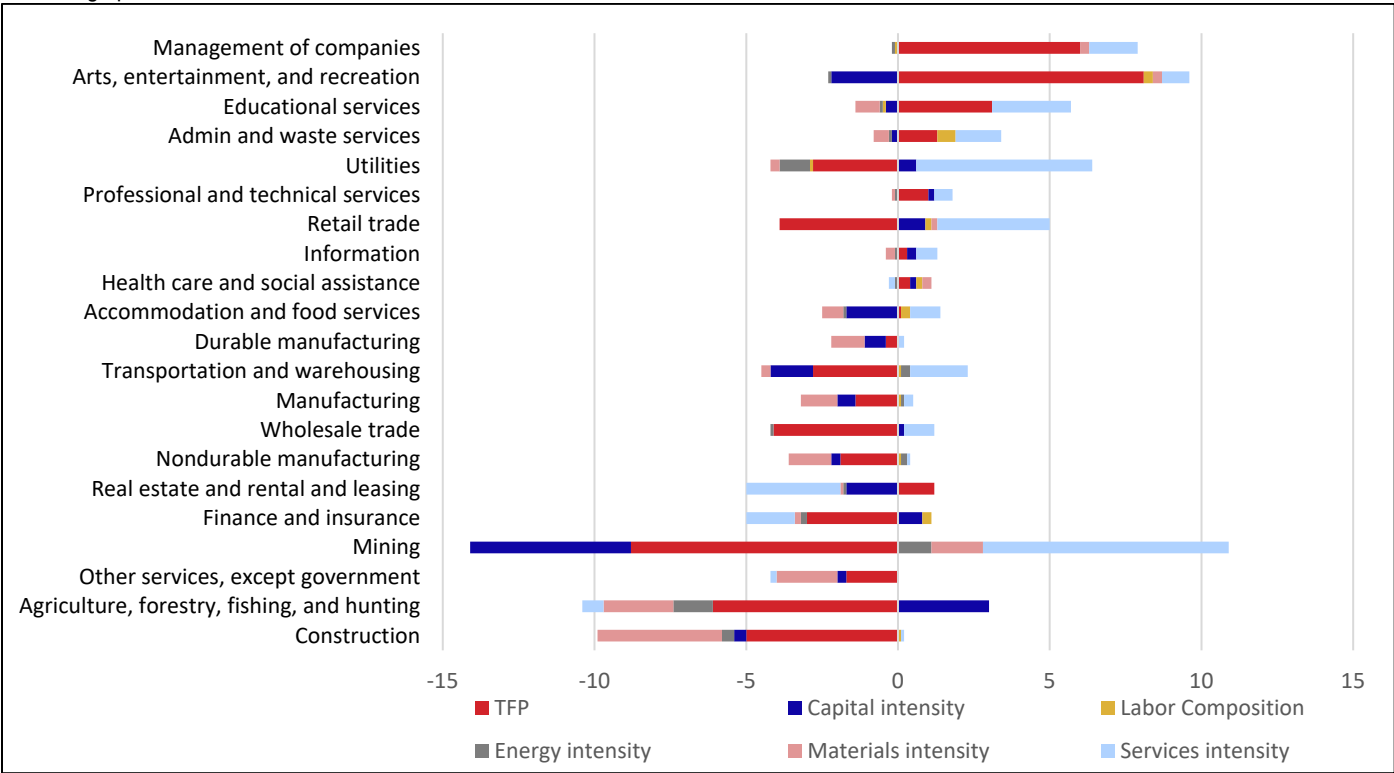
As the economy continued to rebuild after the COVID-19 pandemic, the growth of output was outpaced by growth in hours worked, leading to declines in labor productivity for 12 of the 21 industries measured in 2022. (See table 5.)

Labor productivity can be expressed as the sum of six components: total factor productivity growth (TFP), contribution of capital intensity, contribution of labor composition, contribution of energy intensity, contribution of materials intensity, and the contribution of 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 9 industries with labor productivity growth in 2022, TFP was the largest contributor to labor productivity growth in 5 industries, with services intensity being the largest contributor for the remaining 4 industries. Capital intensity fell in 12 of the 21 industries measured, as hours growth outpaced capital input growth. Management of companies labor productivity grew 7.7 percent in 2022, the largest growth of the industries measured, due to the large TFP contribution of 6.0 percentage points.

**Chart 2. Sources of labor productivity for major industries, 2022**

Percentage points

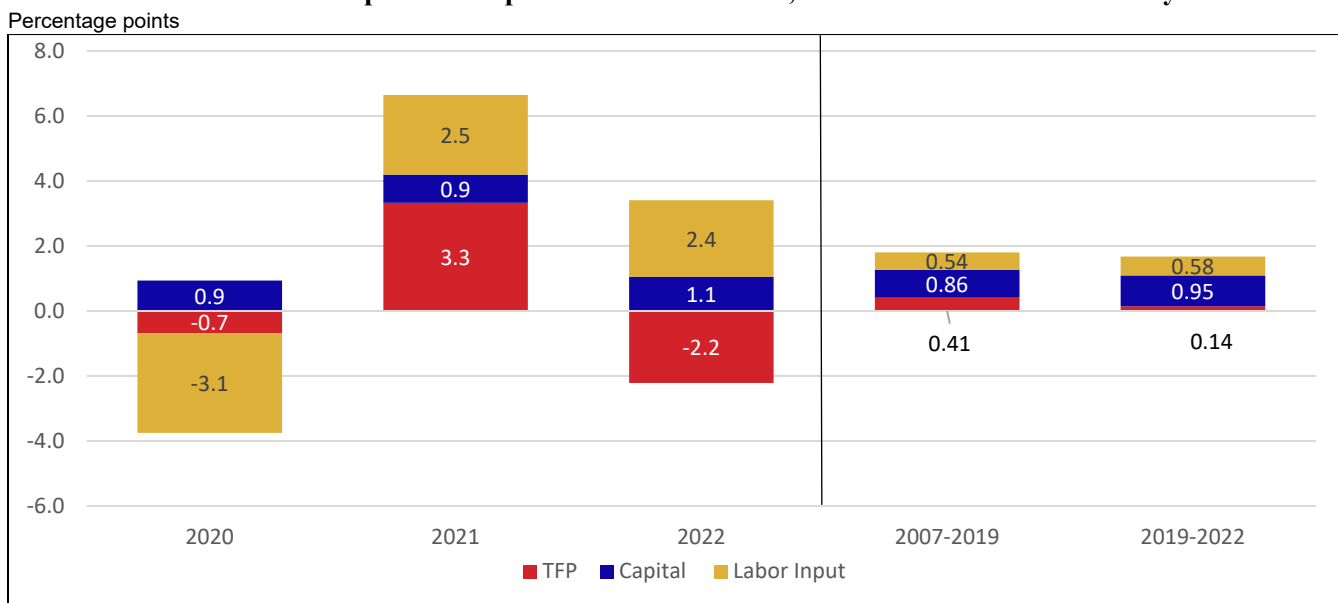


### TFP and input contributions to output

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 drivers of output growth for the private business sector in 2022 were labor input, which contributed 2.4 percentage points to output growth and capital input with a 1.1-percentage point contribution. Total factor productivity was a drag on output growth with a negative contribution of 2.2 percentage points. (See chart 3.)

Productivity growth is often viewed as a long run measure, especially when an economic shock like the COVID-19 pandemic happens. While TFP growth and contributions of capital and labor have been volatile over the last 3 years, the current business cycle of 2019-22 shows similar contributions to the previous 2007-19 business cycle. (See chart 3.)

**Chart 3. Contribution to output for the private business sector, 2020-22 and select business cycles**



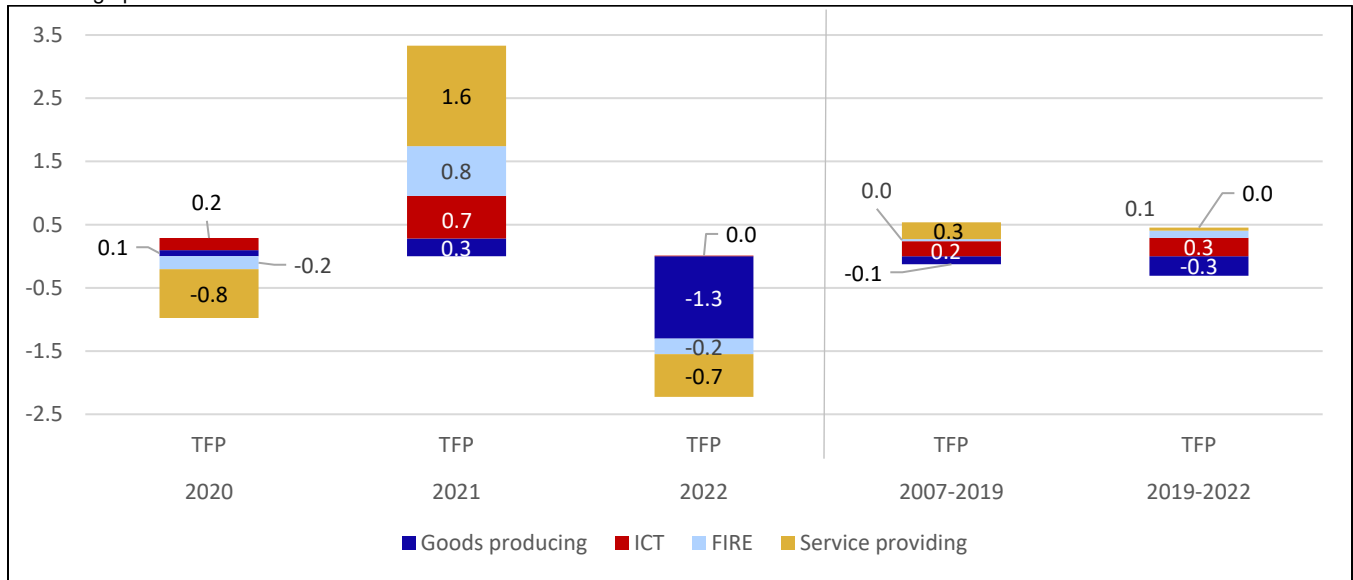
The private business sector can be divided into four broad sectors: goods producing; information and communication technology (ICT); finance, insurance, and real estate (FIRE); and service providing. Looking at these sectors provides further insights on how different sectors of the economy contribute to output. (See footnotes after table 7 for industry makeup of each sector.)

#### TFP’s contribution to output

The negative total factor productivity contribution to output for the private business sector in 2022 was widespread, with 3 of 4 sectors experiencing negative contributions. The goods producing sector accounted for the majority of the decline in private business TFP with a negative contribution of 1.3 percentage points. Within the goods producing sector, the construction (-0.6 percentage point) and oil and gas extraction (-0.4 point) industries were the primary contributors. These two industries led the goods producing sector’s contribution in the 2019-22 business cycle (-0.3 percentage point), as manufacturing became a positive contributor to the nation’s TFP growth due to positive contributions from nondurable manufacturing compared to the 2007-19 period. (See tables 6 through 10 and chart 4.)

**Chart 4. Sector contributions to TFP 2020-22 and select business cycles**

Percentage points



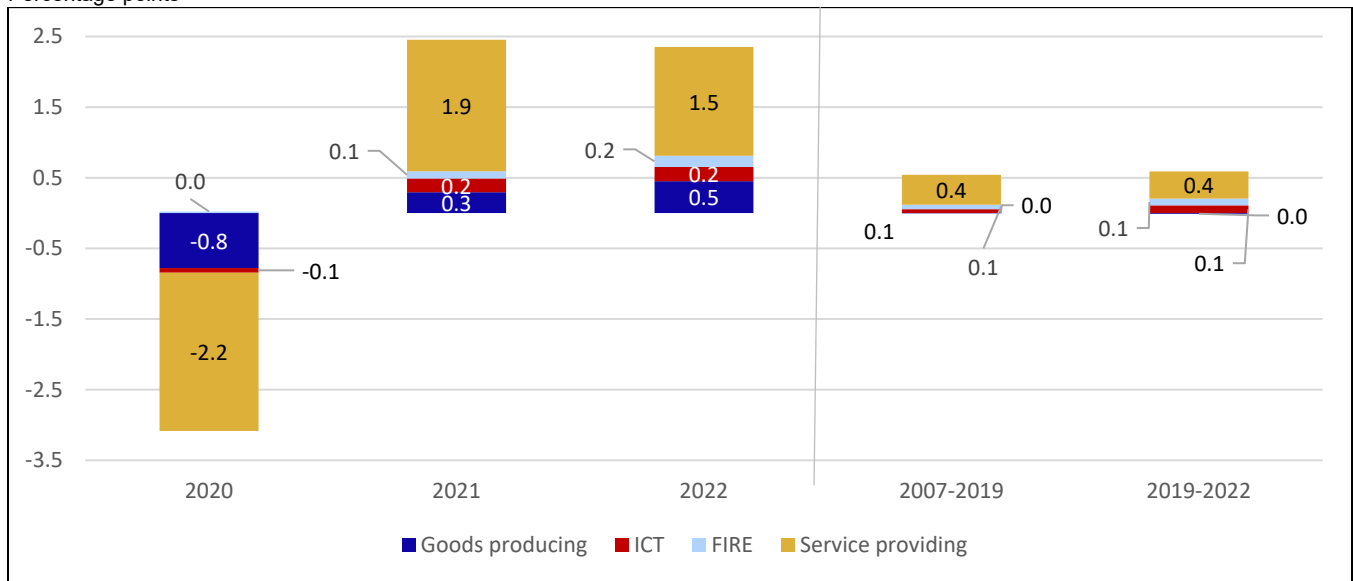
Note: Contributions may not sum due to aggregation, rounding, and integration of top line to industry

Labor’s contribution to output

In 2022, labor input positively contributed to private business sector output within all four aggregated sectors. The service providing sector had the largest positive contribution in 2022 (1.5 percentage points), led by professional, scientific, and technical services (0.3 percentage point) and accommodation and food services (0.3 percentage point). Of note is labor input of the service providing sector being the leading contributor to the aggregate output growth for both 2021 and 2022. The service providing sector recovered in 2021 from the effects of the COVID-19 pandemic and contributed 1.9 percentage points to output in 2021 and continues to have positive contribution in 2022. The two most recent business cycles saw similar positive contributions in 3 of 4 sectors. (See tables 6 through 10 and chart 5.)

**Chart 5. Sector contributions to labor 2020-22 and select business cycles**

Percentage points



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

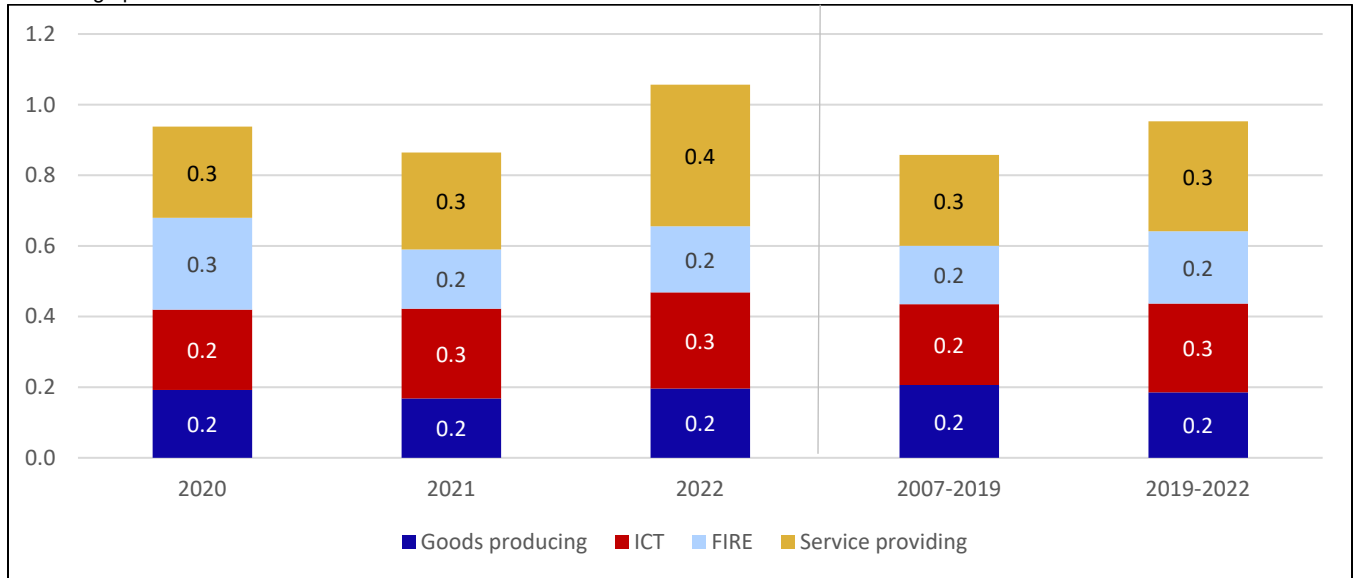
### Capital's contribution to output

Capital input's positive contribution in 2020, 2021, and 2022 reflects the stability of capital stock after downturns. All sectors experienced positive capital contributions to output growth in 2022 (1.1 percentage point). The service providing sector was the largest positive contribution (0.4 percentage point), led by wholesale trade (0.1 percentage point) and retail trade (0.1 percentage point) industries.

Capital continues to have similar positive contributions for the last 3 years and the two most recent business cycles. (See tables 6 through 10 and chart 6.) The ICT sector increased its contribution of capital to output from 0.2 percentage point in the 2007-19 business cycle to 0.3 percentage point in the 2019-22 business cycle primarily driven by the data processing, internet publishing, and other information services industry, which grew from 0.09 percentage point to 0.14 percentage point.

**Chart 6. Sector contributions to capital 2020-22 and select business cycles**

Percentage points



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, fishery, 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 2, 2023 “Productivity and Costs” news release (USDLE-23-2317).

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.

2022 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 for can be found at [www.bls.gov/opub/hom/msp/data.htm](http://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](http://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](http://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](http://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, 2022**

Industry	2017 NAICS Code	Percent change					
		TFP	Output	Combined Inputs	Capital Input	Labor Input	Intermediate Inputs <sup>1</sup>
Agriculture, forestry, fishing, and hunting	11	-6.1	-9.4	-3.5	4.2	-2.1	-12.8
Mining	21	-8.8	8.0	18.3	0.3	12.5	46.6
Utilities	22	-2.8	3.5	6.6	3.1	1.1	12.1
Construction	23	-5.0	-6.3	-1.4	0.1	3.8	-5.8
Manufacturing	31-33	-1.4	1.3	2.7	1.7	4.4	2.4
Durable Manufacturing	321,327,33	-0.4	2.5	3.0	1.3	4.6	2.6
Nondurable Manufacturing	31,322-326	-1.9	0.1	2.0	2.0	4.1	1.5
Wholesale trade	42	-4.1	-0.2	4.1	4.0	3.0	4.7
Retail trade	44,45	-3.9	0.1	4.2	3.6	-0.3	8.2
Transportation and warehousing	48-49	-2.8	5.1	8.2	0.9	7.7	13.6
Information	51	0.3	6.6	6.2	6.4	5.8	6.3
Finance and insurance	52	-3.0	-2.8	0.2	3.6	1.8	-6.5
Real estate and rental and leasing	53	1.2	1.4	0.2	0.7	4.9	-0.9
Professional and technical services	54	1.0	6.8	5.8	7.4	5.1	6.6
Management of companies	55	6.0	8.7	2.6	0.2	0.7	6.1
Admin and waste services	56	1.3	7.1	5.7	2.5	5.5	6.6
Educational services	61	3.1	9.1	5.9	1.6	4.2	8.1
Health care and social assistance	62	0.4	2.8	2.4	3.3	2.6	1.9
Arts, entertainment, and recreation	71	8.1	22.4	13.3	1.8	15.1	17.1
Accommodation and food services	72	0.1	8.5	8.3	0.3	10.4	10.3
Other services, except government	81	-1.7	2.9	4.7	2.5	7.4	2.1

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

**Table 2. Total factor productivity intermediate inputs, 2022**

Industry	2017 NAICS Code	Percent change		
		Energy Input	Materials Input	Services Input
Agriculture, forestry, fishing, and hunting	11	-26.8	-13.9	-6.6
Mining	21	42.9	31.2	55.0
Utilities	22	-3.0	-11.1	40.5
Construction	23	-13.7	-7.7	4.7
Manufacturing	31-33	9.2	0.6	6.5
Durable manufacturing	321,327,33	2.5	1.1	6.7
Nondurable manufacturing	31,322-326	12.2	0.3	4.9
Wholesale trade	42	-3.1	1.7	5.2
Retail trade	44,45	0.6	3.5	9.5
Transportation and warehousing	48-49	11.6	0.1	17.2
Information	51	-4.0	0.2	8.1
Finance and insurance	52	-21.9	-19.2	-5.5
Real estate and rental and leasing	53	0.9	3.5	-1.3
Professional and technical services	54	-8.7	2.9	8.2
Management of companies	55	-6.6	10.4	6.2
Admin and waste services	56	-7.0	-1.7	9.8
Educational services	61	1.4	-4.2	11.3
Health care and social assistance	62	-9.1	4.5	1.3
Arts, entertainment, and recreation	71	10.0	20.1	17.0
Accommodation and food services	72	4.9	3.2	14.6
Other services, except government	81	4.5	-6.1	6.7



**Table 3. Total factor productivity and related data, 2019-22**

Industry	2017 NAICS Code	Annual percent change					
		TFP	Output	Combined Inputs	Capital Input	Labor Input	Intermediate Inputs <sup>1</sup>
Agriculture, forestry, fishing, and hunting	11	-1.3	-0.9	0.3	2.7	-1.4	-2.0
Mining	21	-3.3	-2.2	1.1	-0.2	-6.1	7.7
Utilities	22	-0.8	0.7	1.5	3.0	0.5	0.6
Construction	23	-1.4	-1.1	0.3	1.0	0.5	0.2
Manufacturing	31-33	0.0	-0.4	-0.4	1.7	0.5	-2.3
Durable manufacturing	321,327,33	-0.3	-0.8	-0.4	1.1	-0.1	-1.6
Nondurable manufacturing	31,322-326	0.5	-0.2	-0.7	2.2	1.6	-2.6
Wholesale trade	42	-1.4	1.8	3.2	1.8	0.0	6.0
Retail trade	44,45	-2.1	2.7	4.9	2.8	-0.4	10.9
Transportation and warehousing	48-49	-1.7	0.0	1.7	1.1	5.0	-1.5
Information	51	2.2	7.3	4.9	5.7	2.7	5.8
Finance and insurance	52	-0.7	0.3	0.9	4.0	1.3	-3.2
Real estate and rental and leasing	53	1.4	2.3	0.9	0.7	1.6	0.9
Professional and technical services	54	2.3	6.0	3.6	6.8	2.3	5.2
Management of companies	55	4.1	6.1	1.9	0.4	1.0	3.8
Admin and waste services	56	1.2	4.0	2.7	3.5	1.9	3.6
Educational services	61	-0.9	-2.1	-1.2	1.2	-0.8	-2.1
Health care and social assistance	62	0.0	1.3	1.3	2.7	1.4	0.8
Arts, entertainment, and recreation	71	1.4	2.5	1.1	1.3	0.2	2.0
Accommodation and food services	72	1.3	1.9	0.5	0.8	-1.9	3.9
Other services, except government	81	-0.9	-0.3	0.6	2.2	0.3	0.9

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

**Table 4. Total factor productivity intermediate inputs, 2019-22**

Industry	2017 NAICS Code	Annual percent change		
		Energy Input	Materials Input	Services Input
Agriculture, forestry, fishing, and hunting	11	-13.1	0.8	-1.5
Mining	21	5.7	8.0	8.1
Utilities	22	0.0	-1.0	3.0
Construction	23	-4.7	-1.1	6.7
Manufacturing	31-33	-3.1	-2.2	-2.1
Durable manufacturing	321,327,33	-3.8	-1.5	-1.3
Nondurable manufacturing	31,322-326	-3.0	-2.3	-3.6
Wholesale trade	42	3.1	7.2	6.0
Retail trade	44,45	7.7	6.3	11.8
Transportation and warehousing	48-49	-3.4	-3.9	-0.4
Information	51	9.2	3.6	6.2
Finance and insurance	52	-14.8	-5.2	-2.7
Real estate and rental and leasing	53	-9.1	-0.2	1.4
Professional and technical services	54	1.2	7.4	4.7
Management of companies	55	-1.8	10.4	3.4
Admin and waste services	56	-0.7	0.6	4.7
Educational services	61	-11.0	-5.9	-0.8
Health care and social assistance	62	-5.6	3.7	-0.2
Arts, entertainment, and recreation	71	-0.1	-4.8	3.3
Accommodation and food services	72	1.2	-0.7	6.5
Other services, except government	81	1.1	-0.9	1.9

**Table 5. Sources of labor productivity, 2022**

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	-7.4	-6.1	3.0	0.0	-1.3	-2.3	-0.7
Mining	21	-3.9	-8.8	-5.3	0.0	1.1	1.7	8.1
Utilities	22	1.9	-2.8	0.6	-0.1	-1.0	-0.3	5.8
Construction	23	-9.4	-5.0	-0.4	0.1	-0.4	-4.1	0.1
Manufacturing	31-33	-2.8	-1.4	-0.6	0.1	0.1	-1.2	0.3
Durable								
Manufacturing	321,327,33	-2.1	-0.4	-0.7	0.0	0.0	-1.1	0.2
Nondurable								
Manufacturing	31,322-326	-3.2	-1.9	-0.3	0.1	0.2	-1.4	0.1
Wholesale trade	42	-3.0	-4.1	0.2	0.0	-0.1	0.0	1.0
Retail trade	44,45	1.0	-3.9	0.9	0.2	0.0	0.2	3.7
Transportation and warehousing	48-49	-2.2	-2.8	-1.4	0.1	0.3	-0.3	1.9
Information	51	0.9	0.3	0.3	0.0	-0.1	-0.3	0.7
Finance and insurance	52	-3.8	-3.0	0.8	0.3	-0.2	-0.2	-1.6
Real estate and rental and leasing	53	-3.8	1.2	-1.7	0.0	-0.1	-0.1	-3.1
Professional and technical services	54	1.6	1.0	0.2	0.0	-0.1	-0.1	0.6
Management of companies	55	7.7	6.0	0.0	-0.1	-0.1	0.3	1.6
Admin and waste services	56	2.6	1.3	-0.2	0.6	-0.1	-0.5	1.5
Educational services	61	4.4	3.1	-0.4	-0.1	-0.1	-0.8	2.6
Health care and social assistance	62	0.8	0.4	0.2	0.2	-0.1	0.3	-0.2
Arts, entertainment, and recreation	71	7.1	8.1	-2.2	0.3	-0.1	0.3	0.9
Accommodation and food services	72	-1.1	0.1	-1.7	0.3	-0.1	-0.7	1.0
Other services, except government	81	-4.1	-1.7	-0.3	0.0	0.0	-2.0	-0.2

**Table 6. Industry contributions<sup>1</sup> to private business output by component, 2020**

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
<b>Goods producing sector</b>	<b>11-33</b>	<b>0.10</b>	<b>0.19</b>	<b>-0.78</b>
Agriculture, Forestry, Fishery, and hunting	11	0.03	0.00	-0.01
Mining	21	0.16	0.00	-0.12
Utilities	22	0.12	0.04	0.00
Construction	23	0.06	0.04	-0.27
Manufacturing	31-33	-0.27	0.12	-0.38
Durable Manufacturing <sup>2</sup>	321,327,33	-0.33	0.03	-0.32
Nondurable Manufacturing	31,322-326	0.06	0.09	-0.05
<b>ICT<sup>3</sup></b>	<b>51x</b>	<b>0.19</b>	<b>0.23</b>	<b>-0.07</b>
<b>FIRE</b>	<b>52-53</b>	<b>-0.21</b>	<b>0.26</b>	<b>0.02</b>
Finance and insurance	52	-0.17	0.21	0.11
Real estate and rental and leasing	53	-0.04	0.05	-0.09
<b>Services</b>	<b>42-49,54-81</b>	<b>-0.77</b>	<b>0.26</b>	<b>-2.24</b>
Wholesale trade	42	0.32	0.02	-0.20
Retail trade	44, 45	-0.01	0.05	-0.16
Transportation and Warehousing	48-49	-0.40	0.02	-0.15
Information <sup>4</sup>	51	0.09	0.01	-0.06
Professional and technical services <sup>5</sup>	54	0.07	0.07	-0.25
Management of companies	55	0.10	0.00	-0.04
Admin and waste services	56	-0.03	0.03	-0.22
Educational services	61	-0.08	0.00	-0.04
Health care and social assistance	62	-0.28	0.03	-0.11
Arts, entertainment, and recreation	71	-0.19	0.00	-0.16
Accommodation and food services	72	-0.33	0.01	-0.61
Other services, except government	81	-0.03	0.01	-0.26

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 contributions<sup>1</sup> to private business output by component, 2021**

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
<b>Goods producing sector</b>	<b>11-33</b>	<b>0.28</b>	<b>0.17</b>	<b>0.30</b>
Agriculture, Forestry, Fishery, and hunting	11	0.03	0.03	0.00
Mining	21	-0.21	0.00	-0.02
Utilities	22	-0.11	0.04	0.01
Construction	23	0.06	0.00	0.16
Manufacturing	31-33	0.52	0.10	0.16
Durable Manufacturing <sup>2</sup>	321,327,33	0.08	0.02	0.11
Nondurable Manufacturing	31,322-326	0.43	0.08	0.06
<b>ICT<sup>3</sup></b>	<b>51x</b>	<b>0.67</b>	<b>0.25</b>	<b>0.19</b>
<b>FIRE</b>	<b>52-53</b>	<b>0.79</b>	<b>0.17</b>	<b>0.10</b>
Finance and insurance	52	0.30	0.15	0.04
Real estate and rental and leasing	53	0.49	0.02	0.06
<b>Services</b>	<b>42-49,54-81</b>	<b>1.59</b>	<b>0.27</b>	<b>1.86</b>
Wholesale trade	42	-0.33	0.03	0.10
Retail trade	44, 45	-0.26	0.07	0.13
Transportation and Warehousing	48-49	0.28	0.01	0.28
Information <sup>4</sup>	51	0.23	0.01	0.09
Professional and technical services <sup>5</sup>	54	0.42	0.08	0.33
Management of companies	55	0.15	0.00	0.09
Admin and waste services	56	0.18	0.02	0.23
Educational services	61	0.01	0.00	0.01
Health care and social assistance	62	0.23	0.05	0.21
Arts, entertainment, and recreation	71	0.13	0.00	0.08
Accommodation and food services	72	0.57	0.01	0.20
Other services, except government	81	-0.01	0.01	0.13

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 8. Industry contributions<sup>1</sup> to private business output by component, 2022**

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
<b>Goods producing sector</b>	<b>11-33</b>	<b>-1.30</b>	<b>0.20</b>	<b>0.45</b>
Agriculture, Forestry, Fishery, and hunting	11	-0.15	0.04	-0.01
Mining	21	-0.31	0.01	0.05
Utilities	22	-0.10	0.05	0.01
Construction	23	-0.57	0.00	0.17
Manufacturing	31-33	-0.19	0.10	0.24
Durable Manufacturing <sup>2</sup>	321,327,33	0.09	0.03	0.16
Nondurable Manufacturing	31,322-326	-0.28	0.08	0.08
<b>ICT<sup>3</sup></b>	<b>51x</b>	<b>0.01</b>	<b>0.27</b>	<b>0.20</b>
<b>FIRE</b>	<b>52-53</b>	<b>-0.24</b>	<b>0.19</b>	<b>0.16</b>
Finance and insurance	52	-0.40	0.15	0.10
Real estate and rental and leasing	53	0.16	0.04	0.06
<b>Services</b>	<b>42-49,54-81</b>	<b>-0.68</b>	<b>0.40</b>	<b>1.54</b>
Wholesale trade	42	-0.52	0.11	0.10
Retail trade	44, 45	-0.49	0.09	-0.01
Transportation and Warehousing	48-49	-0.16	0.01	0.22
Information <sup>4</sup>	51	-0.01	0.02	0.11
Professional and technical services <sup>5</sup>	54	0.07	0.08	0.30
Management of companies	55	0.22	0.00	0.02
Admin and waste services	56	0.09	0.02	0.19
Educational services	61	0.03	0.00	0.02
Health care and social assistance	62	0.05	0.05	0.12
Arts, entertainment, and recreation	71	0.12	0.01	0.09
Accommodation and food services	72	-0.01	0.00	0.26
Other services, except government	81	-0.07	0.01	0.13

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 contributions<sup>1</sup> to private business output by component, 2007-19**

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
<b>Goods producing sector</b>	<b>11-33</b>	<b>-0.13</b>	<b>0.21</b>	<b>0.00</b>
Agriculture, Forestry, Fishery, and hunting	11	0.02	0.00	0.00
Mining	21	0.06	0.02	0.01
Utilities	22	-0.02	0.03	0.00
Construction	23	-0.05	0.00	0.00
Manufacturing	31-33	-0.15	0.15	-0.02
Durable Manufacturing <sup>2</sup>	321,327,33	-0.04	0.04	-0.01
Nondurable Manufacturing	31,322-326	-0.11	0.11	0.00
<b>ICT<sup>3</sup></b>	<b>51x</b>	<b>0.24</b>	<b>0.23</b>	<b>0.05</b>
<b>FIRE</b>	<b>52-53</b>	<b>0.03</b>	<b>0.17</b>	<b>0.06</b>
Finance and insurance	52	-0.05	0.10	0.05
Real estate and rental and leasing	53	0.08	0.07	0.01
<b>Services</b>	<b>42-49,54-81</b>	<b>0.27</b>	<b>0.26</b>	<b>0.42</b>
Wholesale trade	42	0.02	0.05	0.01
Retail trade	44, 45	0.09	0.04	-0.01
Transportation and Warehousing	48-49	0.00	0.02	0.04
Information <sup>4</sup>	51	0.05	0.03	0.00
Professional and technical services <sup>5</sup>	54	0.02	0.04	0.06
Management of companies	55	0.01	0.00	0.06
Admin 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	0.05	0.03	0.13
Arts, entertainment, and recreation	71	0.02	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 10. Industry contributions<sup>1</sup> to private business output by component, 2019-22**

Industry	2017 NAICS Code	Percentage Point		
		TFP	Capital	Labor
<b>Goods producing sector</b>	<b>11-33</b>	<b>-0.31</b>	<b>0.19</b>	<b>-0.01</b>
Agriculture, Forestry, Fishery, and hunting	11	-0.03	0.03	-0.01
Mining	21	-0.12	0.00	-0.03
Utilities	22	-0.03	0.04	0.00
Construction	23	-0.15	0.01	0.02
Manufacturing	31-33	0.02	0.10	0.01
Durable Manufacturing <sup>2</sup>	321,327,33	-0.05	0.03	-0.02
Nondurable Manufacturing	31,322-326	0.07	0.08	0.03
<b>ICT<sup>3</sup></b>	<b>51x</b>	<b>0.29</b>	<b>0.25</b>	<b>0.11</b>
<b>FIRE</b>	<b>52-53</b>	<b>0.11</b>	<b>0.20</b>	<b>0.09</b>
Finance and insurance	52	-0.09	0.17	0.08
Real estate and rental and leasing	53	0.20	0.04	0.01
<b>Services</b>	<b>42-49,54-81</b>	<b>0.05</b>	<b>0.31</b>	<b>0.39</b>
Wholesale trade	42	-0.18	0.05	0.00
Retail trade	44, 45	-0.26	0.07	-0.02
Transportation and Warehousing	48-49	-0.09	0.02	0.12
Information <sup>4</sup>	51	0.10	0.01	0.05
Professional and technical services <sup>5</sup>	54	0.19	0.08	0.12
Management of companies	55	0.16	0.00	0.02
Admin and waste services	56	0.08	0.02	0.07
Educational services	61	-0.01	0.00	0.00
Health care and social assistance	62	0.00	0.04	0.07
Arts, entertainment, and recreation	71	0.02	0.00	0.00
Accommodation and food services	72	0.08	0.01	-0.05
Other services, except government	81	-0.04	0.01	0.00

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

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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)