

# Updated US BEA-BLS Integrated Industry-level Production Account: analyzing sources of growth between the COVID recession and the Great Recession Era

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*All views expressed are those of the authors and do not reflect the views or policies of the U.S. Bureau of Labor Statistics nor the Bureau of Economic Analysis*

# Overview

- 63 Industry Account consistent with the US National Accounts in a full KLEMS framework, 1987-2020
- Improvements since previous World KLEMS
- COVID versus Great Recession, 2007-2009?
- Intermediates-EMS-

# Capital detail has been expanded

- Below is the new breakout that the BLS/BEA Integrated account publishes. Beyond that, we can go deeper to asset level with the sharing that has occurred between agencies.

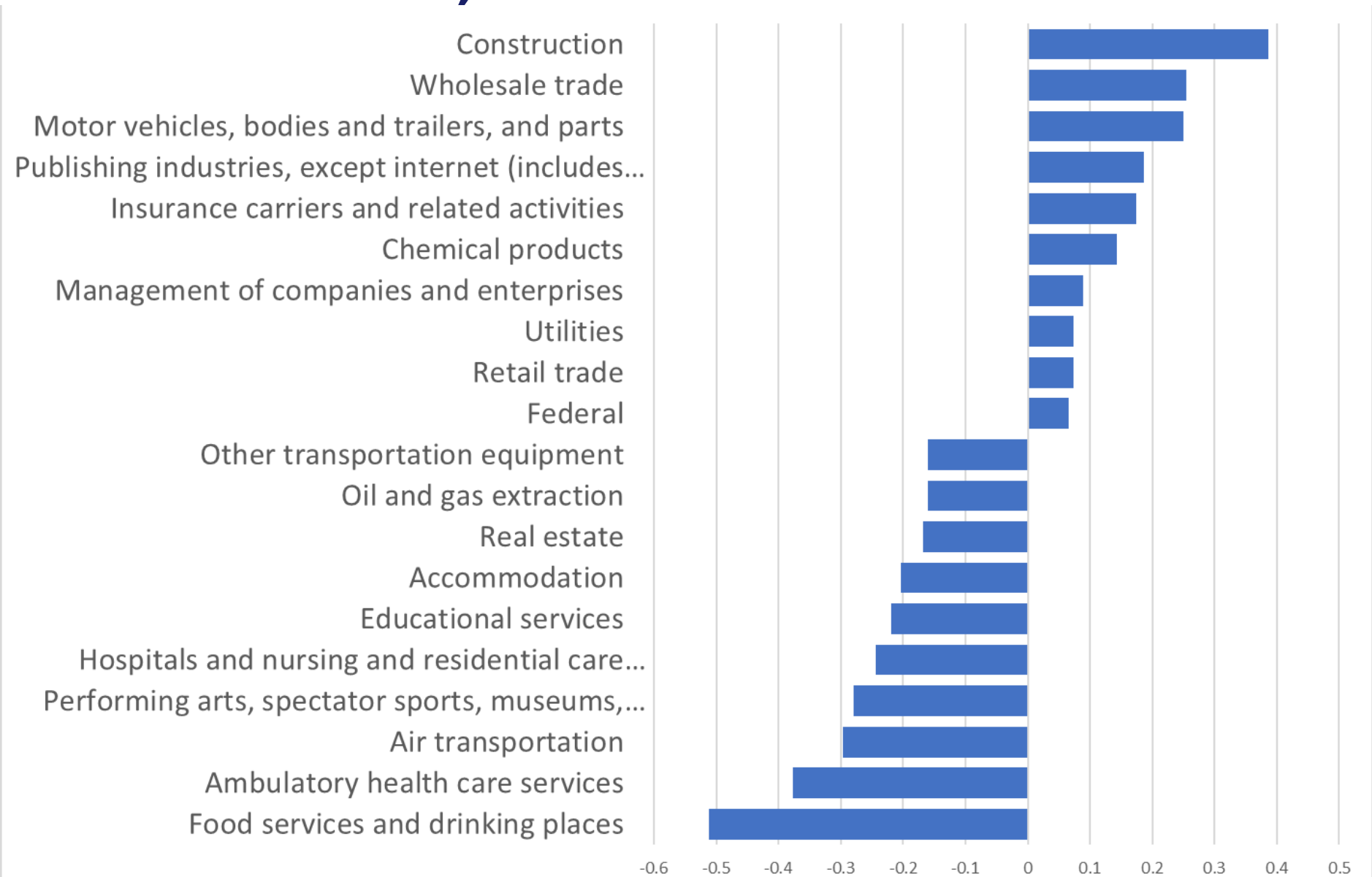
Previous Asset Categories	Expanded Asset Categories
IT Capital	Communications equipment Computer hardware
R&D Capital	R&D Capital
Software Capital	Software Capital
Entertainment Originals Capital	Entertainment Originals Capital
Other Capital	Instruments and other office equipment Other equipment Structures, land, and inventories Transportation equipment

# How do the recessions differ, and how are they similar?

Component	1987–2020	1987–1995	1995–2000	2000–2007	2007–2009	2009–2019	2019–2020
<b>Value added</b>	2.28	2.64	4.25	2.43	-1.27	2.14	-3.00
<b>Capital input</b>	1.22	1.23	1.85	1.38	0.78	0.90	0.95
<b>Information technology capital</b>	0.27	0.25	0.55	0.29	0.23	0.15	0.13
<b>Computer hardware</b>	0.10	0.07	0.12	0.12	0.12	0.10	0.09
<b>Communications equipment</b>	0.17	0.18	0.43	0.17	0.11	0.04	0.05
<b>Research and development capital</b>	0.12	0.12	0.12	0.12	0.12	0.11	0.16
<b>Software capital</b>	0.19	0.16	0.22	0.18	0.13	0.20	0.27
<b>Entertainment originals capital</b>	0.02	0.02	0.03	0.03	0.02	0.02	0.01
<b>Other capital</b>	0.62	0.68	0.93	0.76	0.27	0.43	0.38
<b>Instruments and other office equipment</b>	0.02	0.02	0.03	0.03	0.02	0.02	0.02
<b>Other equipment</b>	0.10	0.08	0.14	0.15	0.11	0.06	0.07
<b>Structures, land, and inventories</b>	0.42	0.51	0.57	0.53	0.20	0.27	0.25
<b>Transportation equipment</b>	0.08	0.07	0.18	0.07	-0.05	0.07	0.03
<b>Labor input</b>	0.70	1.11	1.32	0.43	-1.30	0.89	-1.59
<b>College labor</b>	0.67	0.75	0.84	0.58	-0.08	0.77	0.37
<b>Non-college labor</b>	0.03	0.37	0.49	-0.16	-1.22	0.12	-1.95
<b>Total factor productivity</b>	0.36	0.30	1.08	0.63	-0.75	0.35	-2.36

- Total Factor Productivity in the COVID recession showed the largest difference to the earlier recession.
- The Non-college educated workforce showed the largest similarities between the two-recessions bearing a large percentage of the fall in both economic declines.

# Industry Contributions to Real Value Added Growth, 2020 – Great Recession



# TFP differences between recessions, why?

Total Factor Productivity	1987 - 2020	1987-1995	1995-2000	2000-2007	2007-2009	2009-2019	2019-2020
Aggregate	0.36	0.29	1.07	0.63	-0.75	0.34	-2.36
Agriculture, forestry, fishing, and hunting; mining	0.07	0.06	0.07	0.07	0.17	0.05	0.09
Transportation and warehousing; utilities	0.00	0.04	0.02	0.00	-0.07	0.00	-0.36
Construction	-0.06	-0.03	-0.07	-0.14	-0.11	-0.03	-0.01
Manufacturing	0.23	0.21	0.55	0.50	-0.41	0.06	-0.19
Trade	0.14	0.24	0.47	0.08	-0.37	0.07	-0.07
Information	0.05	0.00	-0.10	0.23	0.02	0.06	-0.01
Finance, insurance, real estate, rental and leasing	-0.02	-0.07	0.01	-0.08	0.28	0.03	-0.32
Other services	-0.05	-0.15	0.10	-0.06	-0.13	0.11	-1.49
Government	0.01	0.00	0.02	0.05	-0.11	0.01	-0.01

- The “Other services” and the Finance sector’s TFP growth dominated the difference between the two recessions

# Deep Dive- Total Factor Productivity

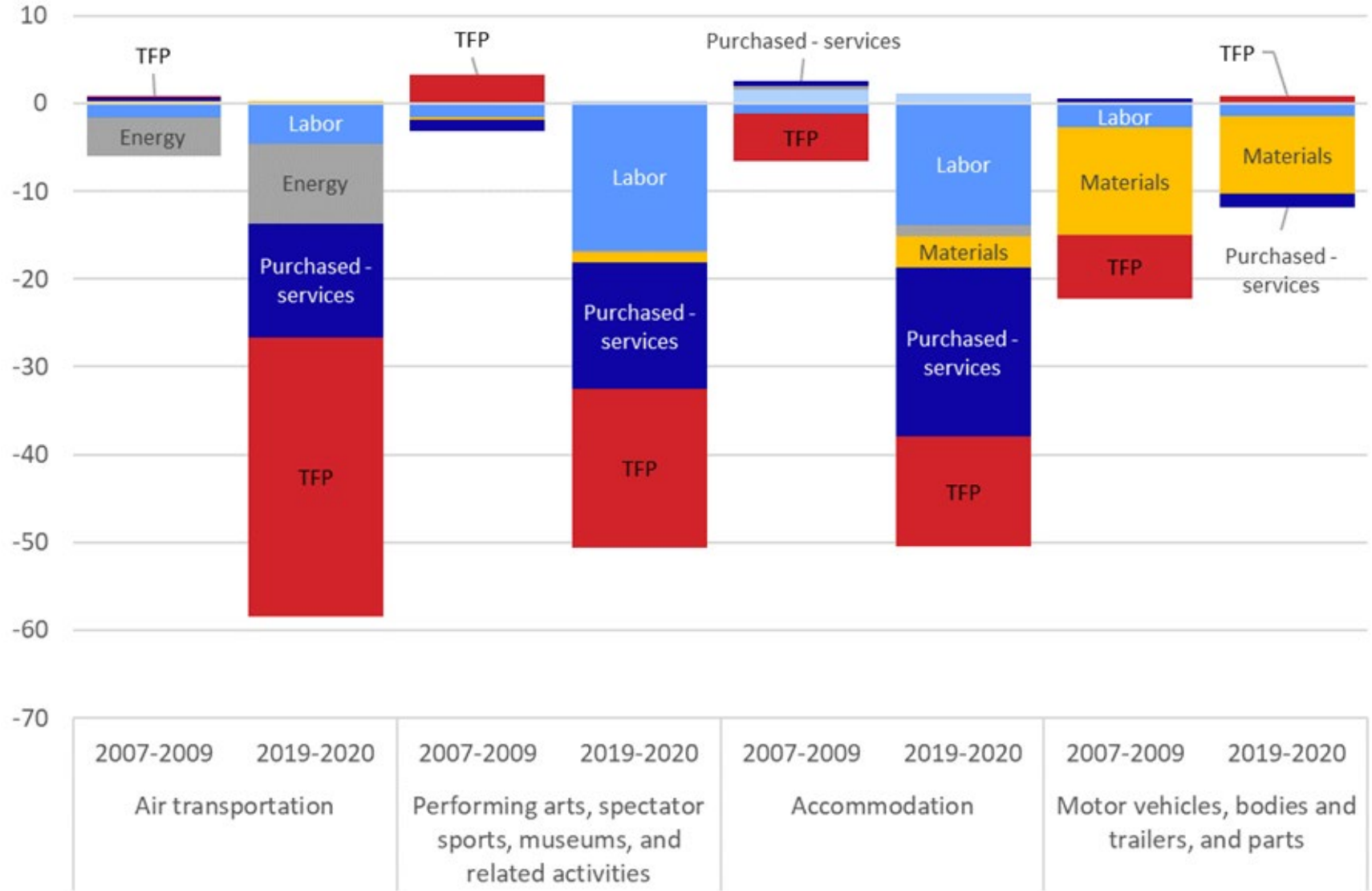
	2007-2009	2020	2020 minus Great Recession
<b>All Other Services contribution to Aggregate VA Growth</b>	-0.13	-1.49	-1.36
Legal services	-0.08	-0.07	0.02
Computer systems design and related services	0.04	-0.01	-0.05
Miscellaneous professional, scientific, and technical services	0.03	-0.05	-0.08
Management of companies and enterprises	-0.13	-0.06	0.07
Administrative and support services	0.01	-0.06	-0.06
Waste management and remediation services	0.00	-0.01	-0.01
Educational services	0.04	-0.07	-0.12
Ambulatory health care services	0.07	-0.27	-0.34
Hospitals and nursing and residential care facilities	0.10	-0.14	-0.23
Social assistance	0.00	-0.05	-0.05
Performing arts, spectator sports, museums, and related activities	0.03	-0.14	-0.17
Amusements, gambling, and recreation industries	-0.01	-0.05	-0.04
Accommodation	-0.07	-0.13	-0.07
Food services and drinking places	-0.07	-0.29	-0.22
Other services, except government	-0.08	-0.09	-0.01

# The Full Model

- KLEMS!!! – this is a KLEMS concert after all!
- Industry look at EMS
- Sectors, Inputs, Great Recession vs. COVID



# Contributions to Industry Gross Output Growth



# Potential Future Enhancements

- Labor composition measure
- Import detail
- Anything that we learn from our colleagues at this conference. 😊

**Thank you World KLEMS  
community.**