

## Summary of variance estimates for PPI price changes, 2018

### Final Demand-Intermediate Demand (FD-ID) System

*Final demand:* The 1-month median absolute percent change for the final demand index in 2018 was 0.37 percent, and the accompanying standard error (SE) was 0.10 percent. (See table A, and table 1 of the 2018 PPI variance data release.) Margins of error are commonly expressed as plus and minus two standard errors to provide a 95-percent confidence interval with regard to the true change in a reference statistic. Subtracting two SE values from the 1-month median absolute percent change for the final demand index in 2018 excludes zero. Therefore, in a typical month in 2018, the percent change in the final demand index was statistically significant, relative to no change, at a 95-percent level of confidence. The *relative standard error* (RSE) values for the major components of the final demand index varied in 2018.<sup>1</sup> Based on calculations of RSE, the 1-month confidence interval for the goods component of final demand was narrower than it was for the services and construction components. On a 12-month basis in 2018, the median absolute percent change for the final demand index was 2.89 percent, and the corresponding SE was 0.23 percent. RSE measures for the 12-month estimates indicate that the 95-percent confidence intervals for the final demand index and each of its major components—goods, services, and construction—were substantially narrower on a 12-month basis than they were for the 1-month estimates.

*Intermediate demand by commodity type:* The 1-month median absolute percent change in the index for processed goods for intermediate demand was 0.67 percent in 2018, and the SE value was 0.11 percent. On a 12-month basis, the corresponding values were 5.40 percent and 0.31 percent. Comparing RSE values for the 1- and 12-month calculations within processed goods for intermediate demand, estimates for the foods and feeds index were somewhat larger than those for the energy and core components. Relating to the index for unprocessed goods for intermediate demand, the 2018 reference statistics and SE values for the 1-month and 12-month analyses were generally larger in absolute terms, compared with the indexes for processed goods for intermediate demand; however, the RSE estimates were, for the most part, similar. Within the services for intermediate demand category, results aligned with those for final demand services. First, the component indexes for transportation and warehousing services and for services other than trade, transportation, and warehousing exhibited smaller RSE values than the trade services component. Second, the 12-month SE values revealed narrower confidence intervals, on an RSE basis, than did the 1-month values. Third, on a 1-month basis the RSE values for intermediate demand services were somewhat larger than those calculated for processed and unprocessed goods for intermediate demand, while the 12-month results were more closely aligned.

*Intermediate demand by production flow:* The production flow treatment of intermediate demand organizes business-to-business type transactions, excluding transactions relating to capital investment purchases, by production stage, as opposed to type of commodity. The same basket of transactions is used to calculate both treatments of intermediate demand, though weighting differences exist between the two treatments. In 2018, the SE values calculated for the production-flow system closely paralleled those calculated for the commodity-type system. First, the goods indexes posted relatively narrower 95-percent confidence intervals (i.e., smaller RSE values) than

did the services and construction components of intermediate demand by production flow. Second, the RSE measures were consistently smaller for the 12-month data compared to the 1-month data.<sup>2</sup>

### **PPI Commodity-Based Index Structure**

The unique-to-PPI, commodity-based index structure comprises the detailed components used to construct the FD-ID aggregation system. Data users commonly use PPI commodity indexes to explain FD-ID index movements and as a measure of price changes for commodities regardless of the industry classification of the producer. Variance data are provided for 2-, 3-, 4-, and 6-digit commodity indexes. On a 1-month basis in 2018, 20.3 percent of PPI commodity indexes for which SE values were published, 222 of 1,092, posted RSE values of under 50. (See table B, and table 2 of the 2018 PPI variance data release.) Roughly 39.6 percent had RSE values between 50 and 100, while 40.1 percent had RSE values of 100 or more. On a 12-month basis, 790 of 1,493 PPI commodity indexes, 52.9 percent, posted RSE values of under 50. About 25.1 percent of the indexes had RSE values between 50 and 100, and 22.0 percent had RSE values of 100 or more.<sup>3</sup>

### **NAICS-Based Index Structure**

The basic unit for sampling and data collection in the PPI is the 6-digit industry under the North American Industry Classification System (NAICS). For this structure, PPI variance data are available for selected industry sector indexes; 3-, 4-, and 5-digit industry group indexes; and for 6-digit industry indexes. (See table C, and table 3 of the 2018 PPI variance data release.) The NAICS-based indexes are measures of changes in prices received for the industry's output, including primary, secondary, and miscellaneous output, sold outside the industry (that is, its net output).

*Industry sector indexes:* On a 1-month basis in 2018, 6 of 12 industry sector indexes had RSE values of under 50, 3 posted values between 50 and 100, and 3 industry sector indexes had RSE values of over 100. On a 12-month basis, 11 of the 13 industry sector indexes had an RSE of under 50. The industry sector indexes with consistently smaller RSE values were the groupings for mining industries, manufacturing industries, and transportation industries. The industry groupings for wholesale trade industries, retail trade industries, and information industries exhibited larger RSE values in 2018, on both a 1-month and 12-month basis.

*3-, 4-, and 5-digit industry group indexes; and 6-digit industry indexes:* On a 1-month basis in 2018, 16.7 percent of indexes, 135 of 810, posted RSE values of under 50, 47.2 percent had RSE values between 50 and 100, and 36.2 percent exhibited RSE values of 100 or more. Reviewing these data by level of aggregation, a larger percentage of 3- and 4-digit aggregate indexes had smaller RSE values, while a larger percentage of 5- and 6-digit indexes posted larger RSE estimates. On a 12-month basis, 528 of 1,011 PPI industry and industry group indexes, 52.2 percent, posted an RSE of under 50. Roughly 27.5 percent of indexes had an RSE between 50 and 100, while 20.3 percent exhibited an RSE of 100 or more. Reviewing these 12-month data by level

of aggregation, once again, a larger percentage of higher level indexes posted smaller estimates of RSE, while a larger percentage of 5- and 6-digit indexes posted larger RSE estimates.

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<sup>1</sup> This summary includes a discussion of Relative Standard Error (RSE). RSE is defined as the SE divided by the reference statistic, multiplied by 100. An RSE of less than 50 reflects an SE that is half as large as the reference statistic, suggesting a relatively narrow confidence interval and 95-percent confidence relative to no change. An RSE of 50 or more but less than 100 represents an intermediate-width confidence interval that does not provide 95-percent confidence relative to no change. An RSE of 100 or more generally identifies an index with a wide 95-percent confidence interval; however, if a reference statistic is close to zero, the usefulness of RSE as an analysis tool diminishes substantially.

<sup>2</sup> Stage 4 producers primarily produce final demand goods, services, and construction, stage 3 producers primarily produce output for stage 4, stage 2 producers primarily produce output for stage 3, and stage 1 producers generally produce output for stage 2. The stage-based indexes measure changes in prices paid by each stage for goods, services, and construction, excluding capital investment.

<sup>3</sup> For the 1- and 12-month RSE distributions discussed here and in the following section, indexes with median absolute percent changes of less than 0.1 percent were excluded (other than the indexes for agricultural products, which are considered to reflect a census of information). As mentioned in note 1, when a reference statistic is close to zero, the usefulness of RSE as an analysis tool diminishes substantially.

**Table A. Variance estimates for selected PPI Final Demand–Intermediate Demand indexes, 2018**

Index	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error	1-month relative standard error	12-month relative standard error
<b>Final Demand</b>						
Final demand	0.37	0.10	2.89	0.23	27.0	8.0
Final demand goods	0.41	0.08	3.31	0.19	19.5	5.7
Final demand foods	0.65	0.19	1.07	0.35	29.2	32.7
Final demand energy	1.47	0.35	9.69	0.68	23.8	7.0
Final demand goods less foods and energy	0.18	0.05	2.60	0.26	27.8	10.0
Final demand services	0.19	0.14	2.67	0.33	73.7	12.4
Final demand trade services	0.35	0.43	1.78	0.91	122.9	51.1
Final demand transportation and warehousing services	0.52	0.21	5.68	0.49	40.4	8.6
Final demand services, other	0.23	0.10	2.66	0.27	43.5	10.2
Final demand construction	0.13	0.04	3.85	0.23	30.8	6.0
<b>Intermediate Demand (ID) by Commodity Type</b>						
Processed goods for intermediate demand	0.67	0.11	5.40	0.31	16.4	5.7
Processed foods and feeds	0.69	0.25	0.80	0.57	36.2	71.3
Processed energy goods	1.71	0.37	11.39	1.25	21.6	11.0
Processed materials less foods and energy	0.39	0.11	4.31	0.34	28.2	7.9
Unprocessed goods for intermediate demand	2.50	0.32	4.77	0.56	12.8	11.7
Unprocessed foodstuffs and feedstuffs	2.19	0.00	1.39	0.00	0.0	0.0
Unprocessed energy materials	4.19	0.67	12.80	1.30	16.0	10.2
Unprocessed nonfood materials less energy	1.07	0.51	5.96	1.11	47.7	18.6
Services for intermediate demand	0.24	0.14	3.13	0.38	58.3	12.1
Trade services for intermediate demand	0.52	0.56	4.16	1.34	107.7	32.2
Transportation and warehousing services for ID	0.23	0.11	4.10	0.32	47.8	7.8
Services for ID, other	0.21	0.13	2.82	0.42	61.9	14.9
Construction for intermediate demand	0.18	0.15	1.64	0.55	83.3	33.5
<b>Intermediate Demand (ID) by Production Flow</b>						
Stage 4 intermediate demand	0.34	0.10	3.59	0.25	29.4	7.0
Total goods inputs to stage 4 intermediate demand	0.48	0.08	3.95	0.22	16.7	5.6
Total services inputs to stage 4 intermediate demand	0.20	0.17	3.16	0.51	85.0	16.1
Total construction inputs to stage 4 ID	0.18	0.15	1.64	0.55	83.3	33.5
Stage 3 intermediate demand	0.84	0.12	4.49	0.29	14.3	6.5
Total goods inputs to stage 3 intermediate demand	1.20	0.16	5.87	0.40	13.3	6.8
Total services inputs to stage 3 intermediate demand	0.20	0.17	3.15	0.45	85.0	14.3
Total construction inputs to stage 3 ID	0.18	0.15	1.64	0.55	83.3	33.5
Stage 2 intermediate demand	0.84	0.16	5.23	0.30	19.0	5.7
Total goods inputs to stage 2 intermediate demand	1.64	0.29	8.16	0.50	17.7	6.1
Total services inputs to stage 2 intermediate demand	0.15	0.11	2.88	0.39	73.3	13.5
Total construction inputs to stage 2 ID	0.18	0.15	1.64	0.55	83.3	33.5
Stage 1 intermediate demand	0.67	0.19	5.68	0.41	28.4	7.2
Total goods inputs to stage 1 intermediate demand	0.79	0.26	7.73	0.66	32.9	8.5
Total services inputs to stage 1 intermediate demand	0.38	0.26	3.48	0.55	68.4	15.8
Total construction inputs to stage 1 ID	0.18	0.15	1.64	0.55	83.3	33.5

**Table B. Relative standard error (RSE) counts and percentages for selected PPI commodity-based indexes, 2018**

1-month RSE counts and percentages			12-month RSE counts and percentages		
Category	Count	% total	Category	Count	% total
RSE < 50	222	20.3	RSE < 50	790	52.9
50 ≤ RSE < 100	432	39.6	50 ≤ RSE < 100	374	25.1
RSE ≥ 100	438	40.1	RSE ≥ 100	329	22.0
Total	1,092	100.0	Total	1,493	100.0

Note: Indexes with median absolute percent changes of less than 0.1 percent were excluded from these counts. When the reference statistic is close to zero, the usefulness of RSE as an analysis tool diminishes substantially. These counts are based on values in table 2 of the 2018 PPI variance estimate release.

**Table C. Relative standard error (RSE) counts and percentages for selected PPI industry-based indexes, 2018**

1-month RSE counts and percentages			12-month RSE counts and percentages		
Category	Count	% total	Category	Count	% total
<b>3-digit industry group</b>			<b>3-digit industry group</b>		
RSE < 50	15	31.9	RSE < 50	35	67.3
50 ≤ RSE < 100	19	40.4	50 ≤ RSE < 100	9	17.3
RSE ≥ 100	13	27.7	RSE ≥ 100	8	15.4
Total	47	100.0	Total	52	100.0
<b>4-digit industry group</b>			<b>4-digit industry group</b>		
RSE < 50	28	21.7	RSE < 50	93	61.2
50 ≤ RSE < 100	56	43.4	50 ≤ RSE < 100	32	21.1
RSE ≥ 100	45	34.9	RSE ≥ 100	27	17.8
Total	129	100.0	Total	152	100.0
<b>5-digit industry group</b>			<b>5-digit industry group</b>		
RSE < 50	35	14.6	RSE < 50	148	50.2
50 ≤ RSE < 100	118	49.4	50 ≤ RSE < 100	87	29.5
RSE ≥ 100	86	36.0	RSE ≥ 100	60	20.3
Total	239	100.0	Total	295	100.0
<b>6-digit industry</b>			<b>6-digit industry</b>		
RSE < 50	57	14.4	RSE < 50	252	49.2
50 ≤ RSE < 100	189	47.8	50 ≤ RSE < 100	150	29.3
RSE ≥ 100	149	37.7	RSE ≥ 100	110	21.5
Total	395	100.0	Total	512	100.0
<b>All categories</b>			<b>All categories</b>		
RSE < 50	135	16.7	RSE < 50	528	52.2
50 ≤ RSE < 100	382	47.2	50 ≤ RSE < 100	278	27.5
RSE ≥ 100	293	36.2	RSE ≥ 100	205	20.3
Total	810	100.0	Total	1,011	100.0

Note: Indexes with median absolute percent changes of less than 0.1 percent were excluded from these counts. When the reference statistic is close to zero, the usefulness of RSE as an analysis tool diminishes substantially. These counts are based on values in table 3 of the 2018 PPI variance estimate release.

**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
<b>Final Demand</b>					
Final demand	FD4	0.37	0.10	2.89	0.23
Final demand goods	FD41	0.41	0.08	3.31	0.19
Final demand foods	FD411	0.65	0.19	1.07	0.35
Finished consumer foods	FD4111	0.72	0.20	1.03	0.36
Finished consumer foods, processed	FD41112	0.22	0.22	0.55	0.39
Finished consumer foods, crude	FD41113	4.92	0.00	5.37	0.00
Government purchased foods	FD4112	0.49	0.26	0.89	0.47
Foods for export	FD4113	1.30	0.16	1.78	0.35
Final demand energy	FD412	1.47	0.35	9.69	0.68
Finished consumer energy goods	FD4121	1.43	0.40	7.78	0.53
Government purchased energy	FD4122	1.69	0.53	16.62	1.87
Energy for export	FD4123	1.99	0.75	24.80	3.11
Final demand goods less foods and energy	FD413	0.18	0.05	2.60	0.26
Finished goods less foods and energy	FD4131	0.17	0.04	2.27	0.34
Finished consumer goods less foods and energy	FD41311	0.15	0.05	2.76	0.55
Nondurable consumer goods less foods and energy	FD413111	0.19	0.07	3.54	0.92
Durable consumer goods	FD413112	0.07	0.06	1.66	0.19
Private capital equipment	FD41312	0.15	0.04	1.61	0.15
Private capital equipment for manufacturing industries	FD413121	0.28	0.07	2.41	0.26
Private capital equipment for nonmanufacturing industries	FD413122	0.13	0.05	1.38	0.15
Government purchased goods, excluding foods and energy	FD4132	0.18	0.05	2.23	0.29
Government purchased goods excluding foods, energy, and capital equipment	FD41321	0.21	0.07	2.89	0.27
Government purchased capital equipment	FD41322	0.08	0.05	1.16	0.41
Goods for export, excluding foods and energy	FD4133	0.26	0.08	3.05	0.23
Final demand services	FD42	0.19	0.14	2.67	0.33
Final demand services less trade, transportation, and warehousing	FD421	0.23	0.10	2.66	0.27
Finished services less trade, transportation, and warehousing	FD4211	0.23	0.10	2.73	0.28
Finished consumer services less trade, transportation, and warehousing	FD42111	0.27	0.11	2.59	0.30
Private capital investment services less trade, transportation, and warehousing	FD42112	0.21	0.17	4.42	0.54
Government purchased services less trade, transportation, and warehousing	FD4212	0.22	0.14	1.71	0.41
Gov. purchased services less trade, transportation, and warehousing, excl. capital investment	FD42121	0.23	0.14	1.71	0.41
Government purchased capital investment services less trade, transportation, and warehousing	FD42122	0.40	0.54	1.35	0.94
Services for export less trade, transportation, and warehousing	FD4213	0.27	0.19	3.49	0.52
Final demand transportation and warehousing services	FD422	0.52	0.21	5.68	0.49
Transportation of passengers for final demand	FD4221	2.09	0.61	3.37	0.93
Transportation of private passengers	FD42211	2.08	0.61	3.37	0.92
Transportation of government passengers	FD42212	2.07	0.61	3.36	0.92
Transportation of passengers for export	FD42213	2.11	0.62	3.39	0.94
Transportation and warehousing of goods for final demand	FD4222	0.52	0.14	6.18	0.54
Transportation and warehousing of finished goods	FD42221	0.55	0.15	6.41	0.59
Transportation and warehousing of personal consumption goods	FD422211	0.54	0.15	6.34	0.58
Transportation and warehousing of private capital equipment	FD422212	0.52	0.16	6.66	0.63
Transportation and warehousing of government purchased goods	FD42222	0.51	0.14	5.53	0.48
Transportation and warehousing of exports	FD42223	0.41	0.12	5.70	0.41
Final demand trade services	FD423	0.35	0.43	1.78	0.91
Trade of finished goods	FD4231	0.31	0.46	1.53	0.88
Trade of personal consumption goods	FD42311	0.26	0.50	0.88	0.87
Trade of private capital equipment	FD42312	0.75	0.87	3.92	2.10
Trade of government purchased goods	FD4232	0.43	0.61	3.20	1.58
Trade of government purchased goods, excluding capital equipment	FD42321	0.26	0.70	1.84	1.88
Trade of government purchased capital equipment	FD42322	0.98	1.02	4.36	2.46
Trade of exports	FD4233	0.51	0.59	3.33	1.56
Final demand construction	FD43	0.13	0.04	3.85	0.23
Construction for private capital investment	FD431	0.17	0.05	3.96	0.25
Construction for government	FD432	0.08	0.06	3.69	0.33
Final demand less exports	FD49101	0.35	0.10	2.80	0.23
Final demand less government	FD49102	0.37	0.10	2.84	0.24
Final demand less foods, food and nonalcoholic beverages for immediate consumption, and energy	FD49103	0.17	0.11	2.58	0.27
Final demand less foods and energy	FD49104	0.18	0.11	2.62	0.26

**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Final demand less foods and food and nonalcoholic beverages for immediate consumption	FD49105	0.43	0.11	3.00	0.25
Final demand less foods	FD49106	0.41	0.10	3.02	0.24
Final demand less energy	FD49107	0.16	0.10	2.48	0.24
Final demand less trade services	FD49108	0.39	0.06	3.26	0.16
Final demand less distributive services	FD49109	0.38	0.06	3.14	0.17
Final demand goods less energy	FD49111	0.21	0.06	2.04	0.22
Final demand goods less foods	FD49112	0.54	0.08	3.98	0.23
Final demand services less trade services	FD49113	0.26	0.09	2.96	0.24
Final demand distributive services	FD49114	0.28	0.37	2.37	0.78
Final demand goods plus final demand distributive services	FD49115	0.40	0.16	2.91	0.35
Final demand less foods, energy, and trade services	FD49116	0.23	0.06	2.89	0.18
Private and government purchased capital equipment	FD49117	0.14	0.04	1.56	0.16
Private and government purchased capital investment services	FD49118	0.57	0.42	4.22	1.05
Total private and government purchased capital investment	FD49119	0.31	0.20	2.98	0.49
Total finished	FD49201	0.36	0.11	2.73	0.25
Total finished less foods, food & nonalcoholic beverages for immediate consumption, & energy	FD49202	0.16	0.12	2.58	0.28
Total finished less foods and energy	FD49203	0.17	0.12	2.55	0.28
Total finished less foods and food and nonalcoholic beverages for immediate consumption	FD49204	0.39	0.12	2.88	0.26
Total finished less foods	FD49205	0.38	0.12	2.84	0.26
Total finished less energy	FD49206	0.17	0.11	2.38	0.27
Finished goods	FD49207	0.39	0.10	3.04	0.23
Finished goods less energy	FD49208	0.20	0.06	1.68	0.28
Finished goods, excluding foods	FD49209	0.57	0.12	3.78	0.28
Finished services	FD49210	0.18	0.15	2.62	0.33
Private capital investment services	FD49211	0.56	0.40	4.27	1.01
Finished distributive services	FD49212	0.31	0.40	2.06	0.78
Finished services less trade services	FD49213	0.26	0.10	3.00	0.26
Finished services less distributive services	FD49214	0.25	0.10	2.78	0.27
Total private capital investment (goods, services, and construction)	FD49215	0.31	0.20	3.03	0.50
Finished goods plus finished distributive services	FD49216	0.36	0.20	2.60	0.40
Total exports	FD49301	0.36	0.11	3.68	0.29
Goods for export	FD49302	0.29	0.08	3.51	0.20
Services for export	FD49303	0.42	0.27	3.69	0.71
Total government purchases	FD49401	0.41	0.11	3.53	0.24
Government purchased goods	FD49402	0.55	0.14	5.14	0.42
Government purchased services	FD49403	0.22	0.16	2.13	0.42
Total government purchased capital investment (goods, services, and construction)	FD49404	0.27	0.17	2.52	0.44
Personal consumption	FD49501	0.36	0.12	2.70	0.26
Personal consumption goods (finished consumer goods)	FD49502	0.45	0.14	3.61	0.30
Personal consumption goods less energy	FD49503	0.31	0.09	1.64	0.38
Personal consumption goods less foods	FD49504	0.76	0.17	4.89	0.39
Personal consumption services	FD49505	0.11	0.16	2.30	0.32
Personal consumption less trade services	FD49506	0.46	0.08	3.19	0.22
Personal consumption less distributive services	FD49507	0.44	0.08	3.08	0.23
Personal consumption nondurable goods less foods	FD49508	0.96	0.22	5.89	0.52
Personal consumption goods plus personal consumption distributive services	FD49509	0.43	0.23	2.70	0.41
Personal consumption less foods and energy	FD49510	0.11	0.14	2.40	0.30
Personal consumption less foods, energy, and trade services	FD49511	0.24	0.09	2.88	0.26
Personal consumption less foods, energy, and distributive services	FD49512	0.23	0.09	2.71	0.27
<b>Intermediate Demand by Commodity Type</b>					
Processed goods for intermediate demand	ID61	0.67	0.11	5.40	0.31
Materials and components for manufacturing	ID611	0.47	0.16	4.32	0.48
Materials for manufacturing	ID6111	0.66	0.26	6.02	0.77
Materials for food manufacturing	ID61111	0.35	0.30	1.80	0.61
Materials for nondurable manufacturing	ID61112	0.62	0.47	6.17	1.37
Materials for durable manufacturing	ID61113	0.58	0.24	8.09	0.96
Components for manufacturing	ID6112	0.20	0.05	2.15	0.23
Components for nondurable manufacturing	ID61121	0.28	0.22	2.62	0.57
Components for durable manufacturing	ID61122	0.21	0.05	2.11	0.23

**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Materials and components for construction	ID612	0.29	0.15	5.18	0.43
Materials for construction	ID6121	0.61	0.19	5.23	0.41
Components for construction	ID6122	0.32	0.19	5.57	0.68
Processed fuels and lubricants for intermediate demand	ID613	1.71	0.37	11.39	1.25
Processed fuels and lubricants to manufacturing industries	ID6131	1.37	0.54	10.74	1.75
Processed fuels and lubricants to nonmanufacturing industries	ID6132	2.06	0.42	11.63	1.28
Containers for intermediate demand	ID614	0.15	0.14	3.37	0.44
Supplies for intermediate demand	ID615	0.16	0.08	2.99	0.21
Supplies to manufacturing industries	ID6151	0.34	0.14	4.60	0.53
Supplies to nonmanufacturing industries	ID6152	0.20	0.08	2.74	0.21
Supplies to nonmanufacturing industries, feeds	ID61521	1.30	0.43	4.86	1.14
Supplies to nonmanufacturing industries, other than feeds	ID61522	0.12	0.07	2.56	0.20
Unprocessed goods for intermediate demand	ID62	2.50	0.32	4.77	0.56
Unprocessed foodstuffs and feedstuffs	ID621	2.19	0.00	1.39	0.00
Unprocessed nonfood materials	ID622	3.10	0.51	9.00	0.91
Unprocessed nonfood materials except fuel	ID6221	3.10	0.43	16.98	0.84
Unprocessed nonfood materials except fuel to manufacturing industries	ID62211	3.22	0.45	17.74	0.88
Unprocessed nonfood materials except fuel to nonmanufacturing industries	ID62212	0.29	0.24	3.37	0.89
Unprocessed fuel	ID6222	2.24	1.01	8.98	1.88
Unprocessed fuel to manufacturing industries	ID62221	1.29	0.58	4.58	1.95
Unprocessed fuel to nonmanufacturing industries	ID62222	2.29	1.02	9.13	1.89
Services for intermediate demand	ID63	0.24	0.14	3.13	0.38
Services less trade, transportation, and warehousing for intermediate demand	ID631	0.21	0.13	2.82	0.42
Services less trade, transportation, and warehousing for manufacturing industries	ID6311	0.17	0.14	1.68	0.56
Services less trade, transportation, and warehousing for nonmanufacturing industries	ID6312	0.22	0.13	2.86	0.43
Transportation and warehousing services for intermediate demand	ID632	0.23	0.11	4.10	0.32
Transportation of passengers for intermediate demand	ID6321	2.06	0.61	3.35	0.92
Transportation of passengers for manufacturing industries	ID63211	2.11	0.62	3.39	0.94
Transportation of passengers for nonmanufacturing industries	ID63212	2.05	0.60	3.33	0.91
Transportation and warehousing of goods for intermediate demand	ID6322	0.28	0.10	4.07	0.33
Transportation of goods for manufacturing industries	ID63221	0.45	0.14	5.56	0.44
Transportation of goods for nonmanufacturing industries	ID63222	0.22	0.10	3.91	0.33
Trade services for intermediate demand	ID633	0.52	0.56	4.16	1.34
Trade services for manufacturing industries	ID6331	0.56	0.65	4.83	1.58
Trade services for nonmanufacturing industries	ID6332	0.47	0.54	3.69	1.30
Construction for intermediate demand	ID64	0.18	0.15	1.64	0.55
Processed materials less foods and feeds	ID69111	0.72	0.12	5.80	0.35
Processed foods and feeds	ID69112	0.69	0.25	0.80	0.57
Processed energy goods	ID69113	1.71	0.37	11.39	1.25
Processed materials less foods and energy	ID69115	0.39	0.11	4.31	0.34
Intermediate distributive services	ID69116	0.41	0.35	4.03	0.82
Processed goods plus intermediate distributive services	ID69117	0.67	0.13	4.97	0.34
Processed materials less energy	ID69118	0.35	0.11	3.99	0.30
Unprocessed materials less agricultural products	ID69211	3.18	0.54	9.12	0.97
Unprocessed energy materials	ID69212	4.19	0.67	12.80	1.30
Unprocessed materials less energy	ID69213	1.63	0.18	2.75	0.40
Nonfood materials ex. fuel for mfg, ex. selected items	ID69215	3.31	0.46	18.00	0.89
Unprocessed nonfood materials less energy	ID69216	1.07	0.51	5.96	1.11
<b>Intermediate Demand by Production Flow</b>					
Stage 4 intermediate demand	ID54	0.34	0.10	3.59	0.25
Inputs to stage 4 goods producers	ID541	0.40	0.14	3.20	0.38
Inputs to stage 4 goods producers, goods	ID5411	0.25	0.07	3.05	0.23
Inputs to stage 4 goods producers, foods	ID54111	0.90	0.16	1.79	0.33
Inputs to stage 4 goods producers, energy	ID54112	1.37	0.56	6.24	1.33
Inputs to stage 4 goods producers, goods excluding foods and energy	ID54113	0.27	0.06	3.13	0.24
Inputs to stage 4 goods producers, services	ID5412	0.42	0.51	3.40	1.49
Inputs to stage 4 goods producers, services less trade, transportation, and warehousing	ID54121	0.19	0.17	0.97	0.89
Inputs to stage 4 goods producers, transportation and warehousing services	ID54122	0.63	0.27	5.59	0.58
Inputs to stage 4 goods producers, transportation of passengers	ID541221	2.11	0.62	3.39	0.94



**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Inputs to stage 4 goods producers, transportation and warehousing of goods	ID541222	0.53	0.18	6.89	0.68
Inputs to stage 4 goods producers, trade services	ID54123	0.53	0.64	3.78	1.86
Inputs to stage 4 services producers	ID542	0.21	0.11	2.73	0.33
Inputs to stage 4 services producers, goods	ID5421	0.39	0.12	2.54	0.20
Inputs to stage 4 services producers, foods	ID54211	0.51	0.34	1.21	0.67
Inputs to stage 4 services producers, energy	ID54212	1.07	0.40	4.99	0.59
Inputs to stage 4 services producers, goods excluding foods and energy	ID54213	0.18	0.06	3.15	0.20
Inputs to stage 4 services producers, services	ID5422	0.18	0.15	2.88	0.45
Inputs to stage 4 services producers, services less trade, transportation, and warehousing	ID54221	0.17	0.15	2.73	0.52
Inputs to stage 4 services producers, transportation and warehousing services	ID54222	0.37	0.17	4.16	0.39
Inputs to stage 4 services producers, transportation of passengers	ID542221	2.11	0.62	3.39	0.94
Inputs to stage 4 services producers, transportation and warehousing of goods	ID542222	0.30	0.17	4.14	0.41
Inputs to stage 4 services producers, trade services	ID54223	0.28	0.56	2.70	1.48
Inputs to stage 4 services producers, construction	ID5423	0.18	0.15	1.64	0.55
Inputs to stage 4 construction producers	ID543	0.71	0.19	6.35	0.41
Inputs to stage 4 construction producers, goods	ID5431	0.81	0.19	7.16	0.47
Inputs to stage 4 construction producers, energy	ID54312	2.76	1.01	28.12	2.99
Inputs to stage 4 construction producers, goods excluding foods and energy	ID54313	0.26	0.14	4.98	0.38
Inputs to stage 4 construction producers, services	ID5432	0.52	0.37	4.44	0.79
Inputs to stage 4 construction producers, services less trade, transportation, and warehousing	ID54321	0.12	0.15	2.90	0.51
Inputs to stage 4 construction producers, transportation and warehousing services	ID54322	0.56	0.17	6.82	0.64
Inputs to stage 4 construction producers, transportation of passengers	ID543221	1.82	0.54	2.90	0.81
Inputs to stage 4 construction producers, transportation and warehousing of goods	ID543222	0.55	0.17	6.85	0.67
Inputs to stage 4 construction producers, trade services	ID54323	0.80	0.68	5.01	1.43
Stage 3 intermediate demand	ID53	0.84	0.12	4.49	0.29
Inputs to stage 3 goods producers	ID531	0.91	0.16	3.46	0.42
Inputs to stage 3 goods producers, goods	ID5311	1.00	0.15	3.35	0.41
Inputs to stage 3 goods producers, foods	ID53111	2.02	0.03	3.50	0.07
Inputs to stage 3 goods producers, energy	ID53112	1.51	0.57	15.44	2.77
Inputs to stage 3 goods producers, goods excluding foods and energy	ID53113	0.65	0.22	5.27	0.61
Inputs to stage 3 goods producers, services	ID5312	0.54	0.55	4.81	1.28
Inputs to stage 3 goods producers, services less trade, transportation, and warehousing	ID53121	0.21	0.19	2.08	0.55
Inputs to stage 3 goods producers, transportation and warehousing services	ID53122	0.41	0.13	5.87	0.47
Inputs to stage 3 goods producers, transportation of passengers	ID531221	1.73	0.51	2.72	0.77
Inputs to stage 3 goods producers, transportation and warehousing of goods	ID531222	0.35	0.13	5.96	0.49
Inputs to stage 3 goods producers, trade services	ID53123	0.58	0.67	5.10	1.57
Inputs to stage 3 goods producers, construction	ID5313	0.18	0.15	1.64	0.55
Inputs to stage 3 services producers	ID532	0.62	0.16	4.81	0.32
Inputs to stage 3 services producers, goods	ID5321	1.94	0.49	11.94	0.89
Inputs to stage 3 services producers, foods	ID53211	0.77	0.25	1.39	0.61
Inputs to stage 3 services producers, energy	ID53212	2.68	0.70	16.79	1.35
Inputs to stage 3 services producers, goods excluding foods and energy	ID53213	0.14	0.10	1.87	0.37
Inputs to stage 3 services producers, services	ID5322	0.17	0.12	2.79	0.38
Inputs to stage 3 services producers, services less trade, transportation, and warehousing	ID53221	0.21	0.14	2.93	0.47
Inputs to stage 3 services producers, transportation and warehousing services	ID53222	0.18	0.07	3.38	0.42
Inputs to stage 3 services producers, transportation of passengers	ID532221	1.85	0.55	2.96	0.82
Inputs to stage 3 services producers, transportation and warehousing of goods	ID532222	0.19	0.07	3.39	0.42
Inputs to stage 3 services producers, trade services	ID53223	0.72	0.92	1.48	2.29
Inputs to stage 3 services producers, construction	ID5323	0.18	0.15	1.64	0.55
Inputs to stage 3 construction producers	ID533	1.69	0.75	16.15	1.76
Inputs to stage 3 construction producers, goods	ID5331	2.04	0.92	19.83	2.27
Inputs to stage 3 construction producers, energy	ID53312	3.11	1.48	36.64	3.97
Inputs to stage 3 construction producers, goods excluding foods and energy	ID53313	0.43	0.12	5.09	0.40
Inputs to stage 3 construction producers, services	ID5332	0.65	0.57	4.61	1.21
Inputs to stage 3 construction producers, services less trade, transportation, and warehousing	ID53321	0.17	0.36	1.36	1.23
Inputs to stage 3 construction producers, transportation and warehousing services	ID53322	2.11	0.62	3.39	0.94
Inputs to stage 3 construction producers, transportation of passengers	ID533221	2.11	0.62	3.39	0.94
Inputs to stage 3 construction producers, trade services	ID53323	0.70	0.63	4.89	1.34

**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Stage 2 intermediate demand	ID52	0.84	0.16	5.23	0.30
Inputs to stage 2 goods producers	ID521	1.62	0.27	7.99	0.48
Inputs to stage 2 goods producers, goods	ID5211	1.80	0.32	8.80	0.55
Inputs to stage 2 goods producers, foods	ID52111	1.89	0.16	1.88	0.36
Inputs to stage 2 goods producers, energy	ID52112	4.30	0.68	16.02	1.21
Inputs to stage 2 goods producers, goods excluding foods and energy	ID52113	0.48	0.18	6.11	0.65
Inputs to stage 2 goods producers, services	ID5212	0.31	0.10	3.40	0.27
Inputs to stage 2 goods producers, services less trade, transportation, and warehousing	ID52121	0.13	0.13	2.28	0.48
Inputs to stage 2 goods producers, transportation and warehousing services	ID52122	0.37	0.11	4.06	0.37
Inputs to stage 2 goods producers, transportation of passengers	ID521221	1.97	0.58	3.18	0.87
Inputs to stage 2 goods producers, transportation and warehousing of goods	ID521222	0.35	0.11	4.04	0.39
Inputs to stage 2 goods producers, trade services	ID52123	0.76	0.79	4.29	1.48
Inputs to stage 2 goods producers, construction	ID5213	0.18	0.15	1.64	0.55
Inputs to stage 2 services producers	ID522	0.18	0.11	2.92	0.37
Inputs to stage 2 services producers, goods	ID5221	0.41	0.10	3.75	0.23
Inputs to stage 2 services producers, foods	ID52211	3.09	0.06	6.96	0.24
Inputs to stage 2 services producers, energy	ID52212	2.16	0.84	18.05	2.22
Inputs to stage 2 services producers, goods excluding foods and energy	ID52213	0.20	0.07	2.65	0.17
Inputs to stage 2 services producers, services	ID5222	0.16	0.12	2.86	0.43
Inputs to stage 2 services producers, services less trade, transportation, and warehousing	ID52221	0.16	0.14	2.65	0.51
Inputs to stage 2 services producers, transportation and warehousing services	ID52222	0.36	0.12	3.82	0.31
Inputs to stage 2 services producers, transportation of passengers	ID522221	2.07	0.61	3.36	0.92
Inputs to stage 2 services producers, transportation and warehousing of goods	ID522222	0.18	0.09	3.79	0.31
Inputs to stage 2 services producers, trade services	ID52223	0.75	0.87	5.89	1.58
Inputs to stage 2 services producers, construction	ID5223	0.18	0.15	1.64	0.55
Stage 1 intermediate demand	ID51	0.67	0.19	5.68	0.41
Inputs to stage 1 goods producers	ID511	0.93	0.28	6.61	0.68
Inputs to stage 1 goods producers, goods	ID5111	0.73	0.30	7.43	0.80
Inputs to stage 1 goods producers, foods	ID51111	1.91	0.21	4.02	0.44
Inputs to stage 1 goods producers, energy	ID51112	2.02	0.40	14.70	2.17
Inputs to stage 1 goods producers, goods excluding foods and energy	ID51113	0.45	0.37	6.02	1.01
Inputs to stage 1 goods producers, services	ID5112	0.73	0.74	5.45	1.46
Inputs to stage 1 goods producers, services less trade, transportation, and warehousing	ID51121	0.32	0.23	1.33	1.14
Inputs to stage 1 goods producers, transportation and warehousing services	ID51122	0.62	0.22	5.65	0.68
Inputs to stage 1 goods producers, transportation of passengers	ID511221	2.11	0.62	3.39	0.94
Inputs to stage 1 goods producers, transportation and warehousing of goods	ID511222	0.40	0.20	6.30	0.78
Inputs to stage 1 goods producers, trade services	ID51123	1.03	1.02	6.55	2.00
Inputs to stage 1 goods producers, construction	ID5113	0.18	0.15	1.64	0.55
Inputs to stage 1 services producers	ID512	0.29	0.20	4.88	0.39
Inputs to stage 1 services producers, goods	ID5121	0.97	0.45	9.32	0.89
Inputs to stage 1 services producers, foods	ID51211	2.63	1.86	30.39	6.96
Inputs to stage 1 services producers, energy	ID51212	1.59	0.85	16.91	2.03
Inputs to stage 1 services producers, goods excluding foods and energy	ID51213	0.27	0.09	3.01	0.29
Inputs to stage 1 services producers, services	ID5122	0.26	0.19	2.91	0.47
Inputs to stage 1 services producers, services less trade, transportation, and warehousing	ID51221	0.27	0.19	3.01	0.49
Inputs to stage 1 services producers, transportation and warehousing services	ID51222	1.21	0.39	3.03	0.69
Inputs to stage 1 services producers, transportation of passengers	ID512221	2.11	0.62	3.39	0.94
Inputs to stage 1 services producers, transportation and warehousing of goods	ID512222	0.33	0.25	2.98	0.76
Inputs to stage 1 services producers, trade services	ID51223	0.55	0.77	1.99	1.83
Inputs to stage 1 services producers, construction	ID5123	0.18	0.15	1.64	0.55
Inputs to stage 1 construction producers	ID513	0.73	0.19	5.89	0.45
Inputs to stage 1 construction producers, goods	ID5131	0.75	0.17	6.79	0.43
Inputs to stage 1 construction producers, energy	ID51312	2.45	0.68	23.02	3.15
Inputs to stage 1 construction producers, goods excluding foods and energy	ID51313	0.31	0.13	5.07	0.38
Inputs to stage 1 construction producers, services	ID5132	0.66	0.47	4.29	1.02
Inputs to stage 1 construction producers, services less trade, transportation, and warehousing	ID51321	0.10	0.17	2.01	0.51
Inputs to stage 1 construction producers, transportation and warehousing services	ID51322	0.69	0.27	3.42	1.34
Inputs to stage 1 construction producers, transportation of passengers	ID513221	2.11	0.62	3.39	0.94
Inputs to stage 1 construction producers, transportation and warehousing of goods	ID513222	0.28	0.29	3.82	1.73
Inputs to stage 1 construction producers, trade services	ID51323	0.91	0.64	5.26	1.37

**Table 1. Variance estimates for Producer Price Index Final Demand-Intermediate Demand indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Total goods inputs to stage 4 intermediate demand	ID59411	0.48	0.08	3.95	0.22
Total services inputs to stage 4 intermediate demand	ID59412	0.20	0.17	3.16	0.51
Total construction inputs to stage 4 intermediate demand	ID59413	0.18	0.15	1.64	0.55
Total foods inputs to stage 4 intermediate demand	ID59414	0.63	0.23	1.29	0.47
Total energy goods inputs to stage 4 intermediate demand	ID59415	1.04	0.48	11.83	1.22
Total goods less foods and energy inputs to stage 4 intermediate demand	ID59416	0.24	0.06	3.72	0.20
Total goods inputs to stage 3 intermediate demand	ID59311	1.20	0.16	5.87	0.40
Total services inputs to stage 3 intermediate demand	ID59312	0.20	0.17	3.15	0.45
Total construction inputs to stage 3 intermediate demand	ID59313	0.18	0.15	1.64	0.55
Total foods inputs to stage 3 intermediate demand	ID59314	2.02	0.03	3.50	0.07
Total energy goods inputs to stage 3 intermediate demand	ID59315	2.26	0.56	17.76	1.77
Total goods less foods and energy inputs to stage 3 intermediate demand	ID59316	0.58	0.19	4.85	0.54
Total goods inputs to stage 2 intermediate demand	ID59211	1.64	0.29	8.16	0.50
Total services inputs to stage 2 intermediate demand	ID59212	0.15	0.11	2.88	0.39
Total construction inputs to stage 2 intermediate demand	ID59213	0.18	0.15	1.64	0.55
Total foods inputs to stage 2 intermediate demand	ID59214	1.90	0.16	1.76	0.36
Total energy goods inputs to stage 2 intermediate demand	ID59215	4.23	0.67	16.14	1.19
Total goods less foods and energy inputs to stage 2 intermediate demand	ID59216	0.40	0.15	5.42	0.53
Total goods inputs to stage 1 intermediate demand	ID59111	0.79	0.26	7.73	0.66
Total services inputs to stage 1 intermediate demand	ID59112	0.38	0.26	3.48	0.55
Total construction inputs to stage 1 intermediate demand	ID59117	0.18	0.15	1.64	0.55
Total foods inputs to stage 1 intermediate demand	ID59114	1.67	0.25	4.73	0.58
Total energy goods inputs to stage 1 intermediate demand	ID59115	2.07	0.62	15.70	1.75
Total goods less foods and energy inputs to stage 1 intermediate demand	ID59116	0.40	0.27	5.24	0.73

NOTE: Some indexes in this table, primarily PPIs that include data for agricultural products, to varying degrees are constructed using price information not directly sampled by PPI. Secondary source data, mainly from the U.S. Department of Agriculture, but also other sources, are considered a census of available price information. No sampling variability exists in those percent change estimates, so the standard error values are zero. The FD-ID index for Unprocessed Foodstuffs and Feedstuffs is constructed almost exclusively from non-sampled price data, and at certain levels of aggregation, other FD-ID indexes include both sampled and non-sampled data. For more information, refer to the section titled "PPI Sampling" in the methodology paper that accompanies this year's PPI variance publication.

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
<b>Goods</b>					
Farm products	01	2.81	0.00	2.55	0.00
Fruits & melons, fresh/dry vegs. & nuts	011	5.27	0.00	3.11	0.00
Fresh fruits and melons	0111	5.06	0.00	4.83	0.00
Citrus fruits	011101	4.98	0.00	13.73	0.00
Other fruits and berries	011102	5.11	0.00	9.67	0.00
Fresh and dry vegetables	0113	15.77	0.00	12.82	0.00
Dry vegetables	011301	1.64	0.00	16.74	0.00
Fresh vegetables, except potatoes	011302	22.58	0.00	17.41	0.00
Sweet potatoes	011303	0.98	0.00	6.41	0.00
Potatoes	011306	5.45	0.00	18.00	0.00
Tree nuts	0119	1.26	0.00	4.77	0.00
Tree nuts	011901	1.26	0.00	4.77	0.00
Grains	012	3.70	0.00	8.84	0.00
Wheat	0121	5.71	0.00	16.39	0.00
Wheat	012101	5.71	0.00	16.39	0.00
Other grains	0122	4.08	0.00	6.29	0.00
Barley	012201	1.51	0.00	20.26	0.00
Corn	012202	4.18	0.00	5.70	0.00
Oats	012203	3.89	0.00	3.69	0.00
Sorghum	012205	3.39	0.00	10.60	0.00
Rough rice	0123	1.34	0.00	21.68	0.00
Rough rice	012301	1.34	0.00	21.68	0.00
Slaughter livestock	013	2.19	0.00	6.24	0.00
Slaughter cattle	0131	1.67	0.00	3.89	0.00
Slaughter steers and heifers	013101	2.16	0.00	4.50	0.00
Slaughter cows and bulls	013102	4.89	0.00	12.72	0.00
Slaughter vealers	013103	0.40	0.00	3.93	0.00
Slaughter hogs	0132	11.42	0.00	12.46	0.00
Slaughter barrows and gilts	013201	11.94	0.00	11.94	0.00
Slaughter sows	013202	14.54	0.00	22.38	0.00
Slaughter lambs	0133	7.65	0.00	8.79	0.00
Slaughter lambs	013301	7.65	0.00	8.79	0.00
Slaughter poultry	014	6.21	0.00	4.94	0.00
Slaughter chickens	0141	6.77	0.00	8.33	0.00
Broilers and other meat type chickens	014102	6.77	0.00	8.33	0.00
Slaughter turkeys	0142	2.75	0.00	17.55	0.00
Slaughter turkeys	014201	2.75	0.00	17.55	0.00
Slaughter ducks	0143	0.00	0.00	0.39	0.00
Slaughter ducks	014301	0.00	0.00	0.39	0.00
Raw cotton	015	4.75	0.00	5.01	0.00
Raw cotton	0151	4.75	0.00	5.01	0.00
Raw cotton	015101	4.75	0.00	5.01	0.00
Raw milk	016	3.39	0.00	6.13	0.00
Raw milk	0161	3.39	0.00	6.13	0.00
Raw milk	016101	3.39	0.00	6.13	0.00
Chicken eggs	017	19.91	0.00	51.32	0.00
Chicken eggs	0171	19.91	0.00	51.32	0.00
Eggs for fresh use	017107	19.67	0.00	40.21	0.00
Breaker stock and checks and undergrades	017108	16.59	0.00	65.88	0.00
Hay, hayseeds, and oilseeds	018	2.91	0.00	7.96	0.00
Hay and hayseeds	0181	5.01	0.00	17.47	0.00
Hay and hayseeds	018101	5.01	0.00	17.47	0.00
Oilseeds	0183	3.19	0.00	7.63	0.00
Oilseeds	018301	3.19	0.00	7.63	0.00
Processed foods and feeds	02	0.36	0.20	0.87	0.41
Cereal and bakery products	021	0.22	0.15	2.19	0.34
Bakery products	0211	0.24	0.23	2.52	0.45
Bread (white, wheat, rye, etc.), including frozen	021102	0.44	0.59	2.63	0.80

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Rolls (bread-type), muffins, bagels, and croissants	021105	0.22	0.31	3.15	0.73
Other sweet goods, excluding frozen	021107	1.37	1.06	4.33	1.91
Soft cakes, excluding frozen	021108	0.25	0.20	0.57	0.74
Pies (fruit, cream, and custard), excluding frozen	021109	0.90	0.54	4.78	2.28
Cookies, crackers, and related products	021121	0.01	0.01	0.27	0.74
Retail bakery products	021130	0.29	0.29	5.26	2.50
Flour and flour base mixes and doughs	0212	0.39	0.23	1.32	0.71
Wheat flour	021203	0.79	0.45	1.87	1.43
Flour base mixes and doughs	021204	0.05	0.04	0.96	0.48
Milled rice and byproducts	0213	0.70	0.27	11.27	2.21
Head rice	021301	0.66	0.25	12.48	2.51
Milled rice (incl second heads, screenings, brewers, bran, sharps, rice flour, and byproducts)	021302	1.27	0.88	5.82	5.26
Cereal and pasta products	0214	0.33	0.22	0.83	0.63
Dry macaroni, spaghetti, and egg noodle products, made from purchased flour	021402	0.51	0.62	0.64	1.93
Cereal and mill products, other than flour	021409	0.33	0.26	0.83	0.65
Meats, poultry, and fish	022	1.08	0.70	2.15	1.30
Meats	0221	0.66	0.94	3.44	1.50
Beef and veal products, fresh or frozen	022101	1.87	1.73	3.63	2.88
Lamb/mutton, fresh or frozen, not canned or made into sausage, made in slaughtering plants	022103	1.07	1.12	3.61	3.90
Pork products, fresh, frozen, or processed, except sausage	022104	2.22	1.94	4.61	2.63
Other meats, fresh, frozen, or canned	022105	0.45	0.46	2.95	1.30
Processed poultry	0222	1.43	1.46	5.74	3.01
Young chickens, including bulk, chilled, frozen, whole, and in parts	022203	1.55	1.23	6.40	3.25
Turkeys, including frozen, whole, and in parts	022206	1.78	1.01	4.13	5.04
Canned, cooked, smoked or prepared poultry	022208	1.39	3.63	6.06	6.09
Chicken hens and other poultry/small game	022209	0.41	1.02		
Unprocessed and prepared seafood	0223	3.79	0.38	2.28	1.46
Unprocessed finfish	022301	13.92	0.00	10.05	0.00
Canned seafood (including soups, stews, and chowders)	022304	1.80	1.96	9.90	6.18
Unprocessed shellfish	022305	5.34	0.00	1.21	0.00
Prepared fresh and frozen seafood	022306	0.56	0.64	1.28	2.41
Dairy products	023	0.70	0.20	2.43	0.53
Fluid milk products	0231	0.87	0.20	1.93	0.53
Packaged fluid milk and related products	023103	1.26	0.22	2.97	0.54
Cottage cheese	023104	0.35	0.18	2.75	2.15
Other milk products	023105	0.28	0.10	0.27	0.28
Bulk fluid milk and cream	023106	0.66	0.81	2.79	2.09
Butter	0232	3.12	0.67	4.11	1.22
Butter	023201	3.12	0.67	4.11	1.22
Natural, processed, and imitation cheese	0233	1.21	0.38	2.23	0.95
Natural cheese, except cottage cheese	023302	0.86	0.33	2.15	0.85
Process cheese and related products	023303	2.00	1.45	3.93	2.44
Cheese substitutes and imitations	023304	2.37	2.65		
Raw liquid whey	023307	2.03	2.27	25.17	8.34
Ice cream and frozen desserts	0234	0.43	0.26	1.01	0.59
Ice cream and frozen desserts	023402	0.43	0.26	1.01	0.59
Dry, condensed, and evaporated milk products	0235	0.79	0.62	6.45	2.34
Dry milk products, including feed grade	023502	1.23	0.65	8.52	2.97
Liquid milk products	023503	0.49	1.13	3.31	3.69
Ice cream mixes and related products	023505	0.84	0.74	2.35	1.39
Processed fruits and vegetables	024	0.21	0.25	2.45	0.75
Canned fruits and juices	0241	0.31	0.55	0.75	1.47
Canned fruits, excluding baby foods	024101	0.43	0.56	2.11	1.75
Canned and fresh fruit juices, nectars, and concentrates	024102	0.36	0.37	1.01	2.00
Frozen fruits, juices and ades	0242	0.34	0.53	7.57	5.68
Frozen fruits	024202	0.19	0.19	2.18	2.46
Frozen juices, ades, drinks, and cocktails	024203	0.19	0.65	12.39	9.70
Canned vegetables and juices	0244	0.70	0.54	2.90	0.99
Canned vegetables and juices	024401	0.70	0.54	2.90	0.99
Frozen vegetables	0245	0.27	0.18	4.47	1.30

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Frozen potato products (French-fried, patties, puffs, etc.)	024502	0.07	0.07	4.46	1.51
Frozen vegetables, other than potato products	024505	0.07	0.08	4.16	2.21
Dried and dehydrated food	0248	0.17	0.36	1.49	0.90
Dried and dehydrated food	024801	0.17	0.36	1.49	0.90
Sugar and confectionery	025	0.28	0.25	0.97	0.54
Raw cane sugar and sugar cane mill products and by-products	0252	1.54	1.09	6.26	3.45
Raw cane sugar and sugarcane mill products and by-products	025201	1.54	1.09	6.26	3.45
Refined sugar products and by-products	0253	0.26	0.35	3.92	0.89
Refined sugar products and by-products	025307	0.26	0.35	3.92	0.89
Confectionery materials	0254	0.87	0.88	0.90	1.05
Confectionery materials	025401	0.87	0.88	0.90	1.05
Confectionery end products	0255	0.36	0.25	1.16	0.69
Chewing gum, bubble gum, and chewing gum base	025502	0.00	0.00	0.70	0.61
Candy and nuts	025503	0.32	0.26	1.12	0.73
Beverages and beverage materials	026	0.20	0.21	1.56	0.45
Alcoholic beverages	0261	0.34	0.25	1.96	0.86
Malt beverages	026101	0.04	0.05	1.11	0.92
Distilled and bottled liquor, excluding brandy	026102	1.27	0.93	6.18	2.78
Wines, brandy, and brandy spirits	026104	0.07	0.14	0.23	0.45
Soft drinks	0262	0.48	0.37	1.11	0.66
Soft drinks, non-carbonated and bottled water	026206	0.42	0.44	0.57	0.83
Soft drinks, bottle/can, carbonated, all types	026210	0.31	0.55	1.21	0.78
Packaged beverage materials	0263	0.12	0.09	0.27	0.55
Coffee (whole bean, ground, & instant)	026301	0.17	0.10	0.26	0.50
Tea in consumer packages, exc. canned ice tea	026303	0.18	0.22	0.38	1.94
Other beverage materials	0264	0.07	0.07	1.45	0.96
Other beverage materials	026401	0.07	0.07	1.45	0.96
Fats and oils	027	0.55	0.49	2.90	1.36
Shortening, cooking oil, and margarine	0278	0.73	0.53	3.07	1.46
Shortening, cooking oil, and margarine	027801	0.73	0.53	3.07	1.46
Other oilseed processing	027A	0.47	1.06	0.70	4.82
Other oilseed processing	027A01	0.47	1.06	0.70	4.82
Corn oil, crude and refined	027B	1.11	3.18		
Corn oil, made by wet milling	027B01	1.11	3.18	9.39	12.66
Miscellaneous processed foods	028	0.29	0.22	2.52	0.93
Canned jams, jellies, and preserves	0281	0.04	0.03	0.59	0.42
Canned jams, jellies, and preserves	028101	0.04	0.03	0.59	0.42
Pickles and other pickled products, including horseradish	0282	0.02	0.02	5.06	0.91
Pickles and other pickled products	028201	0.02	0.02	5.06	0.91
Processed eggs, liquid, dried, or frozen	0283	5.87	3.24	91.35	15.12
Processed eggs, liquid, dried, or frozen	028301	5.87	3.24	91.35	15.12
Specialty canning	0284	0.27	0.28	0.29	0.82
Specialty canning	028401	0.27	0.28	0.29	0.82
Frozen specialty food	0285	0.11	0.12	0.41	0.38
Frozen specialty food	028501	0.11	0.12	0.41	0.38
Prepared sauces, except tomato	0286	0.00	0.00	1.17	0.47
Prepared sauces, excluding tomato-based sauces and sauces comprised of 20 percent or more meat	028601	0.00	0.00	1.17	0.47
Other miscellaneous processed foods	0289	0.22	0.17	1.94	1.28
Other miscellaneous processed foods	028901	0.22	0.17	1.94	1.28
Prepared animal feeds	029	0.98	0.32	3.98	0.89
Soybean cake, meal, and other byproducts	0292	2.47	1.00	11.21	1.65
Soybean cake, meal, and other byproducts	029201	2.47	1.00	11.21	1.65
Formula feeds	0293	1.18	0.33	4.63	0.65
Formula feeds	029301	1.18	0.33	4.63	0.65
Miscellaneous feedstuffs	0294	0.95	0.45	1.35	1.57
Pet food	029402	0.06	0.09	1.83	0.58
Miscellaneous feedstuffs other than pet food	029403	1.58	1.33	2.73	4.81
Textile products and apparel	03	0.26	0.12	2.66	0.33
Synthetic fibers	031	0.28	0.17	6.56	1.22

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Unprocessed filament yarns	0315	0.28	0.17	6.56	1.22
Noncellulosic fibers	031502	0.38	0.24	8.97	1.68
Processed yarns and threads	032	0.54	0.35	5.50	0.94
Yarns	0326	0.56	0.36	5.65	0.97
Spun cotton yarns	032601	1.49	0.71	13.39	2.92
Spun synthetic yarns	032603	0.89	0.71	7.23	3.42
Textured and twisted yarns	032604	0.16	0.12	0.58	0.42
Other spun noncellulosic and natural fiber (excluding cotton and wool) yarns	032607	0.19	0.21	2.65	1.28
Thread	0327	0.00	0.00	0.31	0.10
Thread	032705	0.00	0.00	0.31	0.10
Greige fabrics	033	0.19	0.20	2.23	0.72
Greige broadwoven fabrics	0337	0.23	0.23	1.06	0.77
Greige manmade fiber broadwoven fabrics	033703	0.26	0.28	0.39	0.92
Greige knit fabrics	0338	0.00	0.05	1.20	1.52
Warp knit fabrics, greige goods (excluding hosiery)	033804	0.00	0.00	0.87	0.75
Tire cord and tire fabric	0339	0.26	0.14	5.72	1.92
Tire cord and tire fabrics	033901	0.26	0.14	5.72	1.92
Finished fabrics	034	0.25	0.21	1.53	0.70
Finished broadwoven fabrics	0342	0.40	0.42	1.34	0.88
Finished cotton broadwoven fabrics	034201	0.48	1.32	3.41	2.25
Finished wool broadwoven fabrics and felts	034202	0.00	0.00	2.20	2.08
Finished manmade fiber, silk and other natural fiber (excl. cotton and wool) broadwoven fabrics	034203	0.11	0.21	0.58	0.86
Woven and braided narrow fabrics	0344	0.02	0.03	2.93	1.56
Woven and braided narrow fabrics	034402	0.02	0.03	2.93	1.56
Nonwoven fabrics and felts	0345	0.36	0.43	1.99	1.77
Nonwoven fabrics and felts	034503	0.36	0.43	1.99	1.77
Coated fabrics, not rubberized	0346	0.28	0.26	2.33	1.53
Coated fabrics, not rubberized	034601	0.28	0.26	2.33	1.53
Screen printed textile materials, embroideries, and lace goods	0347	0.01	0.02	0.84	0.50
Screen printed textile and apparel materials and embroideries	034701	0.01	0.02	0.85	0.51
Knit fabrics, finished in knitting mills	0348	0.04	0.05	0.77	1.06
Warp knit goods, knit and finished in the same establishment	034802	0.01	0.02	1.00	1.78
Apparel & other fabricated textile prods	038	0.04	0.09	1.25	0.38
Apparel	0381	0.09	0.07	1.06	0.33
Miscellaneous apparel and accessories	038104	0.13	0.11	3.17	1.23
Women's, girls', and infants' cut and sew apparel	038106	0.12	0.13	0.60	0.30
Men's and boys' cut and sew apparel	038107	0.11	0.10	1.20	0.47
Apparel made in knitting mills	038108	0.00	0.00	0.25	0.52
Textile house furnishings	0382	0.11	0.19	0.35	1.05
Textile house furnishings	038203	0.11	0.19	0.35	1.05
Industrial and other fabricated products	0383	0.05	0.12	1.89	0.78
Industrial and other fabricated products	038303	0.05	0.12	1.89	0.78
Miscellaneous textile products/services	039	0.63	0.73	1.55	1.46
Hides, skins, leather, and related products	04	0.84	0.74	6.92	2.33
Hides and skins, incl. cattle	041	2.84	2.71	18.06	7.16
Hides and skins, incl. cattle	0419	2.84	2.71	18.06	7.16
Hides, skins, and pelts, made in slaughtering plants	041901	2.84	2.71	18.06	7.16
Leather	042	1.22	0.56	10.42	2.13
Finished and unfinished leather	0427	1.22	0.56	10.42	2.13
Finished and unfinished leather	042701	1.22	0.56	10.42	2.13
Footwear	043	0.03	0.02	0.78	0.36
Men's nonathletic footwear	0431	0.00	0.00	1.04	0.38
Men's footwear (size 6 and larger), excluding athletic	043105	0.00	0.00	1.04	0.38
Women's nonathletic footwear	0432	0.00	0.00	0.49	1.04
Women's footwear (size 4 and larger), excluding athletic	043205	0.00	0.00	0.49	1.04
Other footwear including slippers	0439	0.00	0.00	2.01	0.54
Other footwear, excluding rubber and plastic soled footwear	043901	0.00	0.00	2.01	0.54
Other leather and related products	044	0.01	0.05	2.28	0.84
Luggage and small leather goods	0441	0.00	0.00	3.25	1.24

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Luggage and small leather goods	044101	0.00	0.00	3.25	1.24
Leather and leather-like goods, n.e.c.	0445	0.00	0.01	0.91	0.74
Leather and leather-like goods, n.e.c.	044501	0.00	0.01	0.91	0.74
Fuels and related products and power	05	1.98	0.27	10.65	0.80
Coal	051	0.70	0.38	2.15	2.42
Anthracite	0511	0.57	0.34	2.83	1.11
Prepared anthracite shipped	051101	0.44	0.29	4.08	1.08
Bituminous coal and lignite	0512	0.71	0.38	2.15	2.44
Unprepared bituminous coal and lignite	051208	1.89	1.83	2.49	6.54
Prepared bituminous coal and lignite	051209	0.38	0.22	2.47	2.76
Gas fuels	053	3.99	1.43	5.17	2.27
Natural gas	0531	3.38	1.39	11.85	2.44
Natural gas	053101	3.38	1.39	11.85	2.44
Liquefied petroleum gas	0532	6.90	2.75	31.96	6.21
Liquefied petroleum gas	053201	6.90	2.75	31.96	6.21
Electric power	054	0.85	0.21	0.83	0.36
Residential electric power	0541	0.66	0.21	1.14	0.40
Residential electric power	054121	0.66	0.21	1.14	0.40
Commercial electric power	0542	0.87	0.44	0.59	0.52
Commercial electric power	054221	0.87	0.44	0.59	0.52
Industrial electric power	0543	1.46	0.65	2.36	1.46
Industrial electric power	054321	1.46	0.65	2.36	1.46
Transportation electric power	0546	0.61	0.70	1.98	2.20
Transportation electric power	054621	0.61	0.70	1.98	2.20
Utility natural gas	055	0.79	0.66	2.62	0.88
Residential natural gas	0551	1.52	0.49	1.47	0.70
Residential natural gas	055121	1.52	0.49	1.47	0.70
Commercial natural gas	0552	2.30	0.55	1.05	1.12
Commercial natural gas	055221	2.30	0.55	1.05	1.12
Industrial natural gas	0553	2.19	0.97	4.28	1.37
Industrial natural gas	055321	2.19	0.97	4.28	1.37
Natural gas to electric power	0554	2.83	1.71	5.13	2.26
Natural gas to electric power	055421	2.83	1.71	5.13	2.26
Crude petroleum (domestic production)	056	6.74	0.52	38.03	1.31
Crude petroleum (domestic production)	0561	6.74	0.52	38.03	1.31
Crude petroleum (domestic production)	056101	6.74	0.52	38.03	1.31
Petroleum products, refined	057	2.22	0.68	20.88	1.47
Gasoline	0571	2.93	1.09	15.09	1.38
Unleaded premium gasoline	057103	2.75	1.37	13.12	1.58
Unleaded regular gasoline	057104	2.78	1.27	15.76	1.65
Unleaded mid-premium gasoline	057105	2.98	1.65	15.57	2.88
Kerosene and jet fuels	0572	3.78	1.32	29.30	2.52
Kerosene	057202	4.92	2.62	27.72	7.59
Jet fuel	057203	3.74	1.38	29.39	2.66
Light fuel oils	0573	2.76	1.47	35.57	3.83
Home heating oil and distillates	057302	3.61	2.53	28.94	4.05
No. 2 diesel fuel	057303	2.82	1.57	38.96	4.23
Residual fuels (heavy fuel oils, incl. #5, #6, & other residual fuels)	0574	3.05	2.94	25.75	14.30
Residual fuels (heavy fuel oils, incl. #5, #6, & other residual fuels)	057407	3.05	2.94	25.75	14.30
Finished lubricants	0576	0.65	0.44	7.79	0.77
Lubricating grease	057603	0.27	0.32	6.01	2.17
Lubricating and similar oils	057604	0.72	0.42	8.00	0.80
Lubricating oil base stocks	0578	1.92	2.10	15.98	4.41
Lubricating oil base stocks	057801	1.92	2.10	15.98	4.41
Asphalt and other petroleum and coal products, n.e.c.	058	3.11	1.84	39.87	17.22
Asphalt and other petroleum and coal products, n.e.c.	0581	3.11	1.84	39.87	17.22
Asphalt	058102	5.15	2.30	32.09	6.33
Other petroleum and coal products, including coke oven products, n.e.c.	058103	1.87	2.11	37.59	21.45



**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Chemicals and allied products	06	0.57	0.31	5.20	1.08
Industrial chemicals	061	0.81	0.86	8.58	2.62
Basic inorganic chemicals	0613	0.32	0.43	8.12	2.31
Inorganic chemicals, other than alkalis and chlorine	061302	0.26	0.37	7.18	2.95
Alkalis and chlorine, including natural sodium carbonate and sulfate	061303	0.45	0.71	11.41	6.70
Basic organic chemicals	0614	0.81	1.00	8.61	3.12
Primary basic organic chemicals	061401	2.59	2.45	14.45	7.69
Cyclic intermediate chemicals and dyes	061402	0.76	0.46	9.96	2.99
Other basic organics	061403	0.43	0.70	3.41	1.83
Paints and allied products	062	0.37	0.24	4.52	0.75
Prepared paint	0621	0.18	0.23	4.11	0.69
Architectural coatings	062101	0.25	0.26	4.72	1.08
OEM finishes excluding marine coatings	062102	0.18	0.33	2.73	1.19
Special purpose coatings, incl. marine, industrial & construction coatings	062103	0.16	0.23	4.53	0.89
Paint materials	0622	0.68	0.56	6.10	2.27
Paint colors	062202	0.78	0.64	6.85	2.67
Kaolin and ball clay	062204	0.00	0.00	1.75	1.09
Allied and miscellaneous paint products	0623	0.05	0.05	3.46	1.43
Allied and miscellaneous paint products	062301	0.05	0.05	3.46	1.43
Drugs and pharmaceuticals	063	0.27	0.14	4.42	1.97
Medicinal and botanical chemicals, drugs, and other products	0631	0.02	0.05	4.01	3.14
Medicinal and botanical chemicals, drugs, and other products	063102	0.02	0.05	4.01	3.14
Veterinary pharmaceutical preparations	0634	0.00	0.00	0.15	1.78
Pharmaceuticals for veterinary use	063403	0.00	0.00	0.15	1.78
Biological products, including diagnostics	0637	0.08	0.17	1.90	1.04
Biological products, excluding diagnostic, for veterinary, industrial, and all other misc. uses	063717	0.00	0.00	3.69	4.06
Diagnostics	063718	0.19	0.31	0.50	0.46
Biological products, excluding diagnostic, for human use	063719	0.01	0.05	2.67	1.47
Pharmaceutical preparations	0638	0.31	0.16	5.16	2.52
Pharmaceuticals affecting neoplasms, the endocrine system, & metabolic diseases	063801	0.01	0.01	3.65	1.05
Pharmaceuticals acting on the central nervous system and the sense organs	063802	0.28	0.26	4.13	2.08
Pharmaceuticals acting on the cardiovascular system	063803	0.00	0.00	17.03	17.10
Pharmaceuticals acting on the respiratory system	063804	1.03	0.67	2.36	3.74
Pharmaceuticals acting on the digestive or the genito-urinary systems	063805	0.01	0.01	6.44	0.94
Pharmaceuticals acting on the skin	063806	0.10	0.43	2.17	3.95
Vitamin, nutrient, and hematinic preparations	063807	0.08	0.12	1.97	1.06
Pharmaceuticals affecting parasitic and infective diseases	063808	0.00	0.00	3.86	1.00
Fats and oils, inedible	064	1.18	1.00	14.60	1.69
Fats and oils, inedible	0641	1.18	1.00	14.60	1.69
Fats and oils, inedible	064101	1.18	1.00	14.60	1.69
Agricultural chemicals and chemical products	065	0.58	0.75	7.89	1.93
Mixed fertilizers	0651	0.94	0.55	5.64	1.62
Mixed fertilizers	065105	0.94	0.55	5.64	1.62
Fertilizer materials	0652	1.06	0.88	10.27	1.83
Nitrogenates	065201	1.06	1.44	8.38	3.28
Phosphates	065202	1.41	0.85	15.53	1.41
Other agricultural chemicals	0653	0.92	1.35	7.10	3.55
Other agricultural chemicals	065301	0.92	1.35	7.10	3.55
Plastic resins and materials	066	1.52	0.51	4.82	1.75
Thermoplastic resins and plastics materials	0662	1.87	0.58	4.92	2.04
Thermoplastic resins and plastics materials	066212	1.87	0.58	4.92	2.04
Thermosetting resins and plastics materials	0663	0.41	0.65	4.99	1.79
Thermosetting resins and plastics materials	066306	0.41	0.65	4.99	1.79
Other chemicals and allied products	067	0.19	0.17	2.56	0.62
Soaps and detergents	0671	0.01	0.04	1.85	0.74
Soaps and other detergents	067104	0.01	0.04	1.85	0.74
Polish and other sanitation goods	0672	0.27	0.29	7.54	2.76
Polish and other sanitation goods	067201	0.27	0.29	7.54	2.76
Cosmetics and other toilet preparations	0675	0.06	0.05	1.50	0.87
Shaving preparations	067502	0.00	0.00	6.97	6.01

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Perfumes, toilet waters, and colognes	067503	0.00	0.00	0.00	0.00
Hair preparations (including shampoos)	067504	0.00	0.00	5.43	3.92
Dentifrices	067505	0.00	0.00	1.08	3.71
Creams, lotions and oils, excluding shaving, hair, and deodorant	067514	0.00	0.00	0.64	0.43
Other cosmetics and toilet preparations	067515	0.00	0.00	0.06	0.09
Misc. chemical prod. and preparations	0679	0.27	0.32	2.71	1.11
Explosives, propellants, and blasting accessories	067902	0.27	0.14	4.07	1.27
Industrial gases	067903	0.34	1.58	3.39	4.10
Adhesives and sealants	067904	0.28	0.23	3.25	0.67
Surface active agents	067905	0.77	0.74	2.72	4.11
Gum and wood chemicals, including wood distillation products	067906	0.39	0.77	0.35	1.91
Other miscellaneous chemical products	067909	0.44	0.28	2.60	0.64
Rubber and plastic products	07	0.21	0.13	3.17	0.45
Rubber and rubber products	071	0.52	0.16	1.91	0.45
Synthetic rubber, inc. styrene-butadiene rubber (SBR) and ethylene propylene	0711	1.72	0.45	10.34	1.58
Synthetic rubber	071102	1.72	0.45	10.34	1.58
Tires, tubes, tread, & repair materials	0712	0.27	0.34	0.72	0.65
Tires	071201	0.29	0.37	0.76	0.66
Tread rubber, tire sundries, and repair materials	071203	0.00	0.00	1.13	2.95
Miscellaneous rubber products	0713	0.15	0.12	1.67	0.43
Rubber and plastics footwear, including athletic footwear	071301	0.00	0.00	0.00	0.00
Rubber and plastic belts and belting	071303	0.05	0.10	4.33	1.45
Rubber and plastics hose	071304	0.05	0.14	3.12	1.14
Miscellaneous rubber products, n.e.c.	071306	0.17	0.09	1.19	0.49
Plastic products	072	0.24	0.15	3.84	0.55
Plastic construction products	0721	0.25	0.19	4.21	1.85
Plastic construction products	072106	0.25	0.19	4.21	1.85
Unsupported plastic film, sheet and other shapes	0722	0.43	0.31	2.56	1.01
Unsupported plastic film, sheet and other shapes	072205	0.43	0.31	2.56	1.01
Laminated plastic sheets, rods, and tubes	0723	0.13	0.11	0.88	0.82
Laminated plastics plates, sheet (excluding packaging), and shapes	072304	0.13	0.11	0.88	0.82
Parts for manufacturing from plastics	0726	0.13	0.16	2.08	1.50
Parts for transportation equipment	072601	0.12	0.20	1.48	1.72
Other parts and components for manufacturing	072602	0.00	0.07	0.78	2.63
Foam components for furniture	072603	0.08	0.09	9.81	3.38
Other plastic products	0729	0.33	0.26	4.42	1.27
Other plastic products	072901	0.33	0.26	4.42	1.27
Plastic packaging products	072A	0.56	0.30	5.74	1.05
Plastic packaging products	072A01	0.56	0.30	5.74	1.05
Consumer, institutional, and commercial products, n.e.c.	072B	0.18	0.28	3.30	0.81
All other consumer, institutional, and commercial products	072B01	0.18	0.28	3.30	0.81
Recyclable plastics	072C	2.23	2.47	3.17	8.78
Recyclable plastics	072C01	2.23	2.47	3.17	8.78
Lumber and wood products	08	1.15	0.28	6.48	0.73
Lumber	081	2.22	0.74	10.66	1.57
Softwood lumber	0811	2.98	1.04	12.94	2.16
Softwood cut stock and dimension	081105	2.24	0.99	7.14	2.59
Softwood lumber, not edge worked	081106	3.36	1.16	13.96	2.45
Softwood lumber, made from purchased lumber	081107	0.97	1.01	13.21	5.10
Hardwood lumber	0812	1.01	0.82	5.55	1.74
Hardwood cut stock and dimension	081203	0.49	0.40	4.13	3.15
Hardwood flooring	081204	0.72	0.62	3.38	2.98
Hardwood lumber, not edge worked	081205	1.72	1.58	7.78	3.41
Hardwood lumber, made from purchased lumber	081206	0.20	0.49	1.62	1.65
Millwork	082	0.27	0.19	4.94	0.95
General millwork	0821	0.12	0.12	2.24	0.57
General millwork	082101	0.12	0.12	2.24	0.57
Prefabricated structural members	0822	1.31	0.77	15.45	4.76

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Prefabricated structural members	082201	1.31	0.77	15.45	4.76
Plywood	083	1.47	0.48	16.51	1.45
Softwood veneer and plywood	0831	2.66	0.61	25.16	1.89
Softwood veneer and plywood	083103	2.66	0.61	25.16	1.89
Hardwood veneer and plywood	0835	0.46	0.47	7.68	2.26
Hardwood veneer and plywood	083501	0.46	0.47	7.68	2.26
Other wood products	084	0.46	0.35	6.10	1.61
Wood pallets and pallet containers, wood and metal combination	0841	0.64	0.55	8.60	2.70
Wood pallets and pallet containers	084101	0.64	0.55	8.60	2.70
Wood boxes	0842	0.02	0.28	2.39	3.97
Wood boxes	084201	0.02	0.28	2.39	3.97
Miscellaneous wood products	0849	0.34	0.27	3.77	1.73
Wood ties, siding, shingles, and shakes, and contract sawing of logs owned by others	084903	0.16	0.48	3.55	3.26
Sawn wood fence stock, wood lath, and contract resawing and planing	084904	0.00	0.00	19.41	11.37
All other miscellaneous wood products	084909	0.13	0.19	2.97	2.02
Logs, bolts, timber, pulpwood and wood chips	085	0.45	0.67	3.62	2.34
Logs, bolts, timber, pulpwood and wood chips	0851	0.45	0.67	3.62	2.34
Logs, bolts, timber, pulpwood and wood chips	085105	0.45	0.67	3.62	2.34
Prefabricated wood buildings & components	086	0.41	0.39	4.69	1.67
Prefabricated wood buildings & components	0861	0.41	0.39	4.69	1.67
Prefabricated wood buildings and components	086101	0.41	0.39	4.69	1.67
Treated wood and contract wood preserving	087	1.79	0.60	4.62	1.20
Treated wood and contract wood preserving	0871	1.79	0.60	4.62	1.20
Treated wood	087101	1.96	0.67	5.04	1.34
Contract wood preservation	087102	0.13	0.15	1.05	0.91
Pulp, paper, and allied products	09	0.18	0.12	2.06	0.38
Pulp, paper, and prod., ex. bldg. paper	091	0.20	0.15	2.52	0.50
Wood pulp	0911	1.09	1.13	20.83	7.19
Wood pulp	091105	1.09	1.13	20.83	7.19
Wastepaper	0912	2.47	2.16	35.39	7.00
News and other low grade wastepaper	091201	6.00	4.04	26.83	13.60
Corrugated wastepaper	091203	3.04	2.09	40.30	4.09
High grade wastepaper (including pulp substitutes and deinking)	091207	0.57	0.86	21.03	19.66
Paper	0913	0.53	0.27	6.26	0.64
Writing and printing papers	091301	0.84	0.39	7.37	1.12
Newsprint	091302	1.58	0.68	19.23	2.93
Packaging and industrial converting paper	091303	0.58	0.40	4.63	0.88
All other coated and processed papers	091305	0.27	0.31	3.83	2.90
Paperboard	0914	0.39	0.13	5.37	0.35
Corrugated paperboard in sheets and rolls, lined and unlined	091405	0.26	0.22	4.19	1.45
Paperboard, excluding corrugated paperboard	091411	0.45	0.13	5.64	0.33
Converted paper and paperboard products	0915	0.09	0.18	1.52	0.54
Sanitary paper products, including stock	091501	0.24	0.47	0.91	1.29
Paper, plastic, and foil bags	091502	0.25	0.34	2.86	0.94
Paper boxes and containers	091503	0.15	0.16	1.79	0.71
Other corrugated and solid fiber products, including containers, pallets, pads, etc.	091504	0.09	0.13	5.02	1.54
Office supplies and accessories	091506	0.36	0.54	5.14	1.26
Fiber cans, tubes, and similar fiber products	091507	0.21	0.07	4.04	0.58
Miscellaneous converted paper and paperboard products	091509	0.34	0.34	1.36	1.17
Pressure-sensitive products	0916	0.44	0.36	4.01	0.70
Pressure-sensitive products	091601	0.44	0.36	4.01	0.70
Building paper & building board mill prods.	092	3.62	0.70	6.78	2.34
Hardboard, particleboard & fiberboard prods.	0922	3.65	0.71	6.77	2.35
Particleboard and fiberboard	092201	4.02	0.79	7.52	2.60
Hardboard products	092202	0.00	0.00	0.98	0.39
Publications, printed matter and printing material	094	0.19	0.10	1.03	0.34
Books printing	0944	0.12	0.12	2.44	1.03
Books printing	094401	0.12	0.12	2.44	1.03
Manifold business forms printing	0945	0.24	0.21	3.33	1.07

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Manifold business forms printing	094501	0.24	0.21	3.33	1.07
Commercial printing	0947	0.19	0.11	0.92	0.38
Magazine and periodical printing	094701	0.06	0.05	2.88	1.38
Label and wrapper printing for packaging	094702	0.40	0.36	3.09	1.26
Catalog and directory printing	094703	0.00	0.00	0.37	0.73
Advertising printing	094705	0.00	0.02	0.31	0.45
Other general job printing	094706	0.05	0.08	0.58	1.08
Other commercial printing, incl. screen, engraving, digital, & general job exc. labels/wrappers	094711	0.03	0.09	0.93	0.88
Blankbooks, binders, and bookbinding work	0948	0.03	0.04	0.64	0.41
Tradebinding and related work	094802	0.09	0.11	1.00	0.65
Metals and metal products	10	0.73	0.23	7.62	0.70
Iron and steel	101	1.26	0.44	13.27	1.82
Iron ores	1011	1.11	0.08	2.37	4.27
Iron ores	101105	1.11	0.08	2.37	4.27
Iron and steel scrap	1012	3.48	0.76	18.14	2.18
Carbon steel scrap	101211	3.65	0.80	18.77	2.29
Stainless and other alloy steel scrap	101212	3.64	2.23	15.39	5.80
Cast iron scrap	101213	3.11	2.96	16.16	12.29
Other ferrous scrap	101215	3.47	2.86	16.27	6.49
Foundry and forge shop products	1015	0.21	0.24	1.95	0.91
Pressure and soil pipe & fittings, cast iron	101502	0.21	0.34	3.69	2.54
Other gray and ductile iron castings	101504	0.23	0.17	2.08	0.73
Standard and pearlitic malleable iron castings	101505	0.00	0.05	0.52	6.61
Steel investment castings	101506	0.11	0.14	3.90	1.44
Carbon steel castings, except investment	101507	0.13	0.10	1.53	1.24
High alloy steel castings, excluding investment	101508	0.51	0.56	4.83	2.08
Other alloy steel castings, except investment	101509	0.08	0.11	0.97	1.41
Other forge shop products	101513	0.35	0.49	0.62	2.27
Steel mill products	1017	1.95	0.67	12.20	2.90
Semifinished steel mill products	101702	0.94	0.52	6.38	2.87
Hot rolled steel sheet and strip, including tin mill products	101703	2.24	1.87	19.95	5.96
Hot rolled steel bars, plates, and structural shapes	101704	1.64	0.51	17.00	1.95
Steel wire	101705	1.41	0.83	11.87	4.71
Steel pipe and tube	101706	2.41	1.01	16.51	4.02
Cold rolled steel sheet and strip	101707	1.86	0.87	5.05	7.66
Cold finished steel bars and bar shapes	101708	0.76	0.49	7.85	2.22
Electrometallurgical ferroalloy products	101712	4.24	2.83		
Nonferrous metals	102	1.00	0.50	9.57	1.05
Nonferrous metal ores	1021	1.55	1.91	10.42	4.52
Copper ores	102102	2.37	4.09	13.95	5.02
Gold ores	102105	1.51	0.25	5.92	1.21
Other metal ores	102112	7.84	4.78	22.26	22.77
Primary nonferrous metals	1022	0.82	0.34	7.34	1.52
Primary nonferrous metals	102201	0.82	0.34	7.34	1.52
Nonferrous scrap	1023	2.11	1.95	12.00	3.11
Copper base scrap	102301	1.66	0.91	16.63	1.61
Aluminum base scrap	102302	2.83	2.37	9.31	4.97
Other nonferrous scrap (including lead, zinc and precious metals)	102303	4.63	3.52	9.82	7.13
Secondary nonferrous metals	1024	0.83	0.39	8.33	1.09
Secondary aluminum	102402	1.08	0.33	10.22	0.96
Secondary copper, alloyed and unalloyed	102403	0.59	0.41	12.71	1.95
Secondary precious metals	102406	2.63	0.79	3.73	2.15
All other miscellaneous secondary nonferrous metals, including lead	102408	1.12	0.40	8.12	2.22
Nonferrous mill shapes	1025	1.14	0.28	9.99	0.69
Aluminum mill shapes	102501	1.34	0.38	11.24	0.84
Copper and brass mill shapes	102502	1.63	0.32	9.89	0.64
Nickel and nickel-base alloy mill shapes	102504	0.88	0.50	5.26	2.19
Titanium and titanium-base alloy mill shapes	102505	0.59	0.41	4.68	2.49
Other nonferrous mill shapes	102519	0.83	0.99	8.30	5.27

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Nonferrous wire and cable	1026	0.87	1.17	6.19	2.10
Nonferrous wire and cable	102603	0.87	1.17	6.19	2.10
Nonferrous forge shop products	1027	0.32	0.79	1.59	6.24
Nonferrous forge shop products	102701	0.32	0.79	1.59	6.24
Nonferrous foundry shop products	1028	0.17	0.13	2.89	0.65
Aluminum castings	102802	0.13	0.13	2.13	0.86
Castings, nonferrous (except aluminum)	102807	0.28	0.24	3.80	0.91
Metal containers	103	0.61	0.34	6.91	1.12
Metal cans and can components	1031	0.39	0.37	6.90	0.99
Steel cans and tinware end products	103102	0.09	0.24	3.86	1.55
Aluminum cans and can components	103103	0.30	0.34	8.95	1.41
Barrels, drums, pails and other metal containers	1032	0.90	0.57	10.45	4.03
Barrels, drums, pails and other metal containers	103201	0.90	0.57	10.45	4.03
Hardware	104	0.25	0.18	1.58	0.47
Hardware, n.e.c.	1041	0.28	0.28	1.77	0.73
Builders' hardware	104101	0.18	0.13	1.92	0.93
Transportation equipment hardware	104103	0.00	0.00	0.47	0.90
Furniture hardware	104104	0.33	0.73		
Other miscellaneous hardware	104105	2.42	1.92	7.41	4.40
Hand and edge tools	1042	0.12	0.10	1.76	0.50
Hand and edge tools	104201	0.12	0.10	1.76	0.50
Plumbing fixtures and fittings	105	0.07	0.05	2.90	0.62
Plumbing fixture fittings and trim	1054	0.02	0.02	3.43	0.84
Plumbing fixtures, fittings, and trim	105402	0.02	0.02	3.43	0.84
Enameled iron & metal sanitary ware	1056	0.19	0.15	1.50	0.37
Enameled iron and metal sanitary ware	105601	0.19	0.15	1.50	0.37
Heating equipment	106	0.45	0.20	5.24	0.84
Steam and hot water equipment	1061	0.00	0.00	4.26	0.88
Steam and hot water equipment	106101	0.00	0.00	4.26	0.88
Furnaces and heaters, including parts	1062	0.52	0.49	4.44	1.91
Furnaces and heaters, including parts	106201	0.52	0.49	4.44	1.91
Other heating equipment, non-electric, including parts	1063	0.33	0.17	2.16	1.65
Other heating equipment, non-electric, including parts	106301	0.33	0.17	2.16	1.65
Domestic heating stoves	1064	0.00	0.00	0.99	1.44
Domestic heating stoves	106401	0.00	0.00	0.99	1.44
Domestic water heaters	1066	0.01	0.01	8.39	1.75
Domestic water heaters	106601	0.01	0.01	8.39	1.75
Fabricated structural metal products	107	0.50	0.34	7.98	1.30
Metal doors, sash, and trim	1071	0.62	0.34	7.29	1.45
Metal doors and frames (except storm)	107102	0.46	0.32	5.83	1.16
Metal windows (except storm sash)	107103	0.71	0.73	7.36	2.15
Metal molding and trim and store fronts	107104	0.14	1.03	19.86	7.71
Metal combination screen, storm sash, and storm doors	107105	0.00	0.00	1.81	1.40
Metal window and door screens (except combination screens) and metal weather strip	107107	0.00	0.00	1.66	2.22
Metal tanks	1072	0.58	0.65	8.41	1.69
Metal tanks	107201	0.58	0.65	8.41	1.69
Sheet metal products	1073	0.45	0.52	5.53	2.21
Sheet metal products	107301	0.45	0.52	5.53	2.21
Structural, architectural, and pre-engineered metal products	1074	1.10	0.50	9.27	2.52
Fabricated structural metal	107405	1.89	0.84	12.12	4.62
Custom roll form products	107407	0.55	0.36	2.66	1.61
Ornamental and architectural metal work	107408	0.42	0.38	9.29	1.73
Fabricated metal pipe, tube, and fittings	107411	0.42	0.76	4.23	1.31
Heat exchangers and steam condensers	1075	0.04	0.06	5.60	2.51
Heat exchangers and steam condensers	107501	0.04	0.06	5.60	2.51
Fabricated steel plate	1076	0.39	0.97	2.47	3.34
Fabricated steel plate	107601	0.39	0.97	2.47	3.34
Stationary and marine power boilers	1077	0.00	0.00	7.26	3.79
Stationary and marine power boilers	107701	0.00	0.00	7.26	3.79
Prefabricated metal buildings	1079	0.92	0.80	11.60	2.61

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Prefabricated metal building systems (excl. farm service bldgs, residential bldgs, and parts)	107901	0.79	0.68	13.98	3.43
Farm service buildings and other prefabricated and portable buildings, steel and aluminum	107902	0.42	0.51	7.37	1.95
Panels, parts, and sections for prefabricated buildings, steel and aluminum	107903	0.77	2.32	6.65	3.85
Miscellaneous metal products	108	0.34	0.15	3.75	0.61
Bolts, nuts, screws, rivets, and washers	1081	0.39	0.31	1.77	1.33
Externally threaded fasteners, except aircraft types	108102	0.42	0.38	3.28	2.59
Internally threaded fasteners, except aircraft types	108103	0.15	0.25	1.76	1.26
Nonthreaded metal fasteners, except aircraft types	108104	0.32	0.28	3.29	1.17
Aircraft fasteners, except plastics (including aerospace)	108105	0.03	0.03	0.20	0.16
Lighting fixtures	1083	0.13	0.14	2.26	1.24
Residential electric lighting fixtures, except portable	108302	0.00	0.01	2.37	0.57
Commercial, institutional and industrial electric lighting fixtures	108303	0.15	0.20	3.16	2.43
Other lighting equipment	108305	0.06	0.10	1.47	0.70
Ammunition, except for small arms	1085	0.00	0.00	0.99	0.22
Ammunition, except for small arms	108501	0.00	0.00	0.99	0.22
Ordnance and ordnance accessories, n.e.c.	1086	0.00	0.00	1.01	0.77
Ordnance and ordnance accessories, n.e.c.	108601	0.00	0.00	1.01	0.77
Fabricated ferrous wire products	1088	1.03	0.41	11.25	2.13
Ferrous wire rope, cable, forms and strand	108801	1.85	0.57	16.13	4.04
Ferrous wire cloth, other woven wire products	108807	0.44	0.42	3.05	2.17
Other fabricated ferrous wire products	108809	0.75	0.59	9.56	2.94
Steel nails, staples, tacks, spikes and brads	108812	0.61	0.90	13.58	3.94
Other miscellaneous metal products	1089	0.28	0.17	3.81	0.81
Wire springs	108904	0.25	0.26	10.38	4.38
Other metal products	108905	0.29	0.22	3.42	1.03
Metal stampings n.e.c.	108907	0.17	0.19	2.00	0.81
Metal foil and leaf	108908	1.07	0.89	10.02	2.98
Heavy gauge springs	108909	0.43	0.99	4.32	4.62
Machinery and equipment	11	0.22	0.07	1.63	0.25
Agricultural machinery and equipment	111	0.20	0.13	1.26	0.49
Agricultural machinery and equipment	1114	0.20	0.13	1.26	0.49
Commercial turf and grounds care equipment, including parts and attachments	111401	0.16	0.39	0.74	0.72
Farm plows, harrows, rollers, pulverizers, etc., and attachments	111402	0.00	0.05	5.56	2.13
Farm-type (power take-off hp) wheel tractors (2/4-wheel drive)(with or without attachments)	111403	0.00	0.00	1.20	0.69
Farm dairy equipment, sprayers and dusters, farm blowers, and attachments	111404	0.00	0.00	1.22	2.20
Planting, seeding, and fertilizing machinery and attachments	111405	0.05	0.10	2.40	0.79
Harvesting machinery (except hay and straw) and attachments	111406	0.02	0.02	1.38	1.71
Haying machinery and attachments	111407	0.00	0.00	0.80	0.83
All other farm machinery and equipment, excluding parts, including attachments	111408	0.21	0.21	0.81	1.48
Parts for farm machinery, for sale separately	111409	0.36	0.26	3.37	1.92
Construction machinery and equipment	112	0.11	0.08	1.04	0.71
Tractors and attachments, ex. parts	112A	0.04	0.05	1.01	1.25
Construction machinery for mounting (excluding parts, winches, snow clearing attachments)	112A03	0.06	0.05	1.29	0.80
Tractor shovel loaders (skid steer, wheel, crawler, and integral design backhoes)	112A04	0.01	0.05	2.66	2.85
Construction wheel and crawler tractors, dozers, self-propelled log skidders, etc.	112A05	0.00	0.00	0.49	1.03
Power cranes, draglines, & shovels (excavators) (incl. surface mining equipment) (excl. parts)	112B	0.12	0.12	3.89	1.87
Power cranes, draglines, & shovels (excavators) (incl. surface mining equip.) (excluding parts)	112B05	0.12	0.12	3.89	1.87
Mixers, pavers, and related equipment (excluding parts)	112C	0.05	0.30	2.88	2.09
Mixers, pavers, and related equipment (excluding parts)	112C01	0.05	0.30	2.88	2.09
Off-highway, equipment, ex. parts	112D	0.03	0.09	4.07	3.33
Off-highway trucks, haulers, truck-type tractor chassis, trailers, etc. (excluding parts)	112D02	0.05	0.05	2.85	2.71
Graders, rollers & compactors, rough-terrain forklifts, scrapers, trenchers, etc. (excl. parts)	112D03	0.00	0.00	5.80	4.67
Misc. construction machinery and equipment	112J	0.06	0.09	2.86	0.88
Winches, aerial work platforms, and automotive wrecker hoists	112J01	0.01	0.01	2.90	0.19
Other construction machinery and equipment (excluding parts)	112J03	0.00	0.04	2.76	1.79
Parts for construction machinery and equipment, sold separately	112K	0.26	0.22	2.32	1.41
Parts for construction machinery and equipment, sold separately	112K01	0.26	0.22	2.32	1.41
Metalworking machinery and equipment	113	0.24	0.13	2.13	0.49
Power-driven handtools, including parts and attachments	1132	0.00	0.00	1.83	1.11

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Power-driven handtools, including parts and attachments	113211	0.00	0.00	1.83	1.11
Welding machines and equipment	1133	0.14	0.21	5.36	1.58
Arc welding machines, components, and accessories, excluding electrodes and stud welding equip	113301	0.01	0.01	7.58	1.25
Resistance welders, components, accessories, and electrodes	113302	0.00	0.00	0.65	0.73
Gas welding and cutting equipment, parts, attachments, and accessories	113304	0.00	0.00	0.80	0.29
Other welding equipment, components, and accessories (excluding arc, resistance, and gas)	113306	0.00	0.00	1.06	0.70
Industrial process furnaces and ovens	1134	0.21	0.14	1.92	0.65
Industrial process furnaces and ovens, except parts and attachments	113407	0.11	0.15	1.70	0.83
Parts and attachments for industrial process furnaces and ovens	113409	0.00	0.00	2.42	0.70
Cutting tools and accessories	1135	0.18	0.15	1.83	0.43
Small cutting tools	113501	0.19	0.15	2.27	0.59
Precision measuring tools	113502	0.00	0.00	0.21	0.61
Other machine tool attachments and accessories	113505	0.09	0.06	1.84	0.80
Abrasive products	1136	0.18	0.20	1.99	1.47
Nonmetallic sized grains, powders, and flour abrasives (incl. graded only)	113601	0.01	0.46	1.46	3.26
Nonmetallic abrasive products (including diamond abrasives)	113603	0.10	0.17	1.59	0.83
Nonmetallic coated abrasive products and buffing wheels, polishing wheels, and laps	113605	0.00	0.00	0.78	1.90
Metal cutting machine tools	1137	0.04	0.16	0.61	0.48
Metal grinding, polishing, buffing, honing, and lapping machines	113713	0.21	0.32	1.24	1.73
Other metal-cutting machine tools	113720	0.03	0.21	0.51	0.68
Metal machining centers	113721	0.00	0.00	0.10	0.73
Rebuilt metal-cutting machine tools and parts for metal-cutting machine tools	113753	0.23	0.25	1.07	0.95
Metal forming machine tools	1138	0.40	0.33	1.28	0.91
Metal-forming machine tools (except rebuilt and parts)	113826	0.36	0.39	0.97	0.95
Rebuilt metal-forming machine tools and parts for metal-forming machine tools	113852	0.00	0.00	2.50	1.35
Tools, dies, jigs, fixtures & ind. molds	1139	0.12	0.36	1.57	1.37
Special tools, dies, jigs, and fixtures	113901	0.33	0.28	2.44	1.28
Industrial molds and mold boxes	113903	0.10	0.46	0.30	2.69
Metalworking machinery n. e. c.	113A	0.06	0.08	1.43	0.38
Metalworking assembly machines	113A01	0.03	0.03	0.84	0.39
Other metalworking machinery	113A02	0.00	0.00	2.74	0.96
Rolling mill machinery	113B	0.01	0.01	7.97	5.08
Rolling mill machinery	113B01	0.01	0.01	7.97	5.08
General purpose machinery and equipment	114	0.33	0.07	3.43	0.30
Pumps, compressors, and equipment	1141	0.34	0.17	3.31	1.15
Industrial pumps, except hydraulic fluid power pumps	114102	0.17	0.19	3.47	1.23
Parts and attachments for air and gas compressors and vacuum pumps	114107	0.00	0.00	2.98	1.14
Industrial spraying equipment	114108	0.00	0.00	1.51	1.18
Domestic water systems	114113	0.00	0.00	1.26	1.07
Air and gas compressors and vacuum pumps	114115	0.54	0.27	4.66	1.33
Other pumps, including parts and attachments	114119	0.12	0.18		
Elevators, escalators, and other lifts	1142	0.12	0.08	2.38	0.79
Elevators and moving stairways	114201	0.15	0.11	2.51	0.95
Parts and attachments for elevators and moving stairs (sold separately)	114202	0.00	0.00	1.64	1.13
Fluid power equipment	1143	0.25	0.15	2.28	0.62
Fluid power pumps and parts	114301	0.27	0.20	1.62	0.62
Fluid power valves	114302	0.04	0.08	1.65	1.08
Fluid power cylinders, actuators, accumulators, cushions, & parts	114303	0.35	0.35	3.82	1.30
Fluid power hose and tube fittings	114304	0.04	0.17	1.82	1.12
Parts for fluid power valves	114305	0.14	0.15	2.59	1.93
Industrial material handling equipment	1144	0.34	0.13	2.82	0.57
Conveying equipment, except parts and accessories	114402	0.26	0.21	2.85	0.84
Industrial trucks, trailers, and stackers	114403	0.32	0.18	2.68	0.73
Hoists, overhead cranes, and monorail systems	114404	0.07	0.14	3.72	1.32
Mechanical power transmission equipment	1145	0.28	0.18	3.00	0.90
Speed changers, drives, gears	114501	0.14	0.19	3.92	1.28
Other power transmission equipment	114502	0.25	0.11	2.00	1.04
Scales and balances	1146	0.01	0.01	5.91	1.83
Vehicle and industrial scales	114611	0.02	0.03	8.48	2.75
Retail, commercial, household, and mailing scales and balances	114612	0.00	0.00	3.42	1.23

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Parts, attachments, and accessories for scales and balances	114613	0.00	0.00	3.39	1.08
Air purification equipment and industrial and commercial fans and blowers	1147	0.26	0.17	3.77	0.97
Fan, blower, air purification equipment	114701	0.26	0.17	3.77	0.97
Air conditioning and refrigeration equip	1148	0.27	0.18	4.76	0.75
Unitary air-conditioners, except air source heat pumps	114802	0.00	0.00	6.37	2.00
Commercial refrigeration equipment	114803	0.00	0.00	1.31	0.58
All other miscellaneous refrigeration and air-conditioning equipment	114806	0.00	0.00	0.57	2.71
Heat transfer equipment, including heat pumps	114807	0.27	0.29	5.92	1.15
Parts and accessories for air conditioning and heat transfer equipment	114809	0.00	0.00	3.68	2.00
Miscellaneous general purpose equipment	1149	0.28	0.11	3.42	0.46
Metal valves, except fluid power	114902	0.27	0.14	4.10	0.96
Metal pipe fittings, flanges, and unions	114903	0.25	0.62	5.02	2.61
Ball and roller bearings	114905	0.21	0.17	3.35	0.43
Filters and strainers	114908	0.12	0.16	1.22	0.56
Other miscellaneous general purpose equipment	114911	0.14	0.24	1.33	0.53
Electronic computers and computer equipment	115	0.40	0.32	0.52	0.95
Electronic computers	1151	1.27	0.80	3.07	1.33
Electronic computers	115101	1.27	0.80	3.07	1.33
Computer storage devices	1152	0.01	0.01	0.17	3.32
Computer storage devices (excluding parts, attachments and accessories)	115201	0.01	0.01	0.17	3.32
Computer peripheral equipment and parts	1154	0.02	0.03	0.43	0.47
Parts, attachments & accessories for computer and POS terminals and computer peripherals	115405	0.00	0.00	0.00	0.00
POS terminals, funds-transfer devices, computer terminals & other computer peripheral equip.	115406	0.03	0.04	0.80	0.92
Special industry machinery and equipment	116	0.18	0.09	1.65	0.32
Food products machinery	1161	0.22	0.18	3.42	0.99
Dairy and milk products plant machinery and equipment	116101	0.05	0.05	3.08	2.10
Commercial food products machinery (except packaging and cooking equipment)	116104	0.15	0.19	4.52	1.99
Industrial food products machinery for processing foods, beverages, & animal & fowl feed	116105	0.13	0.12	2.34	0.60
Textile machinery and equipment	1162	0.00	0.00	0.19	0.91
Textile machinery (except parts, attachments, and accessories)	116212	0.00	0.00	0.43	0.42
Textile machinery parts and attachments	116277	0.00	0.00	0.35	1.44
Sawmill and woodworking machinery	1163	0.29	0.31	8.81	2.46
Sawmill and woodworking machinery	116306	0.29	0.31	8.81	2.46
Paper industries machinery	1164	0.01	0.01	1.15	0.79
Paper industries machinery	116401	0.01	0.01	1.15	0.79
Printing trades machinery and equipment	1165	0.25	0.19	0.75	0.61
Printing presses	116508	0.00	0.00	0.05	0.49
Other printing machinery and equipment	116509	0.32	0.25	0.95	0.85
Other special industry machinery	1166	0.08	0.08	1.17	0.57
Plastics and rubber working machinery	116603	0.05	0.10	0.42	0.99
Miscellaneous special industry machinery	116606	0.08	0.10	1.41	0.67
Packing, packaging, and bottling machinery and parts	1167	0.39	0.52	2.78	0.99
Packing, packaging, and bottling machinery and parts	116705	0.39	0.52	2.78	0.99
Service industry machinery and parts	1168	0.36	0.19	1.31	0.39
Service industry machinery and parts	116801	0.36	0.19	1.31	0.39
Commercial laundry and drycleaning machinery products	1169	0.00	0.00	2.18	0.40
Commercial laundry and drycleaning machinery products	116909	0.00	0.00	2.18	0.40
Electrical machinery and equipment	117	0.15	0.12	1.30	0.61
Wiring devices	1171	0.24	0.21	2.13	0.46
Current-carrying wiring devices	117101	0.26	0.30	1.04	0.71
Noncurrent-carrying wiring devices	117102	0.15	0.21	3.21	0.60
Integrating and measuring instruments	1172	0.18	0.30	1.82	1.26
Test equipment for electrical, radio, & communication circuits & motors	117205	0.12	0.11	3.02	1.58
Electrical integrating instruments and other instruments to measure electricity	117209	0.03	0.03	0.32	1.69
Motors, generators, motor generator sets	1173	0.11	0.05	2.10	0.52
Fractional horsepower motors and generators	117303	0.05	0.08	1.62	0.68
Integral horsepower motors and generators (excluding land transportation types)	117304	0.01	0.02	5.49	0.67
Parts and supplies for motors and generators	117309	0.00	0.00	2.37	1.60
Other motors and generators	117311	0.00	0.00	2.29	0.92
Transformers and power regulators	1174	0.22	0.08	5.46	0.96



**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Power and distribution transformers, except parts	117409	0.23	0.02	5.23	0.26
Other transformers and parts for transformers	117411	0.08	0.30	5.42	3.87
Switchgear, switchboard, industrial controls equipment	1175	0.18	0.17	1.97	0.54
Industrial controls and related parts and accessories	117507	0.06	0.07	1.67	0.64
Switchgear and switchboard apparatus	117522	0.24	0.21	2.32	0.81
Communications and related equipment and miscellaneous electronic systems & equipment	1176	0.05	0.10	1.77	1.07
Telephone and wireline data networking equipment	117601	0.06	0.11	0.56	0.60
Other communications and related equipment, including broadcast and wireless	117603	0.04	0.09	0.60	0.70
Electronic systems and equipment, n.e.c.	117605	0.19	0.32	0.51	1.67
Search, detection, navigation & guidance systems and equipment	117606	0.09	0.09	4.14	2.01
Electric lamp bulbs and tubes	1177	1.37	0.65	4.84	4.54
Electric lamp bulbs and tubes	117704	1.37	0.65	4.84	4.54
Electronic components and accessories	1178	0.16	0.18	1.78	1.02
Capacitors for electronic circuitry	117811	0.30	0.14	18.04	12.86
Resistors for electronic circuitry	117812	0.00	0.00	0.70	0.80
Relays for electronic circuitry, industrial control overload, and switchgear type	117821	0.36	0.54	0.45	2.01
Switches, mechanical (electronic applications)	117822	0.00	0.00	2.12	0.81
Connectors for electronic circuitry	117824	0.32	0.24	1.98	0.85
Filters, crystals, and transducers	117828	0.00	0.00	0.73	1.34
Integrated microcircuits	117839	0.38	0.23	5.98	2.83
Other semiconductor and related devices	117847	0.12	0.16	2.21	1.80
Bare printed circuit boards	117849	0.00	0.00	0.05	0.05
Electronic coils, transformers, and other inductors	117853	0.07	0.11	1.75	0.53
Other electronic components, n.e.c.	117856	0.12	0.20	2.29	1.18
Printed circuit assemblies, loaded boards, modules and consumer external modems	117861	0.00	0.00	0.87	1.03
Miscellaneous electrical machinery and equipment	1179	0.10	0.11	5.18	2.29
Storage batteries	117901	0.17	0.14	7.27	0.91
Primary batteries	117902	0.58	0.97	5.04	2.90
Carbon and graphite products	117903	0.00	0.01	67.93	38.56
X-ray and electromedical equipment	117905	0.03	0.09	0.49	0.48
Miscellaneous electrical industrial apparatus	117929	0.25	0.28	4.63	2.71
All other electrical equipment and components, except industrial	117939	0.00	0.00	0.15	2.59
Miscellaneous instruments	118	0.14	0.10	1.81	0.23
Automatic environmental controls for monitoring residential, commercial, and appliance use	1181	0.21	0.14	3.99	1.89
Automatic environmental controls for monitoring residential, commercial, and appliance use	118105	0.21	0.14	3.99	1.89
Industrial process control instruments	1182	0.26	0.25	1.50	0.63
Industrial process control instruments	118201	0.26	0.25	1.50	0.63
Fluid meters and counting devices	1184	0.11	0.10	3.22	0.50
Fluid meters and counting devices	118401	0.11	0.10	3.22	0.50
Engineering and scientific instruments	1185	0.05	0.12	2.69	0.70
Aeronautical, nautical, and navigational instruments	118501	0.00	0.00	4.68	1.19
Hospital beds and specialized hospital furniture	118504	0.00	0.00	0.49	0.84
Measuring instruments and lenses	1186	0.00	0.02	1.10	0.28
Sighting, tracking, and fire-control equipment, optical type	118601	0.00	0.00	0.12	0.29
All other miscellaneous optical instruments and lenses	118602	0.04	0.06	1.70	0.75
Laboratory analytical instruments	118603	0.01	0.01	1.17	0.34
Measuring & controlling devices, n.e.c.	1189	0.07	0.07	1.63	0.63
Aircraft engine instruments	118901	0.00	0.00	4.36	3.50
Nuclear radiation detection & monitoring instruments	118904	0.00	0.00	0.92	0.40
Physical properties and kinematic testing equipment	118905	0.00	0.00	1.55	0.78
Commercial, geophysical, meteorological & general-purpose instruments	118906	0.08	0.09	0.80	0.48
Miscellaneous machinery	119	0.29	0.16	1.16	0.68
Oil field and gas field machinery	1191	0.05	0.06	0.96	0.60
Oil field and gas field drilling machinery (except parts sold separately)	119102	0.02	0.05	0.20	0.54
Oil field and gas field production machinery (except pumps and parts sold separately)	119104	0.00	0.00	2.12	1.64
Parts and attachments for oil and gas field machinery and equipment	119106	0.00	0.00	1.90	2.09
Mining machinery and equipment	1192	0.04	0.07	3.18	0.61
Underground mining machinery (except parts sold separately)	119201	0.00	0.00	4.92	0.05
Crushing, pulverizing, & screening machinery (except parts sold separately)	119202	0.00	0.00	4.59	2.42
Drills and other mining machinery (except parts sold separately)	119203	0.02	0.02	2.45	0.77

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Mineral processing & beneficiation machinery (except parts sold separately)	119206	0.00	0.00	0.55	0.43
Parts and attachments for mining machinery and equipment (sold separately)	119253	0.00	0.00	1.37	1.72
Office and store machines and equipment	1193	0.07	0.17	1.09	1.47
Office machinery, including mailing, letter handling, and addressing machines and parts	119307	0.00	0.00	1.77	1.62
Internal combustion engines	1194	0.04	0.06	1.22	0.38
Diesel, semidiesel, and dual-fuel engines for automobiles, trucks, and buses	119408	0.00	0.00	1.49	0.55
Parts & accessories for internal combustion engines, ex. aircraft & gasoline automotive engines	119413	0.08	0.06	1.56	0.73
Other machine shop products	1195	0.13	0.12	2.24	1.67
Machine shop products	119505	0.13	0.12	2.24	1.67
Turbines and turbine generator sets	1197	0.72	1.07		
Turbines and turbine generator sets (excluding parts)	119701	0.72	1.07		
Parts & accesories for turbines, turbine generators, and turbine generator sets	1198	0.14	0.05	2.70	2.67
Parts & accesories for turbines, turbine generators, and turbine generator sets	119801	0.14	0.05	2.70	2.67
Furniture and household durables	12	0.27	0.14	2.75	0.34
Household furniture	121	0.13	0.23	2.90	0.50
Metal household furniture	1211	0.94	0.77	2.99	1.63
Metal household furniture	121101	0.94	0.77	2.99	1.63
Wood household furniture	1212	0.18	0.14	1.25	0.41
Living room furniture (nonupholstered), wood	121201	0.14	0.16	1.82	0.93
Dining room furniture (nonupholstered), wood	121202	0.18	0.26	1.42	0.74
Bedroom furniture (nonupholstered), wood	121203	0.13	0.13	1.12	0.51
Other wood household furniture	121204	0.00	0.00	0.83	0.23
Custom nonupholstered wood household furniture sold direct, excl. kitchen cabinets and vanities	121205	0.00	0.00	0.00	0.00
Upholstered household furniture	1213	0.14	0.15	2.39	0.33
Upholstered household furniture	121301	0.14	0.15	2.39	0.33
Bedding	1214	0.35	0.64	5.34	1.52
Bedding	121401	0.35	0.64	5.34	1.52
Metal porch, lawn, outdoor & casual furniture	1215	0.00	0.00	0.06	1.15
Porch and lawn furniture	121501	0.00	0.00	0.06	1.15
Nonupholstered household furniture, except wood and metal	1216	0.00	0.00	0.50	1.30
Nonupholstered household furniture, except wood and metal	121601	0.00	0.00	0.50	1.30
Commercial furniture	122	0.60	0.32	3.11	0.71
Wood office furniture and store fixtures	1221	0.25	0.20	2.51	0.70
Wood office furniture and store fixtures	122101	0.25	0.20	2.51	0.70
Nonwood furniture and store fixtures	1222	1.19	0.66	4.42	1.50
Nonwood commercial storage units, files, and tables	122202	1.01	0.89	2.38	1.39
Nonwood commercial furniture	122203	1.25	1.07	4.20	1.90
Nonwood partitions and fixtures	122204	0.31	1.08	7.67	3.00
Public building furniture	1223	0.03	0.03	2.06	0.78
Public building furniture	122301	0.03	0.03	2.06	0.78
Commercial furniture and fixtures, n.e.c.	1224	0.18	0.14	1.34	1.37
Commercial furniture and fixtures, n.e.c.	122401	0.18	0.14	1.34	1.37
Floor coverings	123	0.44	0.38	4.36	1.29
Carpets and rugs	1231	0.45	0.45	4.86	1.45
Carpet and rugs	123101	0.45	0.45	4.86	1.45
Resilient floor coverings	1232	0.00	0.00	1.33	1.06
Household appliances	124	0.28	0.19	2.67	0.66
Major appliances	1241	0.41	0.24	2.92	0.82
Household cooking appliances	124101	0.71	0.48	2.15	0.95
Household refrigeration equipment	124103	0.38	0.28	2.09	0.72
Other major household appliances including room air-conditioners	124104	0.59	0.49	2.54	1.86
Electric housewares and fans	1244	0.26	0.30	0.68	0.79
Small electric household appliances, except fans and wall and baseboard heating units	124401	0.37	0.46	0.39	1.11
Portable residential lighting fixtures, including parts and accessories	1245	0.00	0.00	3.12	1.01
Portable residential lighting fixtures, including parts and accessories	124501	0.00	0.00	3.12	1.01
Home electronic equipment	125	0.13	0.25	0.53	0.85
Speakers and commercial sound equipment	1257	0.26	0.33	1.33	1.43
Speakers and commercial sound equipment	125707	0.26	0.33	1.33	1.43
Other home electronic equipment	1258	0.03	0.21	0.25	0.81

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Other consumer audio and video equipment, including television receivers	125803	0.00	0.00	0.11	0.78
Other household durable goods	126	0.15	0.14	1.61	0.58
Vitreous china, fine earthenware, and other pottery products	1261	0.01	0.03	5.13	2.08
Vitreous china, porcelain, and earthenware table and kitchenware and other pottery products	126101	0.01	0.03	5.13	2.08
Mirrors (decorated and undecorated)	1265	0.00	0.00	2.45	1.54
Mirrors (decorated and undecorated), made from purchased glass	126501	0.00	0.00	2.45	1.54
Lawn/garden equipment	1266	0.18	0.20	1.50	1.06
Parts and attachments for consumer lawn, garden, and snow equipment	126605	0.42	0.19	2.39	0.50
Cutlery, flatware (except precious), razors and razor blades	1267	0.09	0.09	0.71	0.39
Cutlery, flatware (except precious), razors and razor blades	126701	0.09	0.09	0.71	0.39
Metal kitchen utensil, pots, and pans	1268	0.08	0.08	3.40	0.81
Metal kitchen utensil, pots, and pans	126801	0.08	0.08	3.40	0.81
Window shades, blinds, and accessories	1269	0.07	0.10	2.18	1.19
Window shades, blinds, and accessories	126901	0.07	0.10	2.18	1.19
Nonmetallic mineral products	13	0.26	0.15	3.58	0.34
Glass	131	0.19	0.16	3.52	0.62
Flat glass	1311	0.25	0.22	2.37	0.80
Flat glass (float, sheet, and plate process)	131105	0.19	0.23	7.19	1.76
Specialty glass	131107	0.27	0.26	1.12	0.99
Other finished glassware	1313	0.12	0.13	6.58	0.94
Pressed and blown glassware	131301	0.12	0.13	6.58	0.94
Concrete ingredients and related products	132	0.19	0.18	3.27	0.77
Construction sand, gravel, and crushed stone	1321	0.17	0.25	3.54	0.98
Construction sand, gravel and crushed stone	132101	0.17	0.25	3.54	0.98
Cement, hydraulic	1322	0.23	0.15	2.65	1.07
Cement, hydraulic	132201	0.23	0.15	2.65	1.07
Concrete products	133	0.25	0.34	3.69	0.75
Concrete block and brick	1331	0.34	0.35	2.88	0.87
Structural concrete block	133111	0.31	0.26	2.11	0.63
Decorative concrete block	133121	0.62	1.06	3.21	1.79
Concrete brick	133131	0.33	0.23	8.55	12.72
Concrete pavers	133141	0.00	0.00	3.18	1.07
Concrete pipe	1332	0.74	0.72	1.17	0.82
Concrete pipe	133201	0.74	0.72	1.17	0.82
Ready-mix concrete	1333	0.40	0.54	3.95	1.24
Ready-mix concrete	133301	0.40	0.54	3.95	1.24
Precast concrete products	1334	0.36	0.29	3.80	1.45
Precast concrete products	133401	0.36	0.29	3.80	1.45
Prestressed concrete products	1335	0.26	0.34	4.15	2.11
Prestressed concrete products	133501	0.26	0.34	4.15	2.11
Clay construction products ex. refractories	134	0.09	0.10	1.77	0.58
Brick and structural clay tile	1342	0.09	0.10	1.86	0.73
Building or common brick	134201	0.10	0.11	1.90	0.78
Glazed brick and other brick (paving, floor, and sewer)	134202	0.20	0.35	1.56	0.83
Clay floor and wall tile, glazed and unglazed	1344	0.00	0.00	0.20	0.24
Clay floor and wall tile, glazed and unglazed (including quarry tile and ceramic mosaic tile)	134401	0.00	0.00	0.20	0.24
Structural clay products, n.e.c.	1345	0.00	0.00	8.11	4.71
Structural clay products, n.e.c.	134501	0.00	0.00	8.11	4.71
Refractories	135	0.62	0.77	3.83	1.44
Clay refractories	1352	0.24	0.35	1.34	0.88
Clay refractories	135201	0.24	0.35	1.34	0.88
Nonclay refractories	1353	1.22	1.08	6.00	2.48
Nonclay refractories (excluding dead-burned magnesia)	135301	1.22	1.08	6.00	2.48
Asphalt felts and coatings	136	1.26	1.36	6.26	2.22
Prepared asphalt and tar roofing and siding products	1361	1.38	1.55	6.55	2.55
Prepared asphalt and tar roofing and siding products	136101	1.38	1.55	6.55	2.55
Roofing asphalts, pitches, coatings, and cement	1362	0.00	0.00	5.78	2.16
Roofing asphalts, pitches, coatings, and cement	136201	0.00	0.00	5.78	2.16
Gypsum products	137	1.29	0.56	6.57	1.29

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Gypsum products	1371	1.29	0.56	6.57	1.29
Gypsum products	137101	1.29	0.56	6.57	1.29
Glass containers	138	0.04	0.04	2.17	0.55
Glass containers	1381	0.04	0.04	2.17	0.55
Glass containers (including value of packaging)	138101	0.04	0.04	2.17	0.55
Other nonmetallic minerals	139	0.50	0.28	2.95	0.65
Insulation materials	1392	0.39	0.35	2.17	1.05
Mineral wool for thermal and acoustical envelope insulation	139201	0.29	0.41	2.11	1.47
Mineral wool for industrial, equipment, and appliance insulation	139202	0.57	0.60	3.30	1.67
Paving mixtures and blocks	1394	1.26	0.67	5.70	1.93
Paving mixtures and blocks	139401	1.26	0.67	5.70	1.93
Cut stone and stone products	1395	0.47	0.48	2.95	1.62
Cut stone and stone products	139501	0.47	0.48	2.95	1.62
Gaskets, packing, and sealing devices	1398	0.12	0.10	1.96	0.54
Gaskets and gasketing material	139801	0.17	0.14	1.20	0.81
Packing and sealing	139802	0.14	0.10	3.08	0.76
Nonmetallic minerals and products, n.e.c.	1399	0.20	0.25	1.18	0.64
Industrial sand	139901	0.75	0.82	2.18	3.09
Clay and stone mining and quarrying	139902	0.12	0.20	1.30	0.89
All other miscellaneous nonmetallic mineral products	139903	0.05	0.09	0.57	1.05
Transportation equipment	14	0.06	0.05	1.23	0.17
Motor vehicles and equipment	141	0.09	0.08	1.20	0.24
Motor vehicles	1411	0.15	0.11	0.77	0.30
Passenger cars and chassis	141101	0.12	0.12	1.29	0.74
Motorcycles, including three-wheel motorbikes, motorscooters, mopeds, and parts	141104	0.00	0.00	0.41	0.41
Trucks, truck tractors, & bus chassis 14,000 lb or less, incl. minivans & suvs	141105	0.24	0.18	1.14	0.41
Trucks, over 14,000 lbs GVW	141106	0.12	0.10	1.13	0.52
Motor vehicles parts	1412	0.06	0.06	1.32	0.53
Motor vehicles parts	141205	0.06	0.06	1.32	0.53
Truck and bus bodies	1413	0.36	0.12	2.47	0.40
Truck and bus bodies sold separately	141301	0.39	0.17	3.09	0.57
Complete vehicles on purchased chassis	141302	0.14	0.13	1.85	0.45
Truck trailers	1414	0.58	0.19	4.76	0.52
Truck trailers	141406	0.58	0.19	4.76	0.52
Motor homes, built on purchased chassis	1415	0.10	0.07	2.39	0.28
Motor homes, built on purchased chassis	141501	0.10	0.07	2.39	0.28
Travel trailers and campers	1416	0.17	0.09	4.70	1.04
Travel trailers	141601	0.10	0.06	3.92	1.30
Camping trailers, campers, pick-up covers, and parts	141602	0.05	0.03	7.96	3.22
Aircraft and aircraft equipment	142	0.11	0.04	1.32	0.28
Aircraft	1421	0.14	0.02	1.72	0.34
Civilian aircraft	142102	0.21	0.03	2.63	0.21
Military aircraft	142104	0.00	0.00	0.04	0.82
Aircraft engine and engine parts	1423	0.08	0.13	1.05	0.45
Aircraft engine and engine parts	142301	0.08	0.13	1.05	0.45
Other aircraft parts and equipment	1425	0.08	0.07	0.90	0.69
Other aircraft parts and equipment	142501	0.08	0.07	0.90	0.69
Ships and boats	143	0.08	0.06	1.30	0.48
Ships	1431	0.00	0.00	0.21	0.62
Military self-propelled ships, new construction	143102	0.00	0.00	0.64	0.53
Nonmilitary self-propelled ships, new construction	143103	0.00	0.00	2.42	2.10
Nonpropelled ships, new construction	143104	0.00	0.00	0.00	0.00
Boats	1432	0.19	0.09	3.02	0.41
Outboard motorboats, including commercial and military (except sailboats and lifeboats)	143201	0.14	0.10	3.78	0.67
Inboard motorboats, including commercial and military (except sailboats and lifeboats)	143202	0.32	0.12	3.21	0.40
Inboard-outdrive boats, including commercial and military (except sailboats and lifeboats)	143203	0.00	0.00	3.49	0.95
Railroad equipment	144	0.03	0.11	0.67	1.05
Locomotives, new and rebuilt, including parts	1441	0.07	0.18	0.70	2.05
Locomotives, new and rebuilt, including parts	144104	0.07	0.18	0.70	2.05

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Railroad cars and car parts	1442	0.02	0.02	0.63	0.70
Railway maintenance of way equipment & parts, railcar parts, & other railway vehicles	144203	0.07	0.05	1.29	0.92
Railroad cars	144204	0.00	0.00	1.40	0.90
Transportation equipment, n.e.c.	149	0.13	0.10	1.53	0.46
Transportation equipment, n.e.c.	1491	0.13	0.10	1.53	0.46
Other transportation equipment, incl. golf carts, vehicle trailers, and all-terrain vehicles	149111	0.13	0.10	1.53	0.46
Miscellaneous products	15	0.14	0.10	2.57	0.35
Toys, sporting goods, small arms, etc.	151	0.11	0.13	1.34	0.50
Toys, games, and children's vehicles	1511	0.01	0.03	1.82	0.97
Toys, games, and children's vehicles	151101	0.01	0.03	1.82	0.97
Sporting and athletic goods	1512	0.20	0.12	0.60	0.70
Sporting and athletic goods	151201	0.20	0.12	0.60	0.70
Small arms and ammunition	1513	0.07	0.11	2.03	0.93
Small arms	151301	0.09	0.11	0.44	0.90
Small arms ammunition	151302	0.00	0.00	4.18	2.06
Other small arms ammunition products	151303	0.00	0.00	3.46	1.17
Tobacco products, incl. stemmed & redried	152	0.08	0.04	5.91	1.06
Cigarettes, including nontobacco	1521	0.00	0.00	6.42	1.30
Cigarettes, including nontobacco	152101	0.00	0.00	6.42	1.30
Stemmed and redried tobacco	1524	0.01	0.00	1.54	0.44
Stemmed and redried tobacco	152402	0.01	0.00	1.54	0.44
Other tobacco products	1525	0.07	0.06	3.44	0.41
Other tobacco products	152501	0.07	0.06	3.44	0.41
Notions	153	0.45	0.71	1.09	0.94
Fasteners, zippers, buttons, needles, pins, and buckles	1532	0.48	0.76	1.03	0.86
Fasteners, zippers, buttons, needles, pins, and buckles	153201	0.48	0.76	1.03	0.86
Photographic equipment and supplies	154	0.02	0.05	0.22	0.26
Photographic and photocopying equipment	1541	0.00	0.00	0.49	0.48
Photographic and photocopying equipment	154107	0.00	0.00	0.49	0.48
Photographic supplies	1542	0.02	0.02	0.22	0.25
Photographic supplies	154206	0.02	0.02	0.22	0.25
Mobile homes	155	0.36	0.29	5.93	1.58
Manufactured homes (mobile homes), all sizes (incl. multisection)	1553	0.36	0.29	5.93	1.58
Manufactured mobile homes and nonresidential mobile buildings	155303	0.36	0.29	5.93	1.58
Medical, surgical & personal aid devices	156	0.10	0.12	1.12	0.36
Surgical and medical instruments	1562	0.15	0.15	0.57	0.48
Surgical and medical instruments	156201	0.15	0.15	0.57	0.48
Medical and surgical appliances and supplies	1563	0.18	0.22	1.20	0.54
Medical and surgical appliances and supplies	156301	0.18	0.22	1.20	0.54
Ophthalmic goods	1564	0.20	0.48	2.56	1.59
Ophthalmic goods	156401	0.20	0.48	2.56	1.59
Dental equipment and supplies	1565	0.86	0.59	2.62	1.19
Dental equipment and supplies	156501	0.86	0.59	2.62	1.19
Other industrial safety equipment	157	0.07	0.11	3.46	3.19
Personal safety equipment and clothing	1571	0.07	0.11	3.46	3.19
Personal safety equipment and clothing	157108	0.07	0.11	3.46	3.19
Other miscellaneous products	159	0.26	0.28	1.25	0.98
Burial caskets	1591	0.02	0.02	3.71	0.27
Burial caskets	159101	0.02	0.02	3.71	0.27
Musical instruments	1593	0.19	0.10	3.38	1.27
Musical instruments	159301	0.19	0.10	3.38	1.27
Jewelry and jewelry products	1594	0.23	0.21	1.16	1.14
Jewelry (gold and platinum) and silverware	159402	0.38	0.17	2.85	1.78
Costume jewelry and novelties	159404	0.05	0.06	3.50	0.64
All other jewelry and personal goods (excluding costume)	159407	0.27	0.25	1.30	1.01
Jewelers' material and lapidary work	159408	0.03	0.19	0.21	1.42
Pens, pencils, and marking devices	1595	0.01	0.02	1.99	0.44
Pens, markers, mechanical pencils, and associated parts	159502	0.01	0.02	1.39	0.72
Lead pencils, art goods, office supplies and small office equipment, excluding paper	159503	0.00	0.00	2.56	0.73

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Marking devices	159504	0.00	0.00	1.69	0.91
Watches, clocks, watchcases, and parts	1596	0.00	0.00	0.00	0.00
Watches, clocks, watchcases, and parts	159603	0.00	0.00	0.00	0.00
Brooms and brushes	1597	0.07	0.05	0.77	0.24
Brooms, brushes and mops	159705	0.07	0.05	0.77	0.24
Miscellaneous products, n.e.c.	159A	0.44	0.51	2.53	1.84
Candles	159A01	0.01	0.01	1.77	3.31
Signs and advertising displays	159A04	0.29	0.25	2.49	1.24
All other miscellaneous fabricated products and recyclable materials	159A09	0.93	1.38	3.25	3.19
Prerecorded audio and video media reproduction	159C	0.00	0.00	0.00	0.00
Prerecorded audio and video media reproduction	159C01	0.00	0.00	0.00	0.00
Reproduction of audio and video media and software	159D	0.00	0.00		
Reproduction of audio and video media and software	159D01	0.00	0.00		
<b>Services</b>					
Transportation services	30	0.47	0.18	5.36	0.39
Transportation of freight and mail	301	0.46	0.13	5.72	0.42
Rail transportation of freight and mail	3011	0.38	0.14	5.97	0.51
Rail transportation of freight and mail	301101	0.38	0.14	5.97	0.51
Truck transportation of freight	3012	0.55	0.19	6.85	0.75
Local motor carrying	301201	0.48	0.42	5.62	1.26
Long-distance motor carrying	301202	0.53	0.22	7.23	0.83
Water transportation of freight	3013	0.32	0.30	3.77	1.80
Deep sea water transportation of freight	301301	0.62	0.54	12.06	3.32
Coastal and intercoastal water transportation of freight	301302	0.36	0.36	9.11	1.73
Great Lakes-St Lawrence Seaway water transportation of freight	301303	0.34	0.23	6.99	1.27
Inland waterways transportation of freight	301304	0.27	0.31	3.38	1.51
Air transportation of freight	3014	0.37	0.78	1.63	1.90
Air transportation of freight	301401	0.37	0.78	1.63	1.90
Pipeline transportation (partial)	3015	0.03	0.02	0.73	0.44
Pipeline transportation of petroleum products	301501	0.03	0.02	0.73	0.44
Courier, messenger, and U.S. postal services	3016	0.12	0.02	4.17	0.35
U.S. Postal Service	301601	0.00	0.00	2.08	0.67
Courier and messenger services, except air	301602	0.06	0.04	5.09	0.33
Air mail and package delivery services, excluding by USPS	301603	0.54	0.02	7.33	0.33
Transportation of passengers (partial)	302	2.08	0.61	3.37	0.92
Rail transportation of passengers	3021	0.00	0.00	1.71	0.36
Rail transportation of passengers	302101	0.00	0.00	1.71	0.36
Airline passenger services	3022	2.11	0.62	3.39	0.94
Airline passenger services	302201	2.11	0.62	3.39	0.94
<b>Services related to transportation activities</b>					
Services related to transportation activities	31	0.25	0.16	2.48	0.99
Services related to water transportation	311	0.20	0.45	3.33	1.06
Towing, tugging, docking, and related services	3111	1.10	1.23	5.29	2.46
Towing, tugging, docking and related services	311101	1.10	1.23	5.29	2.46
Operation of port waterfront terminals	3112	0.28	0.30	1.47	0.82
Operation of port waterfront terminals	311201	0.28	0.30	1.47	0.82
Marine cargo handling	3113	0.07	0.11	2.32	1.15
Marine cargo handling	311301	0.07	0.11	2.32	1.15
Services related to air transportation	312	0.49	0.41	1.90	1.00
Other airport operations, excluding aircraft maintenance and repair	3121	0.49	0.41	1.90	1.00
Other airport operations, excluding aircraft maintenance and repair	312101	0.49	0.41	1.90	1.00
Other services related to transportation activities (partial)	313	0.00	0.00	2.23	1.65
Arrangement of freight and cargo	3131	0.00	0.00	2.88	2.36
Arrangement of freight and cargo	313101	0.00	0.00	2.88	2.36
Freight forwarding	3132	0.00	0.00	1.72	2.70
Freight forwarding	313201	0.00	0.00	1.72	2.70
<b>Warehousing, storage, and related services</b>					
Warehousing, storage, and related services	32	0.25	0.41	3.89	1.65
Warehousing, storage, and related services	321	0.25	0.41	3.89	1.65

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Warehousing, storage, and related services	3211	0.25	0.41	3.89	1.65
Warehousing, storage, and related services	321101	0.25	0.41	3.89	1.65
Publishing sales, excluding software	33	0.35	0.34	2.16	0.66
Book, periodical, and newspaper publishing sales and subscriptions	331	0.73	0.58	2.53	1.08
Sales of books	3311	0.56	0.78	2.14	1.54
Sales of textbooks	331101	0.34	1.75	2.27	4.12
Sales of technical, scientific, and professional books	331102	1.17	1.14	5.01	2.78
Sales of religious books	331103	1.23	1.39	2.05	3.45
Sales of general adult and juvenile books	331104	0.68	1.12	0.85	1.12
Sales of general reference books	331105	0.85	1.72	1.62	7.00
Sales of digital books	331106	0.98	1.30	0.88	2.09
Sales and subscriptions of periodicals and newspapers	3312	0.55	0.62	2.91	1.33
Sales and subscriptions of periodicals	331201	0.59	0.70	0.92	0.56
Newspaper subscription and single copy sales	331202	0.53	0.62	6.61	2.81
Directory, mailing list, and related compilations publishing sales	332	1.07	1.59	2.14	2.04
Directory, mailing list, and related compilations publishing sales	3321	1.07	1.59	2.14	2.04
Directory, mailing list, and related compilations publishing sales	332101	1.07	1.59	2.14	2.04
Greeting card publishing sales	333	0.01	0.01	0.12	0.14
Greeting card publishing sales	3331	0.01	0.01	0.12	0.14
Greeting card publishing sales	333101	0.01	0.01	0.12	0.14
Calendars, yearbooks, and other miscellaneous publishing sales	334	0.16	0.31	1.85	1.79
Calendars, yearbooks, and other miscellaneous publishing sales	3341	0.16	0.31	1.85	1.79
Calendars, yearbooks, and other miscellaneous publishing sales	334101	0.16	0.31	1.85	1.79
Internet publishing and broadcasting subscription, content access, and licensing sales	335	0.21	0.25	2.25	0.98
Internet publishing and broadcasting subscription, content access, and licensing sales	3351	0.21	0.25	2.25	0.98
Internet publishing and broadcasting subscription, content access, and licensing sales	335101	0.21	0.25	2.25	0.98
Software publishing	34	0.72	0.83	0.78	1.46
Application software publishing	342	1.20	1.27	0.88	2.08
Application software publishing	3421	1.20	1.27	0.88	2.08
Desktop and portable device application software publishing	342101	0.70	1.16	0.76	1.82
Application software publishing, cross-industry, vertical market, utilities, and other	342103	1.58	1.80	1.86	1.49
Application software publishing, game software	342104	2.84	6.80	8.07	17.30
Network compensation from broadcast and cable television and radio	35	0.00	0.00	4.82	1.03
Affiliate agreements, programming sales, and retransmission fees for cable and broadcast tv	351	0.00	0.00	4.76	1.02
Affiliate agreements, programming sales, and retransmission fees for cable and broadcast tv	3511	0.00	0.00	4.76	1.02
Affiliate agreements, programming sales, and retransmission fees for cable and broadcast tv	351101	0.00	0.00	4.76	1.02
Affiliate agreements, programming sales, and retransmission fees for radio	352	0.00	0.00	8.64	9.15
Affiliate agreements, programming sales, and retransmission fees for radio	3521	0.00	0.00	8.64	9.15
Affiliate agreements, programming sales, and retransmission fees for radio	352101	0.00	0.00	8.64	9.15
Advertising space and time sales	36	1.50	0.92	4.07	1.72
Advertising space sales in periodicals, newspapers, directories, and mailing lists	361	0.29	0.51	1.04	1.69
Advertising space sales in periodicals and newspapers	3611	0.34	0.61	0.97	2.00
Advertising space sales in periodicals	361101	0.95	0.68	1.29	0.90
Advertising space sales in newspapers	361102	0.53	0.73	2.89	3.68
Advertising space sales in directories and mailing lists	3612	0.00	0.00	1.04	1.07
Advertising space sales in directories and mailing lists	361201	0.00	0.00	1.04	1.07
Television advertising time sales	362	3.76	1.43	4.28	2.27
Television advertising time sales	3621	3.76	1.43	4.28	2.27
Broadcast and network television advertising time sales	362101	4.57	2.26	3.52	2.74
Cable network advertising time sales	362102	1.98	1.42	5.06	3.98
Local cable system advertising time sales	362103	0.00	0.00	0.00	0.00
Radio advertising time sales	363	0.79	1.14	1.49	4.04
Radio advertising time sales	3631	0.79	1.14	1.49	4.04
Radio advertising time sales	363101	0.79	1.14	1.49	4.04
Internet advertising sales, excluding Internet advertising sold by print publishers	365	2.45	1.97	11.29	6.86
Internet advertising sales, excluding Internet advertising sold by print publishers	3651	2.45	1.97	11.29	6.86

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Internet advertising sales, excluding Internet advertising sold by print publishers	365101	2.45	1.97	11.29	6.86
Telecommunication, cable, and internet user services	37	0.25	0.27	1.81	0.92
Wired telephone services	371	0.08	0.12	4.08	1.62
Residential wired telephone services	3711	0.25	0.22	2.76	0.69
Local residential wired telephone service	371101	0.09	0.06	4.55	0.47
Long distance residential wired telephone service	371102	0.63	0.52	0.59	1.83
All-distance residential wired telephone service	371103	0.00	0.00	3.74	0.36
Business wired telephone services	3712	0.17	0.16	6.07	3.40
Local business wired telephone service	371201	0.01	0.02	17.57	10.82
Long distance business wired telephone service	371202	1.65	1.29	8.50	4.78
Private line wired telephone service	371204	0.00	0.00	0.48	0.59
Other wired telephone services	3713	0.17	0.18	1.04	1.02
Other wired telephone services	371301	0.17	0.18	1.04	1.02
Wireless telecommunication services	372	0.35	0.51	3.79	1.79
Cellular phone and other wireless telecommunication services	3721	0.35	0.51	3.79	1.79
Cellular phone and other wireless telecommunication services	372101	0.35	0.51	3.79	1.79
Cable and satellite subscriber services	373	0.04	0.04	6.81	1.41
Cable and satellite subscriber services	3731	0.04	0.04	6.81	1.41
Cable and satellite subscriber services	373101	0.04	0.04	6.81	1.41
Internet access services	374	0.02	0.02	1.66	1.40
Internet access services	3741	0.02	0.02	1.66	1.40
Residential Internet access services	374102	0.04	0.03	3.82	2.61
Business Internet access services	374103	0.00	0.00	0.51	0.72
Bundled wired telecommunications access services	375	0.40	0.46	3.03	1.53
Bundled wired telecommunications access services	3751	0.40	0.46	3.03	1.53
Bundled wired telecommunications access services	375101	0.40	0.46	3.03	1.53
Data processing and related services	38	0.04	0.17	0.34	0.51
Data processing and related services	381	0.04	0.17	0.34	0.51
Data processing and related services	3811	0.04	0.17	0.34	0.51
Hosting, ASP and other IT infrastructure provisioning services	381101	0.09	0.32	0.76	0.98
Business process management services	381102	0.00	0.00	0.08	0.10
Data management, information transformation and other services	381103	0.00	0.00	0.33	0.24
Credit intermediation services (partial)	39	1.81	0.41	5.59	1.21
Loan services (partial)	391	2.17	0.57	7.20	1.51
Business loans (partial)	3911	3.17	0.90	11.29	2.07
Business loans (partial)	391101	3.17	0.90	11.29	2.07
Consumer loans (partial)	3912	1.90	0.60	3.90	2.06
Residential real estate loans (partial)	391201	1.81	0.72	3.64	2.55
Vehicle loans (partial)	391202	3.80	1.58	2.01	3.07
Credit cards, overdraft credit, and related plans (partial)	391203	1.68	1.20	3.93	2.74
Other loans and loan services (partial)	3913	2.52	1.28	4.36	2.82
Other loans and loan services (partial)	391301	2.52	1.28	4.36	2.82
Deposit services (partial)	392	1.08	0.75	4.97	2.34
Deposit services (partial)	3921	1.08	0.75	4.97	2.34
Deposit services (partial)	392101	1.08	0.75	4.97	2.34
Other credit intermediation services, including trust services (partial)	393	0.30	0.64	1.66	3.43
Other credit intermediation services, including trust services (partial)	3931	0.30	0.64	1.66	3.43
Other credit intermediation services, including trust services (partial)	393101	0.30	0.64	1.66	3.43
Investment services	40	0.74	0.39	8.32	1.53
Securities brokerage, dealing, investment advice, and related services	401	0.98	0.92	11.16	2.62
Securities brokerage, dealing, investment advice, and related services	4011	0.98	0.92	11.16	2.62
Securities brokerage, dealing, and investment advice	401101	0.42	1.22	2.87	2.95
Securities brokerage and dealing related services (partial)	401102	1.53	0.49	33.02	4.71
Portfolio management	402	0.63	0.40	5.73	2.17
Portfolio management	4021	0.63	0.40	5.73	2.17
Portfolio management	402101	0.63	0.40	5.73	2.17



**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Investment banking	403	0.46	0.35	9.58	1.66
Investment banking	4031	0.46	0.35	9.58	1.66
Investment banking	403101	0.46	0.35	9.58	1.66
Insurance and annuities	41	0.15	0.08	2.92	0.46
Insurance	411	0.17	0.08	3.18	0.51
Insurance	4111	0.17	0.08	3.18	0.51
Life insurance	411101	0.04	0.04	0.07	0.30
Disability insurance, including accidental death	411102	0.00	0.00	0.65	0.91
Health and medical insurance	411103	0.20	0.14	5.55	0.85
Property and casualty insurance	411104	0.17	0.11	2.23	0.82
Annuities	412	0.19	0.20	1.98	1.54
Annuities	4121	0.19	0.20	1.98	1.54
Annuities	412101	0.19	0.20	1.98	1.54
Commissions and fees from sales and administration of insurance policies (partial)	42	0.12	0.08	1.62	0.33
Commissions from sales of insurance	421	0.12	0.08	1.62	0.33
Commissions from sales of insurance	4211	0.12	0.08	1.62	0.33
Commissions from sales of life insurance and annuities	421101	0.01	0.04	0.66	0.59
Commissions from sales of health and medical insurance	421102	0.11	0.12	3.59	0.69
Commissions from sales of property and casualty insurance	421103	0.14	0.10	1.78	0.46
Commissions from sales of other insurance	421104	0.06	0.12	0.41	0.79
Real estate services (partial)	43	0.26	0.32	3.71	0.91
Nonresidential real estate services	431	0.45	0.48	1.27	1.29
Nonresidential real estate rents	4311	0.53	0.57	1.16	1.47
Office buildings, gross rents	431101	0.37	0.51	0.80	1.58
Retail properties, gross rents	431102	1.09	0.82	2.72	1.93
Industrial buildings, gross rents	431103	0.25	0.32	0.56	2.83
Self-service storage and miniwarehouses, gross rents	431104	0.33	0.23	1.48	0.87
Other nonresidential buildings, gross rents	431105	3.46	3.57	4.31	14.21
Nonresidential property sales and leases including land, brokerage fees and commissions	4312	0.68	0.26	4.98	1.64
Nonresidential property sales and leases including land, brokerage fees and commissions	431201	0.68	0.26	4.98	1.64
Nonresidential property management fees	4313	0.62	0.76	1.82	3.38
Nonresidential property management fees	431301	0.62	0.76	1.82	3.38
Residential real estate services (partial)	432	0.34	0.12	6.49	0.85
Residential property sales and rental, brokerage fees and commissions	4321	0.40	0.16	9.00	1.12
Residential property sales and rental, brokerage fees and commissions	432101	0.40	0.16	9.00	1.12
Residential property management fees	4322	0.09	0.14	1.00	1.02
Residential property management fees	432201	0.09	0.14	1.00	1.02
Real estate appraisal fees	433	0.00	0.00	2.89	3.02
Real estate appraisal fees	4331	0.00	0.00	2.89	3.02
Real estate appraisal fees	433101	0.00	0.00	2.89	3.02
Rental and leasing of goods (partial)	44	0.86	0.93	1.86	1.81
Passenger car rental	441	1.90	2.12	2.40	3.72
Passenger car rental	4411	1.90	2.12	2.40	3.72
Passenger car rental	441101	1.90	2.12	2.40	3.72
Truck, trailer, and RV rental and leasing	442	0.51	0.69	2.26	2.16
Truck, trailer, and RV rental and leasing	4421	0.49	0.69	1.77	0.98
Truck, truck trailer and RV rental	442101	1.23	1.52	2.13	1.68
Truck, truck trailer and RV leasing	442102	0.70	0.43	1.95	1.28
Construction, mining, and forestry machinery and equipment rental and leasing	443	0.56	0.73	1.62	2.94
Construction, mining, and forestry machinery and equipment rental and leasing	4431	0.56	0.73	1.62	2.94
Construction, mining, and forestry machinery and equipment rental and leasing	443101	0.56	0.73	1.62	2.94
Professional services (partial)	45	0.13	0.18	1.76	0.58
Legal services	451	0.20	0.24	2.44	0.90
Legal services	4511	0.20	0.24	2.44	0.90
Legal services	451101	0.20	0.24	2.44	0.90

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Accounting services (partial)	452	0.51	0.68	1.97	1.26
Accounting services, excluding payroll	4521	0.51	0.68	1.97	1.26
Financial auditing	452101	0.89	1.40	2.65	2.24
Tax preparation and planning	452102	1.35	1.21	1.31	1.57
Bookkeeping and compilation	452103	0.70	0.57	4.89	2.76
Other accounting services, including billing and review	452104	0.46	1.03	2.00	4.38
Architectural and engineering services	453	0.14	0.18	1.99	0.52
Architectural services	4531	0.14	0.13	1.06	1.87
Architectural services	453101	0.14	0.13	1.06	1.87
Engineering services	4532	0.09	0.18	2.39	0.56
Engineering services	453201	0.09	0.18	2.39	0.56
Management, scientific, and technical consulting services	454	0.32	0.41	0.79	2.21
Management consulting services	4541	0.32	0.41	0.79	2.21
Administrative and general management consulting services	454101	0.19	0.49	0.68	2.30
Human resources consulting services	454102	0.13	0.08	2.54	4.51
Marketing consulting services	454103	1.30	0.79	6.48	7.63
Process, physical distribution, and logistics consulting services	454104	0.72	1.08	0.87	4.69
Other management consulting services	454105	0.22	0.14	0.27	0.32
Advertising and related services (partial)	455	0.05	0.13	0.35	0.46
Advertising agency services	4551	0.05	0.13	0.35	0.46
Advertising agency services	455101	0.05	0.13	0.35	0.46
Information technology (IT) technical support and consulting services (partial)	456	0.01	0.02	0.77	0.37
Information technology (IT) technical support and consulting services (partial)	4561	0.01	0.02	0.77	0.37
Information technology (IT) technical support and consulting services (partial)	456101	0.01	0.02	0.77	0.37
Employment services	46	0.24	0.28	0.54	1.21
Permanent placement services	461	0.65	0.55	1.93	1.59
Permanent placement services	4611	0.65	0.55	1.93	1.59
Permanent placement services	461101	0.65	0.55	1.93	1.59
Executive search services	462	1.57	2.28	2.78	5.11
Executive search services	4621	1.57	2.28	2.78	5.11
Executive search services	462101	1.57	2.28	2.78	5.11
Staffing services	463	0.29	0.31	0.55	1.23
Temporary help services	4631	0.39	0.41	1.65	1.24
Temporary help services	463101	0.39	0.41	1.65	1.24
Co-employment staffing services	4632	0.25	0.30	0.78	2.04
Co-employment staffing services	463201	0.25	0.30	0.78	2.04
Travel arrangement services (partial)	47	0.53	0.47	0.76	1.65
Arrangement of flights (partial)	471	0.43	0.59	2.13	2.87
Arrangement of international flights	4711	0.33	0.36	0.90	0.82
Arrangement of international flights	471101	0.33	0.36	0.90	0.82
Arrangement of domestic flights	4712	0.63	1.29	4.57	5.91
Arrangement of domestic flights (partial)	471201	0.63	1.29	4.57	5.91
Arrangement of vehicle rentals and lodging	472	0.64	2.20	3.19	5.49
Arrangement of vehicle rentals and lodging	4721	0.64	2.20	3.19	5.49
Arrangement of vehicle rentals and lodging (partial)	472101	0.64	2.20	3.19	5.49
Arrangement of cruises and tours	473	2.39	1.59	3.87	2.58
Arrangement of cruises and tours	4731	2.39	1.59	3.87	2.58
Arrangement of cruises and tours	473101	2.39	1.59	3.87	2.58
Other travel arrangements (partial)	474	0.00	0.00	0.00	0.00
Other travel arrangements (partial)	4741	0.00	0.00	0.00	0.00
Other travel arrangements (partial)	474101	0.00	0.00	0.00	0.00
Selected security services (partial)	48	0.21	0.18	2.41	0.85
Security guard services	481	0.21	0.18	2.41	0.85
Security guard services	4811	0.21	0.18	2.41	0.85
Security guard services	481101	0.21	0.18	2.41	0.85

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Cleaning and building maintenance services (partial)	49	0.08	0.09	0.30	0.38
Janitorial services	491	0.08	0.09	0.30	0.38
Janitorial services	4911	0.08	0.09	0.30	0.38
Janitorial services	491101	0.08	0.09	0.30	0.38
Waste collection and remediation services (partial)	50	0.46	0.34	4.54	1.72
Waste collection	501	0.46	0.34	4.54	1.72
Solid waste collection	5011	0.46	0.34	4.54	1.72
Solid waste collection	501101	0.46	0.34	4.54	1.72
Health care services	51	0.08	0.07	2.15	0.42
Outpatient care (partial)	511	0.05	0.08	1.75	0.60
Outpatient care (partial)	5111	0.05	0.08	1.75	0.60
Physician care	511101	0.10	0.10	1.28	0.52
Medical laboratory and diagnostic imaging center care	511102	0.04	0.09	1.21	0.49
Home health and hospice care	511103	0.08	0.09	2.31	1.43
Hospital outpatient care	511104	0.14	0.15	2.50	1.42
Dental care	511105	0.04	0.03	0.97	0.37
Inpatient care	512	0.16	0.11	2.72	0.46
Inpatient care	5121	0.16	0.11	2.72	0.46
Hospital inpatient care	512101	0.15	0.13	2.55	0.58
Nursing home care	512102	0.20	0.15	3.35	0.62
Intellectual and developmental disability center care	512103	0.22	0.21	2.88	0.80
Sales of blood and blood products, organs, and tissues	513	0.08	0.11	0.22	0.87
Sales of blood and blood products, organs, and tissues	5131	0.08	0.11	0.22	0.87
Sales of blood and blood products, organs, and tissues	513101	0.08	0.11	0.22	0.87
Accommodation services	53	3.88	1.99	3.98	2.64
Traveler accommodation services	531	3.88	1.99	3.98	2.64
Traveler accommodation services	5311	3.88	1.99	3.98	2.64
Guestroom or unit rental	531101	4.18	2.16	4.11	2.88
Other traveler accommodation services	531102	0.41	0.31	1.71	0.58
Food and beverage for immediate consumption services (partial)	54	0.52	0.85	1.05	1.40
Food and beverage for immediate consumption services (partial)	541	0.52	0.85	1.05	1.40
Food and nonalcoholic beverages for immediate consumption (partial)	5411	0.57	0.99	1.32	1.63
Food and nonalcoholic beverages for immediate consumption (partial)	541101	0.57	0.99	1.32	1.63
Alcoholic beverages for immediate consumption (partial)	5412	0.00	0.00	1.24	1.15
Alcoholic beverages for immediate consumption (partial)	541201	0.00	0.00	1.24	1.15
Repair and maintenance services (partial)	55	0.21	0.12	2.26	0.52
Commercial and industrial machinery and equipment repair and maintenance	551	0.04	0.05	2.13	1.42
Commercial and industrial machinery and equipment repair and maintenance	5511	0.04	0.05	2.13	1.42
Commercial machinery repair and maintenance	551101	0.04	0.05	2.13	1.42
Motor vehicle repair and maintenance (partial)	552	0.26	0.08	2.00	0.81
Motor vehicle repair and maintenance (partial)	5521	0.26	0.08	2.00	0.81
Motor vehicle repair and maintenance (partial)	552101	0.26	0.08	2.00	0.81
Ship repair and maintenance	553	0.00	0.00	2.33	2.38
Ship repair and maintenance	5531	0.00	0.00	2.33	2.38
Ship repair, military	553101	0.00	0.00	2.42	2.96
Ship repair, nonmilitary	553102	0.00	0.00	2.07	2.90
Aircraft repair and maintenance	554	0.03	0.10	2.85	1.04
Aircraft repair and maintenance	5541	0.03	0.10	2.85	1.04
Aircraft repair and maintenance	554101	0.03	0.10	2.85	1.04
Entertainment services (partial)	56	0.65	0.73	1.55	0.91
Membership dues and admissions and recreation facility use fees (partial)	561	0.97	0.49	2.67	1.09
Membership dues and admissions and recreation facility use fees (partial)	5611	0.97	0.49	2.67	1.09
Membership dues	561101	0.93	0.62	2.40	1.47
Admissions and recreational facilities use fees (partial)	561102	0.69	0.64	2.37	1.19

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Recreational activity instruction fees (partial)	562	0.05	0.08	3.12	1.85
Recreational activity instruction fees (partial)	5621	0.05	0.08	3.12	1.85
Recreational activity instruction fees (partial)	562101	0.05	0.08	3.12	1.85
Gaming receipts (partial)	563	0.68	1.40	1.12	1.64
Gaming receipts (partial)	5631	0.68	1.40	1.12	1.64
Gaming receipts (partial)	563101	0.68	1.40	1.12	1.64
Wholesale trade services	57	0.50	0.54	3.38	1.38
Machinery and equipment and parts and supplies wholesaling	571	0.64	0.77	3.81	2.20
Machinery and equipment and parts and supplies wholesaling	5711	0.64	0.77	3.81	2.20
Machinery and equipment wholesaling	571101	1.08	1.11	4.56	2.62
Parts and supplies for machinery and equipment wholesaling	571102	0.63	0.95	2.92	3.14
Furnishings wholesaling	572	1.87	2.01	2.90	4.23
Furnishings wholesaling	5721	1.87	2.01	2.90	4.23
Furnishings wholesaling	572101	1.87	2.01	2.90	4.23
Building materials, paint, and hardware wholesaling	573	0.88	1.44	2.44	3.59
Building materials, paint, and hardware wholesaling	5731	0.88	1.44	2.44	3.59
Building materials, paint, and hardware wholesaling	573101	0.88	1.44	2.44	3.59
Metals, minerals, and ores wholesaling	574	4.17	3.51	20.65	7.50
Metals, minerals, and ores wholesaling	5741	4.17	3.51	20.65	7.50
Metals, minerals, and ores wholesaling	574101	4.17	3.51	20.65	7.50
Chemicals and allied products wholesaling	575	1.06	1.56	1.77	3.67
Chemicals and allied products wholesaling	5751	1.06	1.56	1.77	3.67
Chemicals and allied products wholesaling	575101	1.06	1.56	1.77	3.67
Paper and plastics products wholesaling	576	1.27	1.65	6.18	3.99
Paper and plastics products wholesaling	5761	1.27	1.65	6.18	3.99
Paper and plastics products wholesaling	576101	1.27	1.65	6.18	3.99
Apparel wholesaling	577	1.63	1.32	1.51	2.89
Apparel wholesaling	5771	1.63	1.32	1.51	2.89
Apparel wholesaling	577101	1.63	1.32	1.51	2.89
Food and alcohol wholesaling	578	0.99	0.93	1.42	2.22
Food and alcohol wholesaling	5781	0.99	0.93	1.42	2.22
Food wholesaling	578101	1.28	1.15	1.83	2.50
Alcohol wholesaling	578102	1.19	1.08	1.89	2.11
Other commodities wholesaling	579	1.54	1.63	4.34	3.55
Other commodities wholesaling	5791	1.54	1.63	4.34	3.55
Other commodities wholesaling	579101	1.54	1.63	4.34	3.55
Retail trade services	58	0.27	0.57	1.15	1.02
Food and alcohol retailing	581	0.95	0.96	1.54	2.08
Food and alcohol retailing	5811	0.95	0.96	1.54	2.08
Food retailing	581102	1.10	0.98	1.63	2.30
Alcohol retailing	581103	1.38	1.71	2.33	2.41
Health and beauty care retailing, including optical goods	582	1.29	2.11	2.18	2.55
Health and beauty care retailing, including optical goods	5821	1.29	2.11	2.18	2.55
Health and beauty care retailing, including optical goods	582101	1.29	2.11	2.18	2.55
Apparel, jewelry, footwear, and accessories retailing	583	2.89	1.36	1.21	2.34
Apparel, jewelry, footwear, and accessories retailing	5831	2.89	1.36	1.21	2.34
Apparel, footwear, and accessories retailing	583101	2.88	1.46	1.46	2.65
Jewelry retailing	583102	3.86	3.10	1.95	5.90
Computer hardware, software, and supplies retailing	584	0.97	1.49	2.38	3.78
Computer hardware, software, and supplies retailing	5841	0.97	1.49	2.38	3.78
Computer hardware, software, and supplies retailing	584101	0.97	1.49	2.38	3.78
TV, video, and photographic equipment and supplies retailing	585	4.78	5.73	6.42	11.09
TV, video, and photographic equipment and supplies retailing	5851	4.78	5.73	6.42	11.09
TV, video, and photographic equipment and supplies retailing	585101	4.78	5.73	6.42	11.09
Automobiles and automobile parts retailing	586	1.70	1.22	0.86	2.60
Automobiles and automobile parts retailing	5861	1.70	1.22	0.86	2.60
Automobile retailing (Partial)	586101	2.28	1.78	1.43	4.71
Automotive parts, including tires, retailing	586102	1.78	1.20	1.05	2.86

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Manufactured (mobile) homes retailing	587	0.00	0.00	0.65	1.03
Manufactured (mobile) homes retailing	5871	0.00	0.00	0.65	1.03
Manufactured (mobile) homes retailing	587101	0.00	0.00	0.65	1.03
RVs, trailers, and campers retailing	588	0.00	0.00	1.66	6.13
RVs, trailers, and campers retailing	5881	0.00	0.00	1.66	6.13
RVs, trailers, and campers retailing	588101	0.00	0.00	1.66	6.13
Sporting goods, including boats, retailing	589	1.80	2.03	2.45	3.72
Sporting goods, including boats, retailing	5891	1.80	2.03	2.45	3.72
Sporting goods, including boats, retailing	589101	1.80	2.03	2.45	3.72
Lawn, garden, and farm equipment and supplies retailing	58A	1.30	2.11	2.44	3.58
Lawn, garden, and farm equipment and supplies retailing	58A1	1.30	2.11	2.44	3.58
Lawn, garden, and farm equipment and supplies retailing	58A101	1.30	2.11	2.44	3.58
Furniture retailing	58B	1.24	1.45	2.89	3.04
Furniture retailing	58B1	1.24	1.45	2.89	3.04
Furniture retailing	58B101	1.24	1.45	2.89	3.04
Flooring and floor coverings retailing	58C	0.80	2.46	5.30	8.13
Flooring and floor coverings retailing	58C1	0.80	2.46	5.30	8.13
Flooring and floor coverings retailing	58C101	0.80	2.46	5.30	8.13
Hardware and building materials and supplies retailing	58D	0.89	1.25	7.68	2.28
Hardware and building materials and supplies retailing	58D1	0.89	1.25	7.68	2.28
Hardware and building materials and supplies retailing	58D101	0.89	1.25	7.68	2.28
Major household appliance retailing	58E	2.74	2.84	8.69	6.42
Major household appliance retailing	58E1	2.74	2.84	8.69	6.42
Major household appliance retailing	58E101	2.74	2.84	8.69	6.42
Fuels and lubricants retailing	58F	5.97	3.93	6.63	5.25
Fuels and lubricants retailing	58F1	5.97	3.93	6.63	5.25
Automotive fuels and lubricants retailing	58F101	6.60	4.46	9.06	6.46
Household fuels retailing	58F102	3.22	3.21	9.46	6.34
Cleaning supplies and paper products retailing	58G	1.08	2.12	4.79	5.27
Cleaning supplies and paper products retailing	58G1	1.08	2.12	4.79	5.27
Cleaning supplies and paper products retailing	58G101	1.08	2.12	4.79	5.27
Book retailing	58H	2.00	2.55	3.21	7.14
Book retailing	58H1	2.00	2.55	3.21	7.14
Book retailing	58H101	2.00	2.55	3.21	7.14
Other merchandise retailing (partial)	58I	0.90	0.94	0.89	3.48
Other merchandise retailing (partial)	58I1	0.90	0.94	0.89	3.48
Other merchandise retailing (partial)	58I101	0.90	0.94	0.89	3.48
Metal treatment services	59	0.25	0.26	1.91	0.93
Metal treatment services	591	0.25	0.26	1.91	0.93
Metal treatment services	5911	0.25	0.26	1.91	0.93
Metal plating and polishing	591101	0.32	0.42	2.56	1.38
Metal coating and allied services	591102	0.32	0.43	1.37	1.64
Metal heat treating	591103	0.07	0.08	1.07	0.87
Mining services	60	0.22	0.31	1.74	1.15
Mining services	601	0.22	0.31	1.74	1.15
Mining services	6011	0.22	0.31	1.74	1.15
Metal mining services	601101	0.21	0.18	1.73	2.66
Support activities for coal mining	601102	0.00	0.00	2.36	1.20
Drilling oil and gas wells services	601103	0.54	0.91	2.57	2.66
Support activities for oil and gas operations	601104	0.22	0.26	1.51	1.43
Nonmetallic minerals mining services	601105	0.00	0.00	0.00	0.00
Contract work on textile products, apparel, and leather	61	0.16	0.18	1.39	0.61
Contract work on textile products and apparel	611	0.16	0.18	1.41	0.62
Contract work on textile products and apparel	6111	0.16	0.18	1.41	0.62
Commission receipts for throwing, texturing, or winding filament yarns	611101	0.00	0.00	0.00	0.00
Contract work on textile products	611102	0.22	0.21	3.76	1.64
Contract work on apparel	611103	0.00	0.08	0.53	0.68

**Table 2. Variance estimates for selected Producer Price Index commodity-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Contract & commission receipts for tanning or finishing leather owned by others	612	0.00	0.00	0.42	0.55
Contract & commission receipts for tanning or finishing leather owned by others	6121	0.00	0.00	0.42	0.55
Contract and commission receipts for tanning or finishing leather owned by others	612101	0.00	0.00	0.42	0.55
<b>Construction</b>					
Construction (partial)	80	0.14	0.06	3.42	0.24
New nonresidential building construction	801	0.13	0.04	3.98	0.25
New nonresidential building construction	8011	0.13	0.04	3.98	0.25
New warehouse building construction	801101	0.18	0.07	3.60	0.31
New school building construction	801102	0.03	0.07	4.21	0.49
New office building construction	801103	0.15	0.10	4.09	0.57
New industrial building construction	801104	0.15	0.05	4.70	0.21
New health care building construction	801105	0.15	0.11	4.05	0.40
Maintenance and repair of nonresidential buildings (partial)	802	0.18	0.15	1.64	0.55
Maintenance and repair of nonresidential buildings (partial)	8021	0.18	0.15	1.64	0.55
Maintenance and repair of nonresidential buildings (partial)	802101	0.18	0.15	1.64	0.55

NOTE: Some indexes in this table, primarily PPIs for agricultural products, are constructed using price information not directly sampled by PPI. These secondary source data, mainly from the U.S. Department of Agriculture, but also other sources, are considered a census of available price information. No sampling variability exists in these percent change estimates, so their standard error values are zero. For more information, refer to the section titled "PPI Sampling" in the methodology paper that accompanies this year's PPI variance publication.

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
<b>Selected industry sector groupings</b>					
Total mining, utilities, and manufacturing industries	AMUM	0.60	0.13	4.16	0.28
Total mining industries	OMIN	2.52	0.52	9.68	0.90
Total manufacturing industries	OMFG	0.55	0.11	4.51	0.25
Total trade industries	ATRADE	0.29	0.38	1.61	0.80
Total wholesale trade industries	AWHLTR	0.39	0.60	2.03	1.39
Total retail trade industries	ARETTR	0.29	0.38	1.56	0.66
Transportation and warehousing industries	ATRNWR	0.44	0.17	4.89	0.38
Transportation industries	ATRANS	0.42	0.19	5.07	0.45
Delivery and warehouse industries	ADLVWR	0.13	0.08	3.87	0.36
Services less trade, transportation, and warehousing	ATTDSV	0.20	0.08	2.82	0.28
Information	AINFO	0.25	0.23	0.34	0.52
Selected health care industries	ASHC	0.09	0.09	1.95	0.41
Other selected services less trade, transportation, and warehousing industries	ASTDSV	0.17	0.12	3.69	0.35
<b>Logging</b>					
Logging	1133	0.53	0.82	3.54	2.88
Logging	11331	0.53	0.82	3.54	2.88
Logging	113310	0.53	0.82	3.54	2.88
<b>Mining</b>					
Oil and gas extraction	211	4.65	1.03	18.95	1.67
Oil and gas extraction	2111	4.65	1.03	18.95	1.67
Crude petroleum and natural gas extraction	211111	4.78	0.93	19.20	1.81
Natural gas liquids extraction	211112	6.05	2.20	16.96	4.33
Mining (except oil & gas)	212	0.48	0.47	3.62	1.33
Coal mining	2121	0.56	0.29	1.80	2.43
Coal mining	21211	0.56	0.29	1.80	2.43
Bituminous coal and lignite surface mining	212111	0.67	0.48	2.90	1.63
Bituminous coal underground mining	212112	0.60	0.25	0.70	4.69
Anthracite mining	212113	0.65	0.33	2.80	0.98
Metal ore mining	2122	1.00	1.56	8.89	2.81
Iron ore mining	21221	1.11	0.08	2.37	4.27
Iron ore mining	212210	1.11	0.08	2.37	4.27
Copper, nickel, lead & zinc mining	21223	1.36	3.08	13.38	4.22
Copper, nickel, lead and zinc mining	212230	1.36	3.08	13.38	4.22
Other metal ore mining	21229	7.73	4.70	21.94	22.25
Other metal ore mining	212290	7.73	4.70	21.95	22.25
Nonmetallic mineral mining & quarrying	2123	0.30	0.24	2.49	0.73
Stone mining & quarrying	21231	0.24	0.27	2.92	1.20
Dimension stone mining and quarrying	212311	0.02	0.13	0.82	0.99
Crushed and broken limestone mining	212312	0.20	0.27	3.36	1.27
Crushed and broken granite mining	212313	0.40	0.63	3.56	1.20
Other crushed and broken stone mining	212319	0.32	0.93	0.98	4.43
Sand/gravel/clay/refractory minerals mining	21232	0.42	0.34	3.19	0.91
Construction sand and gravel mining	212321	0.13	0.21	3.78	1.11
Industrial sand mining	212322	0.73	0.80	2.16	2.93
Kaolin and ball clay mining	212324	0.00	0.00	1.75	1.09
Clay, ceramic, and refractory minerals mining	212325	1.01	0.96	0.93	1.71
Other nonmetallic mineral mining & quarrying	21239	0.35	0.49	1.59	1.01
Potash, soda, and borate mineral mining	212391	0.44	0.75	1.37	0.97
Other chemical and fertilizer mineral mining	212393	0.18	0.02	2.12	3.19
All other nonmetallic mineral mining	212399	0.00	0.00	3.46	0.86
Mining support activities	213	0.23	0.31	1.67	1.13
Mining support activities	2131	0.23	0.31	1.67	1.13
Mining support activities	21311	0.23	0.31	1.67	1.13
Drilling oil and gas wells	213111	0.46	0.86	2.54	2.53
Support activities for oil and gas operations	213112	0.21	0.24	1.35	1.39

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Support activities for coal mining	213113	0.00	0.00	2.20	1.19
Support activities for metal mining	213114	0.21	0.18	1.75	2.66
Support activities for nonmetallic minerals (except fuels) mining	213115	0.00	0.00	0.00	0.00
<b>Utilities</b>					
Utilities	221	2.31	0.56	2.90	1.35
Electric power generation, transmission, and distribution	2211	2.71	0.59	3.28	1.61
Electric power generation	22111	6.75	1.80	8.20	6.27
Electric power generation	221110	6.75	1.80	8.19	6.27
Electric power transmission, control, and distribution	22112	1.04	0.26	1.20	0.36
Electric bulk power transmission and control	221121	0.63	0.39	2.85	1.73
Electric power distribution	221122	1.13	0.27	1.13	0.35
Natural gas distribution	2212	0.80	0.56	2.25	0.78
Natural gas distribution	22121	0.80	0.56	2.25	0.78
Natural gas distribution	221210	0.80	0.56	2.25	0.78
<b>Construction</b>					
New industrial building construction	236211	0.15	0.05	4.70	0.20
New warehouse building construction	236221	0.18	0.07	3.59	0.31
New school building construction	236222	0.03	0.07	4.21	0.49
New office building construction	236223	0.15	0.10	4.09	0.57
New health care building construction	236224	0.15	0.11	4.05	0.40
Concrete contractors, nonresidential building work	23811X	0.27	0.09	4.39	0.36
Roofing contractors, nonresidential building work	23816X	0.06	0.03	1.00	0.31
Electrical contractors, nonresidential building work	23821X	0.15	0.04	4.47	0.15
Plumbing, heating and air-conditioning contractors, nonresidential building work	23822X	0.21	0.09	4.29	0.55
<b>Manufacturing</b>					
Food mfg	311	0.35	0.21	0.77	0.44
Animal food mfg	3111	0.73	0.18	3.72	0.60
Animal food mfg	31111	0.73	0.18	3.65	0.59
Dog and cat food manufacturing	311111	0.02	0.07	1.93	0.85
Other animal food manufacturing	311119	1.07	0.30	4.69	0.68
Grain & oilseed milling	3112	0.47	0.29	1.11	0.71
Flour milling & malt mfg	31121	0.49	0.28	3.19	0.88
Flour milling	311211	0.70	0.37	2.70	1.05
Rice milling	311212	0.69	0.27	10.72	2.09
Malt manufacturing	311213	0.01	0.07	4.27	2.01
Starch & vegetable fats & oils mfg	31122	0.65	0.46	2.21	1.21
Wet corn milling	311221	0.76	0.89	1.38	1.84
Soybean and other oilseed processing	311224	1.26	0.74	3.66	1.81
Fats and oils refining and blending	311225	0.66	0.48	2.35	1.31
Breakfast cereal manufacturing	31123	0.01	0.01	0.50	0.54
Breakfast cereal manufacturing	311230	0.01	0.01	0.50	0.54
Sugar & confectionery product mfg	3113	0.30	0.15	1.07	0.47
Sugar mfg	31131	0.33	0.36	1.91	1.10
Beet sugar manufacturing	311313	0.48	0.61	7.96	1.71
Cane sugar manufacturing	311314	0.47	0.41	1.95	1.38
Nonchocolate confectionery mfg	31134	0.22	0.22	1.56	1.01
Nonchocolate confectionery manufacturing	311340	0.22	0.22	1.56	1.01
Chocolate and confectionery manufacturing	31135	0.23	0.19	0.25	0.53
Chocolate and confectionery mfg. from cacao	311351	0.83	0.39	1.10	1.35
Confectionery mfg. from purchased chocolate	311352	0.00	0.02	0.35	0.51
Fruit & vegetable preserving & specialty food mfg	3114	0.17	0.20	1.47	0.54
Frozen food manufacturing	31141	0.21	0.24	2.09	1.03
Frozen fruit and vegetable manufacturing	311411	0.44	0.46	5.26	2.09
Frozen specialty food manufacturing	311412	0.12	0.11	0.40	0.40
Fruit & vegetable canning, pickling & drying	31142	0.30	0.29	0.92	0.56
Fruit and vegetable canning	311421	0.32	0.34	1.20	0.80



**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Specialty canning	311422	0.24	0.29	0.50	0.74
Dried and dehydrated food manufacturing	311423	0.05	0.08	1.41	0.84
Dairy product mfg	3115	0.51	0.19	2.43	0.53
Dairy product (except frozen) mfg	31151	0.56	0.20	2.76	0.59
Fluid milk manufacturing	311511	0.64	0.26	1.81	0.54
Creamery butter manufacturing	311512	3.08	0.77	4.86	1.06
Cheese manufacturing	311513	1.03	0.36	3.62	0.99
Dry, condensed, and evaporated dairy products	311514	0.68	0.39	5.89	1.80
Ice cream and frozen dessert mfg	31152	0.33	0.27	1.49	0.55
Ice cream and frozen dessert manufacturing	311520	0.32	0.27	1.49	0.55
Animal slaughtering & processing	31161	0.87	0.73	2.31	1.31
Animal, except poultry, slaughtering	311611	1.21	1.30	3.88	2.11
Meat processed from carcasses	311612	0.47	0.48	1.85	1.06
Rendering and meat byproduct processing	311613	3.82	2.20	5.63	3.88
Poultry processing	311615	1.33	1.46	5.58	2.84
Seafood product preparation & packaging	3117	0.87	0.58	2.36	2.10
Seafood product preparation and packaging	31171	0.87	0.58	2.36	2.10
Seafood product preparation and packaging	311710	0.87	0.58	2.36	2.10
Bakeries & tortilla mfg	3118	0.15	0.16	2.01	0.33
Bread & bakery product mfg	31181	0.24	0.25	2.91	0.44
Retail bakeries	311811	0.30	0.29	5.27	2.22
Commercial bakeries	311812	0.18	0.30	2.99	0.50
Frozen cakes and other pastries manufacturing	311813	0.15	0.13	0.73	0.79
Cookie, cracker & pasta mfg	31182	0.16	0.12	0.68	0.46
Cookie and cracker manufacturing	311821	0.04	0.03	0.31	0.69
Dry pasta, dough, and flour mixes manufacturing from purchased flour	311824	0.20	0.17	1.24	0.64
Tortilla mfg	31183	0.26	0.19	0.69	0.56
Tortilla manufacturing	311830	0.26	0.19	0.69	0.56
Other food manufacturing	3119	0.36	0.31	4.12	1.15
Snack food mfg	31191	0.18	0.23	2.74	2.54
Roasted nuts and peanut butter manufacturing	311911	0.51	0.46	2.69	1.66
Other snack food manufacturing	311919	0.04	0.05	4.50	3.71
Coffee & tea mfg	31192	0.13	0.10	0.20	0.50
Coffee and tea manufacturing	311920	0.13	0.10	0.20	0.50
Flavoring syrup & concentrate mfg	31193	0.03	0.04	2.30	0.38
Flavoring syrup and concentrate manufacturing	311930	0.03	0.04	2.30	0.38
Seasoning & dressing mfg	31194	0.23	0.27	2.26	1.33
Mayonnaise, dressing, and sauce manufacturing	311941	0.11	0.08	1.42	0.33
Spice and extract manufacturing	311942	0.30	0.50	2.84	2.33
All other food mfg	31199	1.89	0.89	10.08	2.65
Perishable prepared food manufacturing	311991	0.13	0.11	0.54	0.78
All other miscellaneous food manufacturing	311999	3.13	1.52	18.42	5.05
Beverage & tobacco mfg	312	0.18	0.18	2.60	0.45
Beverage mfg	3121	0.23	0.23	1.03	0.52
Soft drink & ice mfg	31211	0.41	0.45	1.09	0.98
Soft drink manufacturing	312111	0.46	0.49	1.40	1.05
Bottled water manufacturing	312112	0.00	0.00	0.45	1.01
Ice manufacturing	312113	0.00	0.00	1.61	2.07
Breweries	31212	0.04	0.04	1.09	0.90
Breweries	312120	0.04	0.04	1.09	0.90
Wineries	31213	0.09	0.18	0.13	0.64
Wineries	312130	0.09	0.18	0.13	0.64
Distilleries	31214	0.01	0.02	1.47	0.55
Distilleries	312140	0.01	0.02	1.47	0.55
Tobacco mfg	3122	0.09	0.05	5.72	1.03
Tobacco manufacturing	31223	0.09	0.05	5.72	1.03
Tobacco manufacturing	312230	0.09	0.05	5.72	1.03

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Textile mills	313	0.35	0.18	2.36	0.52
Fiber, yarn, and thread mills	3131	0.54	0.34	5.55	0.84
Fiber, yarn, and thread mills	31311	0.54	0.34	5.55	0.84
Fiber, yarn, and thread mills	313110	0.54	0.34	5.55	0.84
Fabric mills	3132	0.29	0.28	1.45	0.89
Broadwoven fabric mills	31321	0.42	0.19	1.00	0.69
Broadwoven fabric mills	313210	0.42	0.19	1.00	0.70
Narrow fabric mills and schiffli embroidery	31322	0.03	0.05	2.75	0.68
Narrow fabric mills and schiffli machine embroidery	313220	0.03	0.05	2.75	0.68
Nonwoven fabric mills	31323	0.46	0.51	1.46	1.89
Nonwoven fabric mills	313230	0.46	0.51	1.46	1.89
Knit fabric mills	31324	0.03	0.07	0.64	0.65
Knit fabric mills	313240	0.03	0.07	0.65	0.65
Textile and fabric finishing mills	3133	0.25	0.19	2.51	0.85
Textile and fabric finishing mills	31331	0.21	0.22	2.46	0.97
Textile and fabric finishing mills	313310	0.21	0.22	2.45	0.97
Fabric coating mills	31332	0.21	0.17	2.58	1.49
Fabric coating mills	313320	0.21	0.17	2.58	1.49
Textile product mills	314	0.19	0.18	2.49	0.60
Textile furnishings mills	3141	0.28	0.31	3.08	0.92
Carpet and rug mills	31411	0.36	0.44	4.32	1.34
Carpet and rug mills	314110	0.36	0.44	4.33	1.34
Curtain and linen mills	31412	0.13	0.18	0.50	1.02
Curtain and linen mills	314120	0.13	0.18	0.50	1.01
Other textile product mills	3149	0.10	0.11	1.50	0.41
Textile bag and canvas mills	31491	0.15	0.13	2.41	1.01
Textile bag and canvas mills	314910	0.15	0.13	2.42	1.01
All other textile product mills	31499	0.15	0.12	0.97	0.40
Rope, twine, tire cord, and tire fabric mills	314994	0.22	0.25	3.00	1.10
All other miscellaneous textile product mills	314999	0.12	0.10	0.27	0.39
Apparel manufacturing	315	0.08	0.08	0.75	0.36
Apparel knitting mills	3151	0.00	0.00	0.17	0.43
Hosiery and sock mills	31511	0.00	0.00	0.23	0.25
Hosiery and sock mills	315110	0.00	0.00	0.23	0.25
Other apparel knitting mills	31519	0.00	0.00	0.06	0.90
Other apparel knitting mills	315190	0.00	0.00	0.06	0.91
Cut and sew apparel manufacturing	3152	0.07	0.07	0.67	0.34
Cut and sew apparel contractors	31521	0.05	0.07	0.48	0.42
Cut and sew apparel contractors	315210	0.05	0.07	0.48	0.42
Men's and boys' cut and sew apparel mfg	31522	0.04	0.08	0.70	0.43
Men's and boys' cut and sew apparel manufacturing	315220	0.04	0.08	0.70	0.42
Women's & girls' cut & sew apparel mfg.	31524	0.09	0.10	0.49	0.23
Women's, girls', and infants' cut and sew apparel manufacturing	315240	0.09	0.10	0.46	0.23
Other cut and sew apparel manufacturing	31528	0.07	0.07	1.43	0.95
Other cut and sew apparel manufacturing	315280	0.07	0.07	1.43	0.95
Accessories and other apparel manufacturing	3159	0.27	0.21	2.92	1.77
Accessories and other apparel manufacturing	31599	0.27	0.21	2.92	1.77
Accessories and other apparel manufacturing	315990	0.27	0.21	2.95	1.79
Leather and allied product manufacturing	316	0.34	0.15	1.20	0.56
Leather and hide tanning and finishing	3161	1.01	0.47	8.93	1.86
Leather and hide tanning and finishing	31611	1.01	0.47	8.93	1.86
Leather and hide tanning and finishing	316110	1.01	0.47	8.93	1.86
Footwear manufacturing	3162	0.02	0.01	0.73	0.31
Footwear manufacturing	31621	0.02	0.01	0.73	0.31
Footwear manufacturing	316210	0.02	0.01	0.72	0.31
Other leather product manufacturing	3169	0.08	0.09	2.48	0.76
Other leather product manufacturing	31699	0.08	0.09	2.48	0.76

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Women's handbag and purse manufacturing	316992	0.00	0.00	7.72	2.96
All other leather and allied good mfg.	316998	0.01	0.03	1.12	0.55
Wood product manufacturing	321	1.48	0.24	7.15	0.69
Sawmills and wood preservation	3211	2.27	0.70	8.64	1.48
Sawmills and wood preservation	32111	2.27	0.70	8.64	1.48
Sawmills	321113	2.23	0.83	9.94	1.78
Wood preservation	321114	1.76	0.59	4.87	1.19
Plywood and engineered wood product mfg	3212	1.98	0.47	10.89	1.94
Plywood and engineered wood product mfg	32121	1.98	0.47	10.89	1.94
Hardwood veneer and plywood manufacturing	321211	0.39	0.44	6.97	2.20
Softwood veneer and plywood manufacturing	321212	2.32	0.64	25.45	1.90
Engineered wood member manufacturing	321213	0.49	0.39	8.64	2.48
Truss manufacturing	321214	1.40	0.89	17.26	5.91
Reconstituted wood product manufacturing	321219	3.62	0.68	6.83	2.33
Other wood product manufacturing	3219	0.47	0.21	5.15	0.75
Millwork	32191	0.33	0.30	4.72	0.82
Wood window and door manufacturing	321911	0.20	0.13	4.99	0.80
Cut stock, resawing lumber, and planing	321912	0.57	0.47	9.14	2.08
Other millwork, including flooring	321918	0.54	0.41	0.50	1.90
Wood container and pallet manufacturing	32192	0.64	0.48	8.05	2.63
Wood container and pallet manufacturing	321920	0.64	0.48	8.05	2.63
All other wood product manufacturing	32199	0.32	0.21	4.59	1.05
Manufactured home, mobile home, manufacturing	321991	0.38	0.29	5.96	1.57
Prefabricated wood building manufacturing	321992	0.45	0.39	6.05	1.87
Miscellaneous wood product manufacturing	321999	0.13	0.19	2.89	2.04
Paper manufacturing	322	0.30	0.13	3.48	0.42
Pulp, paper & paperboard mills	3221	0.35	0.23	5.10	0.69
Pulp mills	32211	1.27	1.13	24.99	4.92
Pulp mills	322110	1.27	1.13	24.99	4.92
Paper mills	32212	0.41	0.37	2.98	1.11
Paper, except newsprint, mills	322121	0.33	0.39	2.16	1.15
Newsprint mills	322122	1.22	0.50	16.50	2.37
Paperboard mills	32213	0.43	0.13	5.80	0.49
Paperboard mills	322130	0.43	0.13	5.79	0.49
Converted paper product mfg	3222	0.25	0.15	2.62	0.46
Paper container mfg	32221	0.15	0.13	2.65	0.65
Corrugated and solid fiber box manufacturing	322211	0.15	0.14	4.17	0.67
Folding paperboard box manufacturing	322212	0.23	0.22	1.54	1.36
Other paperboard container manufacturing	322219	0.18	0.12	1.79	2.96
Paper bag and coated and treated paper mfg	32222	0.29	0.40	4.45	0.97
Paper bag and coated and treated paper manufacturing	322220	0.29	0.40	4.45	0.97
Stationery product mfg	32223	0.34	0.54	5.31	1.27
Stationery product manufacturing	322230	0.34	0.54	5.31	1.27
Other converted paper product mfg	32229	0.25	0.24	0.44	0.71
Sanitary paper product manufacturing	322291	0.32	0.35	0.62	0.75
All other converted paper product mfg.	322299	0.05	0.25	0.21	1.98
Printing and related support activities	323	0.22	0.12	0.88	0.35
Printing and related support activities	3231	0.22	0.12	0.88	0.35
Printing	32311	0.22	0.12	0.97	0.33
Commercial screen printing	323113	0.23	0.25	0.90	1.09
Books printing	323117	0.23	0.25	3.40	1.16
Commercial printing, except screen and books	32311K	0.18	0.13	0.99	0.35
Support activities for printing	32312	0.05	0.13	1.45	1.89
Support activities for printing	323120	0.05	0.13	1.59	2.16
Petroleum refineries	32411	2.15	0.81	23.52	2.30
Petroleum refineries	324110	2.15	0.81	23.52	2.30

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Asphalt paving and roofing materials mfg	32412	1.11	0.68	5.70	1.39
Asphalt paving mixture & block manufacturing	324121	1.23	0.63	5.60	1.89
Asphalt shingle and coating materials manufacturing	324122	1.39	1.24	6.34	2.10
Other petroleum and coal products mfg	32419	0.51	0.42	9.96	1.60
Petroleum lubricating oil and grease mfg.	324191	0.60	0.40	7.26	0.73
All other petroleum and coal products mfg.	324199	1.20	1.87	22.96	8.10
Chemical mfg	325	0.30	0.17	4.46	0.88
Basic chemical mfg	3251	0.57	0.52	7.82	1.76
Petrochemical mfg	32511	2.29	2.28	10.24	8.28
Petrochemical manufacturing	325110	2.29	2.28	10.12	8.28
Industrial gas mfg	32512	0.20	1.97	3.40	5.15
Industrial gas manufacturing	325120	0.20	1.99	3.42	5.17
Synthetic dye and pigment mfg	32513	0.76	0.57	7.09	2.37
Synthetic dye and pigment manufacturing	325130	0.76	0.57	7.13	2.39
Other basic inorganic chemical manufacturing	32518	0.48	0.88	13.08	3.95
Other basic inorganic chemical manufacturing	325180	0.47	0.87	13.32	4.05
Other basic organic chemical mfg	32519	0.45	0.59	6.10	1.62
Ethyl alcohol manufacturing	325193	1.50	1.08	5.05	3.81
Cyclic crude, intermediate, and gum and wood chemical mfg	325194	0.88	0.49	6.22	1.76
All other basic organic chemical manufacturing	325199	0.33	0.75	6.17	1.96
Resin, synthetic rubber, and artificial/synthetic fiber/filaments mfg	3252	1.13	0.42	4.15	1.62
Resin and synthetic rubber mfg	32521	1.16	0.46	4.15	1.76
Plastics material and resins mfg	325211	1.14	0.50	5.07	1.93
Synthetic rubber manufacturing	325212	1.73	0.38	9.93	1.40
Artificial fibers and filaments manufacturing	32522	0.37	0.21	4.06	0.97
Artificial fibers and filaments manufacturing	325220	0.37	0.21	4.06	0.96
Pesticide, fertilizer, and other agricultural chemical mfg	3253	0.62	0.80	6.59	1.83
Fertilizer mfg	32531	0.86	0.60	7.13	1.26
Nitrogenous fertilizer manufacturing	325311	1.08	1.36	7.38	3.16
Phosphatic fertilizer manufacturing	325312	1.64	0.71	14.54	1.73
Fertilizer, mixing only, manufacturing	325314	0.30	0.19	1.07	0.78
Pesticide and other agricultural chemical mfg	32532	0.93	1.31	6.00	3.36
Pesticide and other agricultural chemical manufacturing	325320	0.93	1.31	6.00	3.36
Pharmaceutical and medicine mfg	3254	0.21	0.21	3.84	2.03
Pharmaceutical and medicine mfg	32541	0.21	0.21	3.84	2.03
Medicinal and botanical manufacturing	325411	0.01	0.04	3.62	2.93
Pharmaceutical preparation manufacturing	325412	0.27	0.24	4.08	2.36
In-vitro diagnostic substance manufacturing	325413	0.39	0.36	0.45	0.62
Other biological product manufacturing	325414	0.13	0.10	2.94	1.88
Paint, coating & adhesive mfg	3255	0.30	0.16	3.57	0.49
Paint and coating mfg	32551	0.18	0.23	3.68	0.66
Paint and coating manufacturing	325510	0.18	0.23	3.68	0.66
Adhesive mfg	32552	0.31	0.18	3.13	0.63
Adhesive manufacturing	325520	0.31	0.18	3.13	0.63
Soap, cleaners, and toilet preparation mfg	3256	0.19	0.13	2.26	0.53
Soap & cleaning compound mfg	32561	0.28	0.20	3.14	0.86
Soap and other detergent manufacturing	325611	0.04	0.07	0.96	0.50
Polish and other sanitation good mfg.	325612	0.21	0.19	6.52	2.49
Surface active agent manufacturing	325613	0.62	0.53	4.85	2.74
Toilet preparation mfg	32562	0.01	0.03	1.29	0.74
Toilet preparation manufacturing	325620	0.01	0.03	1.29	0.74
Other chemical product & preparation mfg	3259	0.29	0.17	2.09	0.60
Printing ink mfg	32591	0.28	0.19	1.39	0.58
Printing ink manufacturing	325910	0.28	0.19	1.39	0.58
Explosives mfg	32592	0.23	0.15	4.16	1.31
Explosives manufacturing	325920	0.23	0.14	4.15	1.30
All other chemical product & preparation mfg	32599	0.29	0.20	2.18	0.70
Custom compounding of purchased resins	325991	0.37	0.41	5.37	1.82
Photographic film and chemical manufacturing	325992	0.01	0.03	0.50	0.28

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Other miscellaneous chemical product manufacturing	325998	0.42	0.31	1.26	0.91
Plastics and rubber products mfg	326	0.10	0.11	3.25	0.41
Plastics product mfg	3261	0.14	0.12	3.67	0.49
Unsupported plastics film, sheet, and bag mfg	32611	0.58	0.29	3.28	0.65
Plastics bag and pouch manufacturing	326111	0.13	0.18	2.59	0.76
Plastics packaging film and sheet mfg.	326112	0.93	0.47	4.43	0.87
Nonpackaging plastics film and sheet mfg.	326113	0.47	0.43	2.23	1.22
Plastics pipe/fitting/unsupported shapes mfg	32612	0.19	0.33	3.88	1.97
Unlaminated plastics profile shape manufacturing	326121	0.40	0.46	1.46	1.88
Plastics pipe and pipe fitting manufacturing	326122	0.53	0.44	5.68	2.71
Laminated plastics plate, sheet, and shape mfg	32613	0.03	0.05	1.32	0.68
Laminated plastics plate, sheet (except packaging), and shape manufacturing	326130	0.03	0.05	1.32	0.68
Polystyrene foam product mfg	32614	0.20	0.19	5.85	1.30
Polystyrene foam product manufacturing	326140	0.20	0.19	5.85	1.30
Foam product (ex polystyrene) mfg	32615	0.17	0.28	4.88	3.23
Urethane and other foam product mfg.	326150	0.17	0.28	4.88	3.23
Plastics bottle mfg	32616	0.84	0.51	6.81	1.43
Plastics bottle manufacturing	326160	0.84	0.51	6.81	1.43
Other plastics product mfg	32619	0.22	0.18	3.12	0.78
Plastics plumbing fixture manufacturing	326191	0.24	0.14	2.96	0.97
All other plastics product manufacturing	326199	0.23	0.18	3.14	0.80
Rubber product mfg	3262	0.17	0.15	1.73	0.42
Tire mfg	32621	0.18	0.31	1.32	0.70
Tire manufacturing, except retreading	326211	0.18	0.31	1.33	0.70
Rubber and plastics hose and belting	32622	0.12	0.15	3.40	0.88
Rubber and plastics hose and belting mfg.	326220	0.12	0.15	3.40	0.88
Other rubber product mfg	32629	0.19	0.11	1.18	0.59
Rubber product mfg. for mechanical use	326291	0.17	0.22	0.44	1.18
All other rubber product manufacturing	326299	0.19	0.13	1.69	0.68
Nonmetallic mineral product manufacturing	327	0.17	0.14	3.43	0.33
Clay product and refractory manufacturing	3271	0.25	0.30	2.73	0.70
Pottery, ceramics, and plumbing fixture mfg	32711	0.12	0.10	2.42	0.96
Pottery, ceramics, and plumbing fixture mfg.	327110	0.12	0.10	2.41	0.95
Clay building material and refractories mfg	32712	0.36	0.43	2.87	0.91
Clay building material and refractories mfg.	327120	0.36	0.43	2.85	0.91
Glass and glass product manufacturing	3272	0.12	0.10	4.30	0.56
Glass and glass product manufacturing	32721	0.12	0.10	4.30	0.56
Flat glass manufacturing	327211	0.24	0.33	7.13	1.56
Other pressed and blown glass and glassware	327212	0.01	0.01	14.61	2.51
Glass container manufacturing	327213	0.04	0.04	2.31	0.63
Glass product mfg. made of purchased glass	327215	0.18	0.13	1.30	0.70
Cement and concrete product manufacturing	3273	0.22	0.30	3.59	0.64
Cement manufacturing	32731	0.22	0.15	2.44	1.07
Cement manufacturing	327310	0.22	0.15	2.44	1.07
Ready-mix concrete manufacturing	32732	0.31	0.51	4.02	1.20
Ready-mix concrete manufacturing	327320	0.31	0.51	4.02	1.20
Concrete pipe, brick, and block manufacturing	32733	0.31	0.32	2.02	0.54
Concrete block and brick manufacturing	327331	0.29	0.28	2.49	0.78
Concrete pipe manufacturing	327332	0.62	0.70	1.21	0.81
Other concrete product manufacturing	32739	0.39	0.31	4.12	1.33
Other concrete product manufacturing	327390	0.39	0.32	4.12	1.32
Lime and gypsum product manufacturing	3274	0.89	0.46	5.06	0.92
Lime manufacturing	32741	0.61	0.68	3.02	0.96
Lime manufacturing	327410	0.61	0.68	3.02	0.96
Gypsum product manufacturing	32742	1.25	0.56	6.06	1.26
Gypsum product manufacturing	327420	1.26	0.56	6.03	1.26
Other nonmetallic mineral products	3279	0.30	0.20	1.93	0.50
Abrasive product manufacturing	32791	0.16	0.14	1.81	1.08

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Abrasive product manufacturing	327910	0.16	0.14	1.81	1.09
All other nonmetallic mineral product mfg	32799	0.34	0.23	1.88	0.55
Cut stone and stone product manufacturing	327991	0.44	0.46	3.08	1.45
Ground or treated minerals and earths mfg.	327992	0.15	0.14	1.16	1.23
Mineral wool manufacturing	327993	0.39	0.35	2.19	1.12
All other miscellaneous nonmetallic mineral product manufacturing	327999	0.06	0.13	0.68	1.06
Primary metal mfg	331	0.93	0.34	11.49	1.66
Iron & steel mills & ferroalloy mfg	3311	1.84	0.76	12.31	4.00
Iron & steel mills & ferroalloy mfg	33111	1.84	0.76	12.31	4.00
Iron and steel mills and ferroalloy mfg	331110	1.83	0.75	12.30	4.00
Steel product mfg from purchased steel	3312	2.05	0.63	18.09	2.27
Iron & steel pipe and tube mfg from purchased steel	33121	2.72	1.05	19.14	4.30
Iron and steel pipe and tube manufacturing from purchased steel	331210	2.72	1.05	19.18	4.29
Rolling & drawing of purchased steel	33122	1.61	0.51	17.07	1.32
Rolled steel shape mfg	331221	1.00	0.65	14.52	1.88
Steel wire drawing	331222	2.15	0.64	19.76	1.76
Alumina & aluminum production & processing	3313	1.41	0.27	11.20	0.60
Alumina & aluminum production & processing	33131	1.41	0.27	11.20	0.60
Alumina refining and primary aluminum production	331313	2.75	0.00		
Secondary smelting and alloying of aluminum	331314	1.01	0.38	10.56	1.41
Aluminum sheet, plate, and foil mfg	331315	1.62	0.48	11.27	1.15
Other aluminum rolling, drawing, and extruding	331318	1.00	0.17	10.88	0.91
Nonferrous (exc alum) production & processing	3314	1.08	0.47	9.38	1.20
Nonferrous metal (except aluminum) smelting and refining	33141	0.70	0.49	7.82	3.13
Nonferrous metal (except aluminum) smelting and refining	331410	0.70	0.49	7.00	2.69
Copper rolling/drawing/extruding & alloying	33142	1.39	0.86	10.30	1.51
Copper rolling, drawing, extruding, and alloying	331420	1.39	0.86	10.27	1.51
Other nonferrous roll/draw/extruding/alloying	33149	0.89	0.48	8.58	2.00
Nonferrous metal (except copper and aluminum) rolling, drawing, and extruding	331491	0.98	0.62	6.23	1.80
Secondary smelting, refining, and alloying of nonferrous metal (except copper and aluminum)	331492	1.69	0.67	10.92	3.01
Foundries	3315	0.11	0.14	2.70	0.57
Ferrous metal foundries	33151	0.17	0.23	2.87	0.85
Iron foundries	331511	0.15	0.23	3.65	1.10
Steel investment foundries	331512	0.11	0.14	3.70	1.37
Steel foundries, except investment	331513	0.17	0.16	2.89	1.78
Nonferrous metal foundries	33152	0.19	0.13	3.27	0.74
Nonferrous metal die-casting foundries	331523	0.30	0.13	3.98	0.63
Aluminum foundries, except die-casting	331524	0.21	0.10	1.47	2.19
Other nonferrous metal foundries, except die-casting	331529	0.36	0.25	3.70	1.27
Fabricated metal product mfg	332	0.41	0.17	4.61	0.49
Forging & stamping	3321	0.18	0.26	1.64	0.97
Forging & stamping	33211	0.18	0.26	1.64	0.97
Iron and steel forging	332111	0.27	0.51	0.61	1.92
Nonferrous forging	332112	0.27	0.50	0.55	5.02
Custom roll forming	332114	0.71	0.52	2.66	1.63
Powder metallurgy part mfg	332117	0.14	0.12	0.91	0.89
Other metal stamping, except automotive	332119	0.15	0.18	2.97	0.92
Cutlery & handtool mfg	3322	0.11	0.08	1.39	0.30
Cutlery & handtool mfg	33221	0.11	0.08	1.39	0.30
Metal cookware, cutlery, and flatware mfg	332215	0.14	0.12	1.16	0.35
Saw blade, handsaw, and hand and edge tool mfg	332216	0.13	0.10	1.45	0.42
Architectural & structural metals mfg	3323	0.68	0.33	8.89	1.64
Plate work & fabricated structural prod mfg	33231	1.25	0.59	10.20	2.92
Prefabricated metal buildings and components mfg	332311	0.82	0.72	11.65	2.34
Fabricated structural metal mfg	332312	1.63	0.84	11.87	4.18
Plate work mfg	332313	0.15	1.03	1.86	3.10
Ornamental & architectural metal prod mfg	33232	0.62	0.29	7.00	1.57
Metal window and door mfg	332321	0.66	0.28	7.16	1.37

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Sheet metal work mfg	332322	0.42	0.46	5.56	2.57
Ornamental and architectural metal work mfg	332323	0.43	0.36	9.51	1.73
Boiler, tank & shipping container mfg	3324	0.60	0.34	8.02	1.02
Power boiler & heat exchanger mfg	33241	0.22	0.19	6.01	2.48
Power boiler and heat exchanger mfg	332410	0.22	0.19	6.01	2.48
Metal tank (heavy gauge) mfg	33242	0.59	0.67	9.97	1.87
Metal tank, heavy gauge, mfg	332420	0.59	0.67	9.96	1.87
Light gauge metal container mfg	33243	0.59	0.33	7.01	1.06
Metal can mfg	332431	0.38	0.36	6.78	0.99
Other metal container mfg	332439	1.00	0.61	11.06	3.19
Hardware mfg	3325	0.28	0.29	2.06	0.66
Hardware mfg	33251	0.28	0.29	2.06	0.66
Hardware mfg	332510	0.28	0.29	2.06	0.66
Spring & wire product mfg	3326	0.55	0.33	5.56	1.48
Spring & wire product mfg	33261	0.55	0.33	5.56	1.48
Spring mfg	332613	0.36	0.58	8.13	3.09
Other fabricated wire product mfg	332618	0.47	0.37	4.03	1.27
Mach shops, turn prod, screw, nut, bolt mfg	3327	0.13	0.10	1.67	1.09
Machine shops	33271	0.03	0.05	1.77	1.76
Machine shops	332710	0.03	0.05	1.77	1.76
Turned product & screw, nut & bolt mfg	33272	0.31	0.19	1.51	0.80
Precision turned product mfg	332721	0.16	0.21	2.05	0.77
Bolt, nut, screw, rivet, and washer mfg	332722	0.38	0.32	1.85	1.22
Coating/engrave/heat treating & other activity	3328	0.29	0.26	2.28	0.94
Coating/engrave/heat treating & other activity	33281	0.29	0.26	2.28	0.94
Metal heat treating	332811	0.01	0.05	2.82	1.78
Metal coating and nonprecious engraving	332812	0.31	0.41	1.32	1.60
Electroplating, anodizing and coloring metal	332813	0.34	0.43	2.65	1.42
Other fabricated metal product mfg	3329	0.28	0.15	3.28	0.38
Metal valve mfg	33291	0.28	0.10	3.66	0.54
Industrial valve mfg	332911	0.25	0.16	3.96	0.98
Fluid power valve and hose fitting mfg	332912	0.12	0.14	1.73	0.80
Plumbing fixture fitting and trim mfg	332913	0.02	0.08	3.23	0.90
Other metal valve and pipe fitting mfg	332919	0.38	0.47	4.01	1.89
All other fabricated metal product mfg	33299	0.23	0.28	2.98	0.57
Ball and roller bearing mfg	332991	0.21	0.18	3.31	0.39
Small arms ammunition mfg	332992	0.04	0.10	2.98	1.38
Fabricated pipe and pipe fitting mfg	332996	0.54	0.67	4.09	1.36
Miscellaneous fabricated metal product mfg	332999	0.37	0.29	3.58	1.19
Small arms, ordnance, and ordnance accessories mfg	33299T	0.07	0.08	0.51	0.63
Machinery manufacturing	333	0.26	0.06	1.83	0.20
Agricultural, construction, and mining machinery mfg	3331	0.23	0.10	0.51	0.38
Agricultural implement manufacturing	33311	0.19	0.11	1.02	0.39
Farm machinery and equipment mfg	333111	0.19	0.13	1.07	0.47
Lawn and garden equipment mfg	333112	0.09	0.07	0.96	0.55
Construction machinery manufacturing	33312	0.12	0.10	0.99	0.76
Construction machinery mfg	333120	0.12	0.10	0.99	0.76
Mining and oil and gas field machinery mfg	33313	0.06	0.07	1.23	0.54
Mining machinery and equipment mfg	333131	0.05	0.06	2.64	0.55
Oil and gas field machinery and equipment mfg	333132	0.04	0.06	0.83	0.67
Industrial machinery manufacturing	3332	0.15	0.07	1.67	0.40
Other industrial machinery manufacturing	33324	0.15	0.07	1.67	0.40
Food product machinery mfg	333241	0.21	0.15	3.17	0.84
Semiconductor machinery mfg	333242	0.00	0.00	1.20	0.60
Sawmill, woodworking and paper machinery mfg	333243	0.20	0.12	2.75	0.68
Printing machinery and equipment mfg	333244	0.20	0.16	0.69	0.49
Other industrial machinery mfg	333249	0.11	0.15	1.35	0.81
Commercial and service industry machinery	3333	0.22	0.11	0.84	0.26
Commercial and service industry machinery	33331	0.22	0.11	0.84	0.26

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Optical instrument and lens mfg	333314	0.03	0.03	0.57	0.35
Photographic and photocopying equipment mfg	333316	0.00	0.00	0.43	0.56
Other commercial and service industry machinery mfg	333318	0.30	0.14	1.01	0.33
HVAC and commercial refrigeration equipment	3334	0.27	0.17	5.04	0.90
HVAC and commercial refrigeration equipment	33341	0.27	0.17	5.04	0.90
Fan, blower, air purification equipment mfg	333413	0.26	0.17	4.46	0.87
Heating equipment (except warm air furnaces) mfg	333414	0.20	0.17	2.85	0.81
Air-conditioning, refrigeration, and forced air heating equipment mfg	333415	0.26	0.23	5.57	1.20
Metalworking machinery manufacturing	3335	0.19	0.16	1.62	0.96
Metalworking machinery manufacturing	33351	0.19	0.16	1.85	0.81
Industrial mold mfg	333511	0.11	0.10	0.97	3.46
Special tool, die, jig, and fixture mfg	333514	0.33	0.27	2.82	1.42
Cutting tool and machine tool accessory mfg	333515	0.19	0.12	2.11	0.51
Machine tool mfg	333517	0.17	0.19	0.67	0.50
Rolling mill and other metalworking machinery mfg	333519	0.09	0.15	3.35	1.33
Turbine and power transmission equipment mfg	3336	0.24	0.29	1.10	0.82
Turbine and power transmission equipment mfg	33361	0.24	0.29	1.10	0.82
Turbine and turbine generator set units mfg	333611	0.58	0.91	1.85	3.13
Speed changer, drive, and gear mfg	333612	0.13	0.17	4.05	1.18
Mechanical power transmission equipment mfg	333613	0.21	0.10	1.93	1.03
Other engine equipment mfg	333618	0.04	0.05	1.25	0.35
Other general purpose machinery manufacturing	3339	0.30	0.07	2.81	0.32
Pump and compressor manufacturing	33391	0.34	0.16	3.27	1.01
Air and gas compressor mfg	333912	0.44	0.28	3.96	1.02
Measuring, dispensing, and other pumping equipment mfg	333914	0.33	0.14	3.10	0.69
Material handling equipment manufacturing	33392	0.29	0.10	2.89	0.40
Elevator and moving stairway mfg	333921	0.11	0.08	2.23	0.78
Conveyor and conveying equipment mfg	333922	0.24	0.18	2.98	0.81
Overhead cranes, hoists and monorail systems mfg	333923	0.10	0.10	3.06	0.42
Industrial truck, trailer, and stacker mfg	333924	0.28	0.17	2.80	0.69
All other general purpose machinery mfg	33399	0.23	0.12	2.47	0.39
Power-driven handtool mfg	333991	0.00	0.01	1.93	0.99
Welding and soldering equipment mfg	333992	0.15	0.23	5.15	1.43
Packaging machinery mfg	333993	0.35	0.42	2.04	0.99
Industrial process furnace and oven mfg	333994	0.21	0.15	1.88	0.69
Fluid power cylinder and actuator mfg	333995	0.36	0.33	4.49	1.46
Fluid power pump and motor mfg	333996	0.15	0.20	1.31	0.56
Scale and balance mfg	333997	0.01	0.01	5.26	1.61
All other miscellaneous general purpose machinery mfg	333999	0.15	0.15	1.17	0.53
Computer & electronic product mfg	334	0.08	0.09	0.34	0.45
Computer & peripheral equipment mfg	3341	0.41	0.31	0.51	0.67
Computer & peripheral equipment mfg	33411	0.41	0.31	0.51	0.67
Electronic computer manufacturing	334111	1.00	0.69	2.30	1.26
Computer storage device mfg	334112	0.01	0.01	0.33	3.28
Computer terminal and other computer peripheral equipment mfg	334118	0.02	0.03	0.39	0.38
Communications equipment mfg	3342	0.08	0.11	0.69	0.56
Telephone apparatus mfg	33421	0.05	0.09	0.52	0.53
Telephone apparatus mfg	334210	0.05	0.09	0.52	0.52
Radio/TV broadcast & wireless comm equip mfg	33422	0.03	0.09	0.95	0.84
Broadcast and wireless communications equipment mfg	334220	0.03	0.09	0.96	0.84
Other communications equipment mfg	33429	0.00	0.00	0.40	0.94
Other communications equipment mfg	334290	0.00	0.00	0.40	0.94
Audio & video equipment mfg	3343	0.12	0.21	0.41	0.71
Audio and video equipment mfg	33431	0.12	0.21	0.41	0.71
Audio and video equipment mfg	334310	0.12	0.21	0.42	0.71
Semiconductor and other electronic component mfg	3344	0.27	0.18	1.74	1.12
Semiconductor and other electronic component mfg	33441	0.27	0.18	1.73	1.12
Bare printed circuit board mfg	334412	0.00	0.00	0.03	0.04
Semiconductors and related device mfg	334413	0.31	0.33	4.33	2.19



**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Electronic connector mfg	334417	0.29	0.24	2.26	0.87
Printed circuit assembly mfg	334418	0.01	0.04	0.75	1.05
Other electronic component mfg	334419	0.15	0.16	2.38	0.97
Capacitor, resistor, coil, transformer, and other inductor mfg	33441K	0.20	0.14	5.86	3.30
Nav/measuring/medical/control instruments mfg	3345	0.08	0.08	1.80	0.59
Nav/measuring/medical/control instruments mfg	33451	0.08	0.08	1.80	0.59
Electromedical apparatus mfg	334510	0.05	0.07	0.55	0.66
Search, detection, and navigation instruments	334511	0.05	0.06	4.07	1.67
Automatic environmental control mfg	334512	0.05	0.07	4.61	1.93
Industrial process variable instruments	334513	0.30	0.29	1.77	0.65
Totalizing fluid meters and counting devices	334514	0.10	0.14	3.08	0.47
Electricity and signal testing instruments mfg	334515	0.07	0.07	1.98	1.18
Analytical laboratory instrument mfg	334516	0.00	0.00	1.18	0.41
Irradiation apparatus mfg	334517	0.00	0.00	0.15	0.62
Other measuring and controlling device mfg	334519	0.03	0.02	1.09	0.47
Manufacturing and reproducing magnetic and optical media	3346	0.00	0.01	0.00	0.02
Manufacturing and reproducing magnetic and optical media	33461	0.00	0.01	0.00	0.02
Software and other prerecorded compact disc, tape, and record reproducing	334614	0.00	0.01	0.00	0.03
Electrical equipment and appliance mfg	335	0.24	0.12	4.47	0.96
Electric lighting equipment mfg	3351	0.39	0.17	2.31	1.11
Electric lamp bulb & part mfg	33511	1.21	0.68	4.35	3.85
Electric lamp bulb and part mfg	335110	1.22	0.68	4.35	3.86
Lighting fixture mfg	33512	0.22	0.15	2.32	1.13
Residential electric lighting fixture mfg	335121	0.05	0.08	2.30	0.51
Nonresidential electric lighting fixture mfg	335122	0.09	0.12	3.31	2.33
Other lighting equipment mfg	335129	0.08	0.15	1.44	0.83
Household appliance mfg	3352	0.35	0.19	3.20	0.60
Small electrical appliance mfg	33521	0.17	0.21	1.21	0.65
Small electrical appliance mfg	335210	0.17	0.21	1.21	0.65
Major household appliance mfg	33522	0.36	0.23	3.37	0.72
Major household appliance mfg	335220	0.36	0.23	3.38	0.72
Electrical equipment mfg	3353	0.22	0.09	2.28	0.35
Electrical equipment mfg	33531	0.22	0.09	2.28	0.35
Electric power and specialty transformer mfg	335311	0.21	0.12	5.04	0.71
Motor and generator mfg	335312	0.11	0.05	2.15	0.50
Switchgear and switchboard apparatus mfg	335313	0.21	0.17	2.15	0.86
Relay and industrial control mfg	335314	0.09	0.10	1.14	0.58
Other electrical equipment & component mfg	3359	0.18	0.20	6.70	2.18
Battery mfg	33591	0.61	0.43	6.09	1.17
Storage battery mfg	335911	0.22	0.16	7.26	1.00
Primary battery mfg	335912	0.58	0.97	5.04	2.91
Communication & energy wire & cable mfg	33592	0.60	0.56	2.44	2.46
Fiber optic cable mfg	335921	0.00	0.00	0.24	0.50
Other communication and energy wire mfg	335929	0.70	0.69	2.63	2.79
Wiring device mfg	33593	0.29	0.20	2.29	0.44
Current-carrying wiring device mfg	335931	0.27	0.27	1.37	0.72
Noncurrent-carrying wiring device mfg	335932	0.19	0.20	3.39	0.53
All other electrical equipment & component mfg	33599	0.18	0.16	15.79	7.96
Carbon and graphite product mfg	335991	0.01	0.01	61.83	35.52
Miscellaneous electrical equipment mfg	335999	0.28	0.25	1.92	1.98
Transportation equipment manufacturing	336	0.08	0.06	1.47	0.18
Motor vehicle manufacturing	3361	0.15	0.11	0.78	0.30
Automobile and light truck manufacturing	33611	0.18	0.12	0.69	0.33
Automobile, light truck and utility vehicle mfg	336110	0.18	0.12	0.69	0.33
Heavy duty truck manufacturing	33612	0.12	0.10	1.08	0.49
Heavy duty truck mfg	336120	0.12	0.10	1.08	0.49
Motor vehicle body and trailer manufacturing	3362	0.40	0.10	3.85	0.38
Motor vehicle body and trailer manufacturing	33621	0.40	0.10	3.85	0.38

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Motor vehicle body mfg	336211	0.35	0.12	2.50	0.38
Truck trailer mfg	336212	0.67	0.19	4.64	0.62
Motor home mfg	336213	0.10	0.07	2.45	0.32
Travel trailer and camper mfg	336214	0.19	0.12	4.28	0.72
Motor vehicle parts manufacturing	3363	0.08	0.09	1.31	0.46
Motor vehicle gasoline engine and parts mfg	33631	0.05	0.10	0.37	0.24
Motor vehicle gasoline engine and engine parts mfg	336310	0.05	0.10	0.37	0.24
Motor vehicle electric equipment	33632	0.06	0.07	0.28	0.31
Motor vehicle electrical and electronic equipment mfg	336320	0.06	0.07	0.28	0.31
Motor vehicle steering and suspension parts	33633	0.08	0.09	0.46	0.50
Motor vehicle steering and suspension components (except spring) manufacturing	336330	0.08	0.09	0.46	0.50
Motor vehicle brake system manufacturing	33634	0.30	0.26	2.16	0.77
Motor vehicle brake system mfg	336340	0.30	0.26	2.16	0.77
Motor vehicle power train components mfg	33635	0.00	0.03	0.91	0.50
Motor vehicle transmission and power train parts manufacturing	336350	0.00	0.03	0.91	0.50
Motor vehicle seating and interior trim mfg	33636	0.05	0.04	0.82	0.43
Motor vehicle seating and interior trim mfg	336360	0.05	0.04	0.82	0.43
Motor vehicle metal stamping	33637	0.18	0.25	0.82	0.71
Motor vehicle metal stamping	336370	0.18	0.25	0.82	0.71
Other motor vehicle parts manufacturing	33639	0.13	0.23	3.07	1.53
Other motor vehicle parts mfg	336390	0.13	0.23	3.08	1.54
Aerospace product and parts manufacturing	3364	0.12	0.04	1.83	0.33
Aerospace product and parts manufacturing	33641	0.12	0.04	1.83	0.33
Aircraft mfg	336411	0.09	0.03	2.03	0.37
Aircraft engine and engine parts mfg	336412	0.05	0.07	1.79	0.63
Other aircraft parts and equipment mfg	336413	0.12	0.15	0.98	0.96
Railroad rolling stock manufacturing	3365	0.03	0.15	0.43	0.93
Railroad rolling stock manufacturing	33651	0.03	0.15	0.43	0.93
Railroad rolling stock mfg	336510	0.03	0.15	0.43	0.93
Ship and boat building	3366	0.10	0.07	1.72	0.63
Ship and boat building	33661	0.10	0.07	1.72	0.63
Ship building and repairing	336611	0.03	0.04	1.09	0.79
Boat building	336612	0.15	0.08	2.82	0.38
Other transportation equipment manufacturing	3369	0.05	0.06	0.29	0.30
Other transportation equipment manufacturing	33699	0.05	0.06	0.29	0.30
Motorcycle, bicycle, and parts mfg	336991	0.00	0.00	0.31	0.45
All other transportation equipment mfg	336999	0.03	0.07	0.54	0.40
Furniture & related product mfg	337	0.31	0.17	2.74	0.43
HH & institutional furniture & kitchen cabinet mfg	3371	0.09	0.14	1.83	0.40
Wood kitchen cabinet & countertop mfg	33711	0.08	0.09	1.09	0.79
Wood kitchen cabinet and countertop mfg	337110	0.08	0.09	1.09	0.79
Household & institutional furniture mfg	33712	0.15	0.18	2.23	0.45
Upholstered household furniture mfg	337121	0.14	0.20	3.41	0.70
Nonupholstered wood household furniture mfg	337122	0.21	0.17	1.20	0.41
Metal household furniture mfg	337124	0.69	0.44	1.64	0.81
Institutional furniture mfg	337127	0.14	0.09	0.98	0.78
Office furniture (including fixtures) mfg	3372	0.59	0.39	4.03	0.91
Office furniture (including fixtures) mfg	33721	0.59	0.39	4.03	0.91
Wood office furniture mfg	337211	0.22	0.11	2.43	0.63
Custom architectural woodwork and millwork	337212	0.12	0.11	3.74	1.40
Office furniture, except wood, mfg	337214	0.80	0.71	3.33	1.23
Showcases, partitions, shelving, and lockers mfg	337215	0.39	0.74	6.29	2.14
Other furniture related product mfg	3379	0.49	0.48	3.94	1.02
Mattress mfg	33791	0.40	0.59	4.77	1.27
Mattress mfg	337910	0.40	0.59	4.76	1.27
Blind & shade mfg	33792	0.00	0.00	2.01	1.85
Blind and shade mfg	337920	0.00	0.00	2.01	1.85

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Miscellaneous mfg	339	0.13	0.10	1.14	0.32
Medical equipment & supplies mfg	3391	0.11	0.12	1.04	0.49
Medical equipment & supplies mfg	33911	0.11	0.12	1.04	0.49
Surgical and medical instrument mfg	339112	0.14	0.17	0.50	0.48
Surgical appliance and supplies mfg	339113	0.10	0.20	1.09	0.95
Dental equipment and supplies mfg	339114	0.74	0.53	2.84	1.08
Ophthalmic goods mfg	339115	0.18	0.43	2.31	1.49
Other miscellaneous mfg	3399	0.19	0.13	1.29	0.38
Jewelry & silverware mfg	33991	0.19	0.19	0.90	1.01
Jewelry and silverware mfg	339910	0.19	0.19	0.90	1.01
Sporting & athletic goods mfg	33992	0.12	0.10	1.16	1.10
Sporting and athletic goods mfg	339920	0.12	0.10	1.20	1.09
Doll, toy & game mfg	33993	0.02	0.10	1.96	1.13
Doll, toy, and game mfg	339930	0.02	0.10	1.95	1.13
Office supplies (exc paper) mfg	33994	0.06	0.09	1.56	0.64
Office supplies, except paper, mfg	339940	0.06	0.09	1.56	0.63
Sign mfg	33995	0.27	0.21	2.67	1.18
Sign mfg	339950	0.27	0.21	2.67	1.18
All other misc mfg	33999	0.22	0.16	1.35	0.52
Gasket, packing, and sealing device mfg	339991	0.15	0.09	2.23	0.53
Musical instrument mfg	339992	0.07	0.06	3.57	0.48
Fastener, button, needle, and pin mfg	339993	0.59	0.70	1.13	0.85
Broom, brush, and mop mfg	339994	0.06	0.05	1.15	0.27
Burial casket mfg	339995	0.02	0.02	3.45	0.32
All other miscellaneous mfg	339999	0.33	0.29	0.60	1.00
<b>Services</b>					
Merchant wholesalers, durable goods	423	0.41	0.56	2.89	1.43
Merchant wholesalers, durable goods	423000	0.41	0.56	2.90	1.44
Merchant wholesalers, nondurable goods	424	0.38	1.05	1.25	2.40
Merchant wholesalers, nondurable goods	424000	0.38	1.05	1.25	2.40
Material recyclers	429930	1.53	0.81	8.75	1.95
Motor vehicle and parts dealers	441	0.41	0.29	2.52	0.89
Automobile dealers	4411	0.56	0.36	2.36	0.98
New car dealers	44111	0.56	0.36	2.36	0.98
New car dealers	441110	0.56	0.36	2.37	0.98
Recreational vehicle dealers	44121	0.00	0.00	1.24	4.64
Recreational vehicle dealers	441210	0.00	0.00	1.24	4.64
Boat dealers	441222	0.17	0.23	1.44	1.90
Automotive parts, accessories and tire stores	4413	0.30	0.48	3.57	2.60
Automotive parts and accessories stores	44131	0.49	0.51	5.65	3.97
Automotive parts and accessories stores	441310	0.49	0.51	5.65	3.97
Tire dealers	44132	0.24	0.62	0.71	1.26
Tire dealers	441320	0.24	0.62	0.71	1.26
Furniture and home furnishings stores	442	0.56	0.73	3.77	3.07
Furniture stores	4421	0.38	0.79	1.54	2.11
Furniture stores	44211	0.38	0.79	1.54	2.11
Furniture stores	442110	0.38	0.79	1.54	2.11
Floor covering stores	44221	0.99	0.78	6.54	5.87
Floor covering stores	442210	0.99	0.78	6.54	5.87
Electronics and appliance stores	443	1.51	2.23	2.74	3.91
Electronics and appliance stores	4431	1.51	2.23	2.72	3.90
Electronics and appliance stores	44314	1.51	2.23	2.72	3.90
Household appliance stores	443141	1.67	1.66	6.73	6.64
Electronics stores	443142	1.82	2.63	3.03	4.23

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Building material and garden equipment and supply dealers	444	1.02	1.01	4.74	2.49
Building material and supplies dealers	4441	0.88	1.05	5.57	2.52
Home centers	44411	1.08	1.30	2.00	2.46
Home centers	444110	1.08	1.30	2.00	2.46
Paint and wallpaper stores	44412	1.36	0.95	2.45	1.26
Paint and wallpaper stores	444120	1.36	0.95	2.45	1.26
Hardware stores	44413	1.16	0.89	5.12	2.25
Hardware stores	444130	1.16	0.89	5.12	2.25
Other building material dealers	44419	1.83	1.86	11.29	5.33
Other building material dealers	444190	1.83	1.86	11.29	5.33
Lawn and garden equip and supplies stores	4442	2.99	3.51	5.02	6.16
Nursery, garden and farm supply stores	44422	2.99	3.51	5.02	6.16
Nursery, garden, and farm supply stores	444220	2.99	3.51	5.02	6.16
Food and beverage stores	445	1.29	0.82	3.44	1.27
Grocery stores	4451	1.51	0.91	3.43	1.45
Grocery (except convenience) stores	44511	1.51	0.91	3.43	1.45
Supermarkets and other grocery stores	445110	1.51	0.91	3.43	1.45
Specialty food stores	4452	0.44	0.88	2.92	2.97
Specialty food stores	445200	0.44	0.88	2.92	2.97
Beer, wine, and liquor stores	4453	0.87	1.00	2.66	2.57
Beer, wine, and liquor stores	44531	0.87	1.00	2.66	2.57
Beer, wine, and liquor stores	445310	0.87	1.00	2.66	2.57
Health and personal care stores	446	0.91	1.44	1.00	2.27
Health and personal care stores	4461	0.91	1.44	1.00	2.27
Pharmacies and drug stores	44611	0.89	1.56	3.69	2.61
Pharmacies and drug stores	446110	0.89	1.56	3.69	2.61
Optical goods stores	44613	1.41	2.04	7.54	3.13
Optical goods stores	446130	1.41	2.04	7.54	3.13
Food (health) supplement stores	446191	0.83	1.64	2.45	6.60
Gasoline stations	447	4.14	3.35	5.18	4.15
Gasoline stations	4471	4.14	3.35	5.18	4.15
Gasoline stations with convenience stores	44711	6.81	4.13	7.15	4.71
Gasoline stations with convenience stores	447110	6.83	4.13	7.17	4.71
Other gasoline stations	44719	3.68	4.60	6.15	5.06
Other gasoline stations	447190	3.70	4.61	6.15	5.06
Clothing and clothing accessories stores	448	2.64	1.29	1.71	1.51
Clothing stores	4481	3.21	1.79	1.99	1.92
Clothing stores	44810	3.21	1.79	1.99	1.92
Clothing stores	448100	3.21	1.79	1.99	1.92
Shoe stores	4482	3.00	1.57	3.26	2.85
Shoe stores	44821	3.00	1.57	3.26	2.85
Shoe stores	448210	3.00	1.57	3.26	2.85
Jewelry, luggage and leather goods stores	4483	1.47	1.19	0.73	1.47
Jewelry stores	44831	1.52	1.22	0.70	1.51
Jewelry stores	448310	1.52	1.22	0.70	1.51
Sporting goods, hobby, and book stores	451	1.08	1.66	1.87	2.18
Sporting goods and hobby stores	4511	1.30	2.02	2.74	2.66
Sporting goods stores	45111	2.29	2.93	2.62	3.43
Sporting goods stores	451110	2.29	2.93	2.62	3.43
Hobby, toy and game stores	45112	0.03	0.04	4.23	3.91
Hobby, toy, and game stores	451120	0.03	0.04	4.23	3.91
Book, periodical and music stores	4512	1.34	1.41	1.75	1.79
Book stores and news dealers	45121	1.34	1.41	1.75	1.79
Book stores	451211	1.34	1.41	1.75	1.79

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
General merchandise stores	452	2.30	1.11	1.02	3.02
Department stores	4522	6.46	2.62	2.42	4.14
Department stores	45221	6.46	2.62	2.42	4.14
Department stores	452210	6.47	2.63		
Other general merchandise stores	4523	0.83	1.05	0.78	2.36
Other general merchandise stores	45231	0.84	1.05	0.78	2.37
Other general merchandise stores	452310	0.83	1.05	0.78	2.36
Office supplies, stationery and gift stores	4532	1.14	1.35	1.12	3.64
Office supplies and stationery stores	45321	1.08	0.87	3.73	6.47
Office supplies and stationery stores	453210	1.08	0.87	3.73	6.47
Gift, novelty and souvenir stores	45322	1.37	1.34	1.50	1.70
Gift, novelty, and souvenir stores	453220	1.37	1.34	1.50	1.70
Manufactured (mobile) home dealers	45393	0.00	0.00	0.65	1.03
Manufactured (mobile) home dealers	453930	0.00	0.00	0.65	1.03
Nonstore retailers	454	0.59	1.10	3.43	2.22
Electronic and mail-order shopping	454110	1.09	0.97	1.70	1.73
Vending machine operators	4542	0.00	0.00	4.41	2.63
Vending machine operators	45421	0.00	0.00	4.41	2.63
Vending machine operators	454210	0.00	0.00	4.41	2.63
Fuel dealers	45431	2.72	2.80	8.35	6.17
Fuel dealers	454310	2.72	2.80	8.35	6.17
Air transportation	481	1.96	0.58	3.26	0.84
Scheduled air transportation	4811	2.25	0.63	3.61	0.92
Scheduled air transportation	48111	2.25	0.63	3.61	0.92
Scheduled passenger air transportation	481111	2.35	0.67	3.58	0.99
Scheduled freight air transportation	481112	0.74	1.25	2.26	2.90
Nonscheduled air transportation	4812	0.63	0.64	1.15	1.49
Nonscheduled air transportation	48121	0.63	0.64	1.15	1.49
Nonscheduled air passenger chartering	481211	0.81	0.89	0.43	1.62
Nonscheduled air freight chartering	481212	0.50	0.55	5.12	3.08
Rail transportation	482	0.37	0.13	5.84	0.49
Rail transportation	4821	0.37	0.13	5.84	0.49
Rail transportation	48211	0.37	0.13	5.84	0.49
Line-haul railroads	482111	0.37	0.13	5.84	0.49
Water transportation	483	0.47	0.32	6.37	1.81
Deep sea freight transportation	483111	0.62	0.55	12.10	3.30
Coastal and Great Lakes freight transport.	483113	0.48	0.76	2.88	1.66
Inland water transportation	4832	0.24	0.37	2.12	1.80
Inland water transportation	48321	0.24	0.37	2.12	1.80
Inland water freight transportation	483211	0.24	0.37	2.12	1.81
Truck transportation	484	0.59	0.21	6.78	0.76
General freight trucking	4841	0.60	0.29	7.99	1.03
General freight trucking, local	48411	0.53	0.49	9.14	2.27
General freight trucking, local	484110	0.53	0.49	9.14	2.27
General freight trucking, long-distance	48412	0.66	0.31	7.85	1.04
General freight trucking, long-distance TL	484121	0.65	0.40	8.44	1.50
General freight trucking, long-distance LTL	484122	0.44	0.20	6.99	1.27
Specialized freight trucking	4842	0.35	0.27	3.85	0.88
Used household and office goods moving	48421	0.20	0.22	3.55	2.50
Used household and office goods moving	484210	0.20	0.22	3.54	2.50
Specialized freight (except used) trucking, local	48422	0.24	0.26	2.72	1.10
Specialized freight (except used goods) trucking, local	484220	0.24	0.26	2.72	1.10
Specialized freight (except used) trucking, long-distance	48423	0.36	0.29	5.10	1.58

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Specialized freight (except used goods) trucking, long-distance	484230	0.36	0.29	5.10	1.58
Pipeline transportation of crude oil	4861	0.02	0.01	1.38	0.69
Pipeline transportation of crude oil	48611	0.02	0.01	1.38	0.69
Pipeline transportation of crude oil	486110	0.02	0.01	1.38	0.69
Other pipeline transportation	4869	0.00	0.00	1.86	0.58
Pipeline transportation of refined petroleum products	48691	0.00	0.00	1.86	0.58
Refined petroleum product pipeline transport.	486910	0.00	0.00	1.86	0.58
Transportation support activities	488	0.26	0.13	2.27	0.85
Air transportation support activities	4881	0.43	0.25	2.25	0.72
Airport operations	48811	0.49	0.41	1.93	1.02
Other airport operations	488119	0.49	0.41	1.93	1.02
Other air transportation support activities	48819	0.21	0.18	2.86	1.12
Other support activities for air transport.	488190	0.21	0.18	2.86	1.12
Water transportation support activities	4883	0.21	0.39	2.49	0.88
Port and harbor operations	48831	0.28	0.30	1.47	0.82
Port and harbor operations	488310	0.28	0.30	1.47	0.82
Marine cargo handling	48832	0.07	0.11	2.19	1.07
Marine cargo handling	488320	0.07	0.11	2.19	1.07
Navigational services to shipping	48833	0.93	1.87	3.70	2.75
Navigational services to shipping	488330	0.93	1.87	3.70	2.75
Freight transportation arrangement	4885	0.00	0.00	1.96	1.66
Freight transportation arrangement	48851	0.00	0.00	1.96	1.66
Freight transportation arrangement	488510	0.00	0.00	1.96	1.66
U.S. Postal Service	491	0.00	0.00	2.08	0.67
U.S. Postal Service	4911	0.00	0.00	2.08	0.67
U.S. Postal Service	49111	0.00	0.00	2.08	0.67
U.S. Postal Service	491110	0.00	0.00	2.08	0.67
Couriers and messengers	492	0.19	0.02	5.90	0.26
Couriers and express delivery services	4921	0.22	0.01	6.19	0.15
Couriers and express delivery services	49211	0.22	0.01	6.19	0.15
Couriers and express delivery services	492110	0.22	0.01	6.19	0.15
Local messengers and local delivery	4922	0.03	0.02	3.76	4.66
Local messengers and local delivery	49221	0.03	0.02	3.58	4.59
Local messengers and local delivery	492210	0.03	0.02	3.58	4.59
Warehousing and storage	493	0.27	0.49	3.94	1.89
Warehousing and storage	4931	0.27	0.49	3.94	1.89
General warehousing and storage	49311	0.00	0.00	3.16	2.13
General warehousing and storage	493110	0.00	0.00	3.16	2.13
Refrigerated warehousing and storage	49312	1.60	2.04	5.73	3.88
Refrigerated warehousing and storage	493120	1.60	2.04	5.73	3.88
Farm product warehousing and storage	49313	1.25	0.98	8.91	4.60
Farm product warehousing and storage	493130	1.25	0.98	8.91	4.60
Publishing industries, except Internet	511	0.21	0.50	0.41	1.00
Newspaper, book, and directory publishers	5111	0.27	0.35	0.99	0.96
Newspaper publishers	51111	0.52	0.58	0.74	2.69
Newspaper publishers	511110	0.51	0.59	0.70	2.75
Periodical publishers	51112	0.75	0.70	1.28	1.14
Periodical publishers	511120	0.75	0.70	1.28	1.14
Book publishers	51113	0.66	0.74	2.05	1.44
Book publishers	511130	0.66	0.74	2.05	1.44
Directory and mailing list publishers	51114	0.18	0.29	0.64	1.13
Directory and mailing list publishers	511140	0.18	0.29	0.64	1.13
Other publishers	51119	0.05	0.08	0.17	0.38
Greeting card publishers	511191	0.04	0.09	0.21	0.27

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
All other publishers	511199	0.09	0.16	0.45	1.11
Software publishers	5112	0.50	0.71	0.87	1.67
Software publishers	51121	0.50	0.71	0.87	1.67
Software publishers	511210	0.50	0.71	0.87	1.67
Broadcasting, except Internet	515	1.34	0.80	1.37	1.51
Radio and television broadcasting	5151	2.50	1.42	1.93	2.10
Radio broadcasting	51511	0.60	0.90	3.65	3.79
Radio broadcasting	515110	0.61	0.90	3.67	3.81
Television broadcasting	51512	3.26	1.93	1.81	2.42
Television broadcasting	515120	3.26	1.93	1.80	2.44
Cable and other subscription programming	5152	0.68	0.49	0.74	2.02
Cable and other subscription programming	51521	0.68	0.49	0.74	2.02
Cable and other subscription programming	515210	0.68	0.49	0.74	2.02
Telecommunications	517	0.19	0.28	1.17	0.92
Wired and wireless telecommunications carriers	5173	0.19	0.27		
Wired and wireless telecommunications carriers	51731	0.19	0.27		
Wired telecommunications carriers	517311	0.41	0.25	3.60	0.68
Wireless telecommunications carriers	517312	0.35	0.51	1.86	1.63
Data processing and related services	5182	0.03	0.12	0.28	0.42
Data processing and related services	51821	0.03	0.12	0.28	0.42
Data processing, hosting and related services	518210	0.03	0.12	0.28	0.42
Internet publishing and web search portals	519130	0.98	0.96	4.30	2.93
Depository credit intermediation	5221	1.77	0.42	5.75	1.25
Commercial banking	52211	1.83	0.44	6.27	1.36
Commercial banking	522110	1.83	0.44	6.27	1.36
Savings institutions	52212	1.39	0.74	2.29	1.78
Savings institutions	522120	1.39	0.74	2.29	1.78
Security, commodity contracts and like activity	523	0.78	0.36	8.66	1.53
Securities and commodity contracts intermediation and brokerage	5231	1.16	0.76	12.96	2.26
Investment banking and securities dealing	52311	1.89	1.11	20.12	2.99
Investment banking and securities dealing	523110	1.89	1.11	20.12	2.99
Securities brokerage	52312	1.09	0.81	5.50	3.04
Securities brokerage	523120	1.09	0.81	5.50	3.04
Portfolio management	52392	0.63	0.40	5.73	2.17
Portfolio management	523920	0.63	0.40	5.73	2.17
Investment advice	52393	1.90	0.20	7.85	2.41
Investment advice	523930	1.90	0.20	7.85	2.41
Insurance carriers and related activities	524	0.15	0.08	3.57	0.48
Insurance carriers	5241	0.16	0.09	3.61	0.49
Direct life/health/medical insurance carriers	52411	0.14	0.11	4.14	0.64
Direct life insurance carriers	524113	0.06	0.07	0.56	0.40
Direct health and medical insurance carriers	524114	0.21	0.13	5.42	0.88
Other direct insurance carriers	52412	0.16	0.10	2.23	0.84
Direct property and casualty insurers	524126	0.16	0.10	2.23	0.84
Insurance agencies and brokerages	52421	0.11	0.08	1.54	0.33
Insurance agencies and brokerages	524210	0.11	0.08	1.54	0.33
Lessors of nonresidential buildings (except miniwarehouses)	53112	0.57	0.66	1.04	1.75
Lessors of nonresidential buildings	531120	0.57	0.66	1.04	1.75
Lessors of miniwarehouse and self storage units	53113	0.33	0.23	1.50	0.87
Miniwarehouse and self-storage unit operators	531130	0.33	0.23	1.50	0.87
Offices of real estate agents and brokers	5312	0.44	0.15	8.40	0.97
Offices of real estate agents and brokers	53121	0.44	0.15	8.40	0.97

**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Offices of real estate agents and brokers	531210	0.44	0.15	8.40	0.97
Real estate property managers	53131	0.19	0.31	0.72	1.21
Residential property managers	531311	0.09	0.14	1.00	1.02
Nonresidential property managers	531312	0.62	0.76	1.82	3.38
Offices of real estate appraisers	531320	0.00	0.00	3.04	3.15
Automotive equipment rental and leasing	5321	1.33	1.45	1.58	2.40
Passenger car rental and leasing	53211	1.90	2.12	2.40	3.75
Passenger car rental	532111	1.90	2.12	2.40	3.75
Truck, utility trailer and RV rental and leasing	53212	0.90	0.67	2.25	2.03
Truck, utility trailer, and RV rental and leasing	532120	0.90	0.67	2.28	2.03
Other heavy machinery rental and leasing	532412	0.47	0.53	2.66	2.07
Legal services	5411	0.20	0.24	2.44	0.90
Offices of lawyers	54111	0.20	0.24	2.44	0.90
Offices of lawyers	541110	0.20	0.24	2.44	0.90
Offices of certified public accountants	541211	0.72	0.67	1.21	1.24
Other accounting services	541219	0.44	0.91	6.68	3.66
Architectural, engineering and related services	5413	0.14	0.18	1.92	0.52
Architectural services	54131	0.12	0.13	0.67	1.75
Architectural services	541310	0.12	0.13	0.67	1.75
Engineering services	54133	0.10	0.19	2.32	0.53
Engineering services	541330	0.10	0.19	2.32	0.53
Management and technical consulting services	5416	0.18	0.34	0.65	2.09
Management consulting services	54161	0.18	0.34	0.65	2.10
Management consulting services	541610	0.18	0.34	0.65	2.10
Advertising agencies	54181	0.05	0.12	0.32	0.42
Advertising agencies	541810	0.05	0.12	0.32	0.42
Employment services	5613	0.20	0.31	0.51	1.20
Employee leasing services	56133	0.25	0.30	0.77	2.04
Professional employer organizations	561330	0.25	0.30	0.77	2.04
Staffing services (except PEOs)	56138	0.36	0.38	1.36	1.16
Staffing services (except PEOs)	561380	0.36	0.38	1.36	1.16
Travel agencies	56151	0.44	0.44	0.59	1.46
Travel agencies	561510	0.44	0.44	0.59	1.46
Security guards and patrol services	561612	0.21	0.18	2.41	0.85
Janitorial services	56172	0.09	0.09	0.34	0.36
Janitorial services	561720	0.09	0.09	0.34	0.36
Waste collection	5621	0.39	0.30	4.11	1.64
Waste collection	56211	0.39	0.30	4.11	1.64
Solid waste collection	562111	0.39	0.30	4.11	1.64
Offices of physicians	6211	0.10	0.10	0.82	0.62
Offices of physicians	62111	0.10	0.10	0.82	0.62
Offices of physicians, except mental health	621111	0.10	0.10	0.82	0.62
Offices of dentists	6212	0.04	0.03	0.98	0.37
Offices of dentists	62121	0.04	0.03	0.98	0.37
Offices of dentists	621210	0.04	0.03	0.98	0.37
Medical and diagnostic laboratories	6215	0.04	0.09	1.21	0.49
Medical and diagnostic laboratories	62151	0.04	0.09	1.21	0.49
Medical laboratories	621511	0.07	0.13	1.54	0.58
Diagnostic imaging centers	621512	0.01	0.01	0.79	0.74
Home health care services	6216	0.08	0.08	2.26	1.38
Home health care services	62161	0.08	0.08	2.26	1.38
Home health care services	621610	0.08	0.08	2.26	1.38
All other ambulatory health care services	62199	0.08	0.11	0.18	0.84
Blood and organ banks	621991	0.08	0.11	0.18	0.84



**Table 3. Variance estimates for selected Producer Price Index industry-based indexes, 1-month and 12-month median absolute percent changes and median 1-month and 12-month standard errors of the percent change, 2018**

Index	Index code	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Hospitals	622	0.06	0.15	2.58	0.69
General medical and surgical hospitals	6221	0.09	0.16	2.70	0.75
General medical and surgical hospitals	62211	0.09	0.16	2.70	0.75
General medical and surgical hospitals	622110	0.09	0.17	2.70	0.75
Psychiatric and substance abuse hospitals	6222	0.00	0.00	2.01	1.01
Psychiatric and substance abuse hospitals	62221	0.00	0.00	2.01	1.01
Psychiatric and substance abuse hospitals	622210	0.00	0.00	2.01	1.01
Other specialty hospitals	6223	0.23	0.21	0.49	1.00
Other specialty hospitals	62231	0.23	0.21	0.49	1.00
Other specialty hospitals	622310	0.23	0.21	0.49	1.00
Nursing care facilities	6231	0.20	0.18	3.31	0.63
Nursing care facilities	62311	0.20	0.18	3.31	0.63
Nursing care facilities	623110	0.20	0.18	3.31	0.63
Residential developmental disability homes	62321	0.22	0.21	2.86	0.78
Residential developmental disability homes	623210	0.22	0.21	2.86	0.78
Amusement and theme parks	7131	0.64	0.74	1.87	1.47
Amusement and theme parks	71311	0.64	0.74	1.87	1.47
Amusement and theme parks	713110	0.64	0.74	1.87	1.47
Golf courses and country clubs	71391	0.57	0.35	4.50	2.42
Golf courses and country clubs	713910	0.57	0.35	4.50	2.42
Fitness and recreational sports centers	71394	0.96	0.58	1.26	0.88
Fitness and recreational sports centers	713940	0.96	0.58	1.25	0.88
Accommodation	721	2.37	1.30	3.13	1.72
Accommodation	7211	2.37	1.30	3.13	1.72
Hotels (exc casino hotels) and motels	72111	3.35	1.75	3.94	2.31
Hotels and motels, except casino hotels	721110	3.35	1.75	3.94	2.31
Casino hotels	72112	1.28	0.93	1.75	1.16
Casino hotels	721120	1.28	0.93	1.75	1.16
Commercial machinery repair and maintenance	8113	0.07	0.09	1.71	1.73
Commercial machinery repair and maintenance	81131	0.07	0.09	1.71	1.73
Commercial machinery repair and maintenance	811310	0.07	0.09	1.71	1.73

## Variance estimates for price changes in the Producer Price Index

The Producer Price Index (PPI) program at the Bureau of Labor Statistics (BLS) began publishing variance estimates in 2016 based on data for 2015. PPI intends to publish variance estimates on an annual basis. This document outlines the uses for variance statistics and provides a description of PPI variance estimation methodology.

### Survey error

Survey error can be classified into sampling error and nonsampling error. Sampling error results when a parameter is calculated on the basis of a sample instead of the full population. The PPI program collects price information for a sample of more than 100,000 goods and services on a monthly basis. These transaction prices are used to construct the broad range of PPIs. PPI variance estimates measure the sampling error in the estimate of the percent change in an index. Sampling error reflects the difference between a sample estimate of change and the true population value. Variance statistics measure the precision of a sample estimate.

Nonsampling error occurs in many forms, but whatever the form, nonsampling error does not affect the spread of the sample estimates. Nonsampling error can, however, cause the estimate to be consistently higher (or lower) than the true population estimate. When this occurs, it is called the *bias of a sample estimate*. One example of sample estimate bias is nonresponse error. Each month, there are establishments in the PPI sample for which no price data are received. If the subset of the sample that fails to provide price update information differs consistently in some way from the subset that does respond, bias is created in the estimate. Another type of nonsampling error occurs when the frame from which the sample was drawn does not properly represent the population. Still other nonsampling errors occur during the collection of data. For example, if instructions do not provide clear directions regarding what is to be collected, BLS economists may fail to communicate their requests clearly or may make errors in recording the data they collect. If any of these errors appear on a consistent basis, a bias is created in the estimate. The PPI program, along with other programs at BLS, analyzes estimates for the presence of bias and mitigates nonsampling error by conducting dedicated research into the population of interest, by clearly documenting data collection procedures, and by performing quality checks throughout the collection process.

A sample estimate with high variability, but no bias, is less precise, but has an expected value equal to that of the true population value. By contrast, a sample estimate with low variability, but a large bias, may prove consistent with other sample estimates from the population sampled, but does not have an expected value equal to the population value. An ideal sample estimate has a small variance and no bias.

### Description of data

Each month, the PPI program calculates 1-month and 12-month percent changes and their associated variance estimates. The values that constitute the annual PPI publication of variance statistics include the *median of the absolute values of the percent change* as a reference statistic, as well as the corresponding *median standard error* as the measure of variance, both based on 1-month and 12-month percent changes for the calendar year.

A commonly used measure of sampling variability is the standard error (SE), which is the square root of the variance estimate. The SE estimates the sample distribution, or spread of the sample estimates, for comparison with the true population value. The SE is used to calculate a confidence interval around the sample percent change estimate. To calculate a 95-percent confidence interval, data users commonly add and subtract 2 times the SE value from its corresponding percent change estimate to obtain a range of values that likely contains the true population percent change. If this range includes zero, then the percent change is not significantly different from zero.

In analyzing variance in the PPI, the median of the absolute value of the percent change is the reference statistic that best represents the magnitude of the percent change in an index. If, instead, the median value of the signed percent changes over a calendar year were used for an index that exhibits bidirectional volatility, then the resulting median value might be small while the discrete values themselves would include a number of large increases and decreases. The median value of 12 months of signed percent changes would then fail to correspond with the median standard error for the calendar year, because the individual, larger index percent changes likely have larger standard errors associated with them and standard errors are always positive. For example, an index that increased by 5 percent 6 months of the year and decreased by 5 percent the other 6 months of the year could have an SE of 1 percent for each month. The median percent change would then be zero, but the median SE would be 1 percent. The linkage between these two values would break down because of the bidirectional volatility of the index. In contrast, employing the median of the absolute values of the percent change provides a reference statistic of 5 percent, which is a more appropriate reference value when paired with the median SE value of 1 percent.

PPI variance estimates include data for the North American Industry Classification System (NAICS), the Final Demand-Intermediate Demand (FD-ID) system, and the unique-to-PPI, commodity-based index structure. For the NAICS-based industry structure, variance data are available for industry sector indexes; 3-, 4-, and 5-digit industry group indexes; and for 6-digit industry indexes. Six-digit industries are the basic unit for sampling and data collection in PPI. The FD-ID system is the main PPI structure for analyzing producer inflation at the aggregate level. Variance data are provided for the entire FD-ID aggregation system. Within the PPI commodity-based index structure, 6-digit commodity indexes are the detailed components of the FD-ID system. Data users commonly use 4-digit and 6-digit PPI commodity indexes to explain FD-ID index movements. Variance data are provided for 2-, 3-, 4-, and 6-digit commodity-based indexes.

### **Analyzing the data**

Sampling error can be affected by a number of factors, such as the size and design of the sample, as well as the variability of the population of interest. The larger the sample size, the more accurate is the representation of the population and the smaller is the deviation from the true population value. If every item in the population were selected into the sample, the sample mean and the population mean would be equal and the sample estimate would have a standard error of zero. This tendency toward equality of the sample mean and the population mean and toward a standard error of zero can be observed in the PPI: typically, the standard errors of index percent changes for more highly aggregated indexes tend to be smaller than the standard errors of percent change estimates of more detailed indexes. This is not always the case, however, because other factors also affect the standard error. In addition, standard errors typically decrease, on a relative basis, compared with their accompanying reference measures, when the analysis shifts to a 12-month basis rather than a 1-month basis.

For example, the 1-month median absolute percent change in the final demand goods index for 2016 was 0.46 percent and the accompanying SE value was 0.10 percent. Thus, two standard error values, plus and minus, provide 95-percent confidence that the true change in the median absolute 1-month change in the final demand goods index was between 0.26 percent and 0.66 percent in 2016. Looking at 12-month data for the final demand services index in 2016 reveals that the median absolute change was 1.32 percent, the SE was 0.47 percent, and the 95-percent confidence interval was between 0.38 percent and 2.26 percent. The confidence intervals for the major components of the final demand index varied in 2016, with the relative size of the confidence band for the goods component being somewhat narrower compared to the relative size of the confidence interval for the services component of final demand, which exhibited somewhat wider banding. (See table A.)

**Table A. Variance estimates for selected PPI Final Demand–Intermediate Demand indexes, 2016**

Index	1-month median absolute percent change	1-month median standard error	12-month median absolute percent change	12-month median standard error
Final demand	.20	.11	.14	.33
Final demand, goods	.46	.10	2.09	.19
Final demand, services	.14	.16	1.32	.47
Final demand, construction	.05	.06	.92	.21

When the calculated 95-percent confidence interval contains a value of zero, the interpretation is that there is not a significant percent change for the given statistic. For example, in 2016 the 1-month median absolute percent change for the final demand index was 0.20 percent, while the SE value was 0.11 percent. Subtracting two SE values from the 0.20 median absolute percent change results in a range of values that contains zero. This means that, at the two SE confidence level, zero is a possible outcome of the percent change, and the statement that the percent change differs from zero cannot be made. For this particular example, seven months in 2016 had a 1-month rate of change in the PPI for final demand that ranged from -0.2 percent to +0.2 percent, resulting in the median absolute percent change of 0.2. In contrast, while the 2015 SE for the final demand index also was 0.11 percent, the 1-month median absolute percent change was larger, 0.30 percent. Those results provided directional confidence at the two SE level in 2015. The SE for the aggregate index (in this case final demand) is contributed to by the various components by which it is comprised (final demand for goods, services and construction). If a component is more volatile, it will be reflected in the SE of its aggregate.

### **PPI sampling**

Three times each year, the PPI program updates its samples for approximately 25 to 30 industries. Industries are defined according to the North American Industry Classification System (NAICS). PPI industry samples last, on average, about 7 years, and updating samples in this manner distributes the burden of data collection over time. The decision when to select a new sample for an industry is based on a number of factors, including the age of the current sample, its level or rate of attrition, the rate at which producers enter and exit the industry, and the degree that product and service lines undergo dynamic change. Once an industry is chosen for sampling, an industry study is undertaken to identify unique characteristics of that industry and to determine whether special considerations need to be taken into account in designing the sample, initiating data collection, and requesting monthly price updates. The PPI program typically conducts initial data collection via interviews with producers that are sampled. The number of units allocated to an industry’s new sample depends on a variety of

factors, including number of producers in the industry, original size of the current sample, deterioration rate, and current variance estimate.

The drawing of an industry sample takes place in two stages. The first stage is the selection of establishments, using probability-proportional-to-size sampling. The PPI program typically selects industry-based samples of establishments from the Unemployment Insurance (UI) frame—a file that lists all businesses that pay unemployment insurance. This file provides size measure data in terms of either employment or wages. However, for some industries—particularly services industries—the PPI program makes use of alternative frame sources that have more suitable size measures. The size measure of a frame serves as a proxy for establishment revenue and is used to calculate an establishment’s weight in the PPI survey. The best sampling size measure is determined on an industry-by-industry basis. At this stage, some establishments are selected with certainty, because they have a large size measure, whereas others have a probability of selection. These establishments are known as certainty and probability establishments, respectively. Although each industry is itself an explicit *stratum* (a nonoverlapping subgroup), information obtained during the industry study process, as well as the data available from the frame, determine whether further stratification is necessary. Examples of additional stratification variables are the industry’s geographic dispersion and size category of its producers.

The second-stage sample is drawn when BLS economists conduct initiation interviews with officials at the establishments selected in stage 1. In stage 2, the economist obtains a more accurate measure of establishment size by obtaining actual revenue information from the sample unit. Then, using a probability-based disaggregation method that identifies unique characteristics of products and transactions, the economist selects a sample of transactions of goods or services whose prices will be tracked over time. Information collected during initiation is entered into the PPI database. Price update requests are then sent to respondents on a monthly basis for the life of the sample.

Two industries with the same sample size can have very different standard errors because of the variability, or spread, of the population from which the sample is drawn. Industry samples are designed to account for diverse types of establishments that experience different kinds of price movements in a population. For example, the industry designated “offices of real estate agents and brokers” (NAICS 531210) has proportional representation of both residential and nonresidential offices and transactions. Proportionally allocating a portion of the sample to each stratum of a population, rather than relying on a random draw of the entire population, ensures better representation of the population. As mentioned previously, another key factor in the standard error of an estimate is the variability of the population itself: some industries experience very small price movements while others exhibit volatile pricing.

In certain cases, primarily PPIs for agricultural products, price data are not directly sampled by PPI staff. Instead, the data are collected from secondary sources, mainly the U.S. Department of Agriculture, but also other sources. For PPI purposes, these data are considered a census of available information, and as a result, no sampling variability exists in the percent change estimates based on them, and their standard error values are zero. These standard error values contribute to higher level aggregations, and at some point, aggregate indexes include both sampled and nonsampled data. In particular, all commodity codes under PPI group 01, Farm Products, are calculated from nonsampled data, as is the FD–ID index for Unprocessed Foodstuffs and Feedstuffs. Furthermore, the latter index constitutes a substantial portion of the aggregate index for Unprocessed Goods for Intermediate Demand.

## Calculating percent change estimates

The PPI calculates variance statistics for 1-month and 12-month percent change estimates. To understand the specific calculations, it is important to have a general understanding of how PPIs are calculated. The rest of this section provides an explanation of those calculations.

*Calculating the long-term relative for items in a lowest level cell index:*

The PPI calculates the long-term price relative for each item with a price that is considered *good*. Essentially, a *good price* is an item price that does not require imputation because a valid price was collected from the respondent during a given period. To calculate the long-term price relative, the PPI divides the current-period price of an item by the base-period price of that item:

$$\text{LTR}_{k,c,t} = \frac{P_{k,c,t}}{P_{k,c,0}},$$

where  $\text{LTR}_{k,c,t}$  is the long-term price relative of item  $k$  with a good price in cell  $c$  at time  $t$ ,  $P_{k,c,t}$  is the price of item  $k$  in cell  $c$  at time  $t$ , and  $P_{k,c,0}$  is the price of item  $k$  in cell  $c$  in base period 0.

*Calculating the cell aggregate for a lowest level cell index:*

To calculate the cell aggregate, the PPI multiplies the long-term price relative of each item by the weight of the item and sums across the items in the cell:

$$\text{CA}_{c,t} = \sum_{i=1}^{n_c} w_{i,c} \text{LTR}_{i,c,t}$$

Here,  $\text{CA}_{c,t}$  is the cell aggregate for cell  $c$  at time  $t$ ,  $w_{i,c}$  is the weight of item  $i$  in cell  $c$ ,  $\text{LTR}_{i,c,t}$  is the long-term price relative of item  $i$  in cell  $c$  at time  $t$ , and  $n_c$  is the total number of items in cell  $c$ .

*Calculating the cell-level index:*

To calculate the cell-level index, the PPI divides the cell aggregate for the current period by the cell aggregate for the previous period and multiplies by the cell-level index for the previous period:

$$I_{c,t} = \frac{\text{CA}_{c,t}}{\text{CA}_{c,t-1}} I_{c,t-1},$$

In this equation,  $I_{c,t}$  is the index for cell  $c$  at time  $t$ ,  $I_{c,t-1}$  is the index for cell  $c$  at time  $t - 1$ ,  $\text{CA}_{c,t}$  is the cell aggregate for cell  $c$  at time  $t$ , and  $\text{CA}_{c,t-1}$  is the cell aggregate for cell  $c$  at time  $t - 1$ .

Lower level indexes are then aggregated in the industry, commodity, and FD-ID index structures, with the use of a system of weights derived from U.S. Census Bureau data and other sources.

*Calculating 1-month and 12-month percent changes for an index:*

To calculate these changes, use the formula

$$PC_{c,t,t-m} = \left( \frac{I_{c,t}}{I_{c,t-m}} - 1 \right) \times 100,$$

where  $PC_{c,t,t-m}$  is the percent change in the index for cell  $c$  from time  $t - m$  to time  $t$ , in which  $m$  is equal to 1 month or 12 months previously,  $I_{c,t}$  is the index for cell  $c$  at time  $t$ , and  $I_{c,t-m}$  is the index for cell  $c$  at time  $t - m$ .

### **Variance estimation**

Variance estimates reflect the sample distribution of the population. Basically, variance estimation answers the question, “If a survey were conducted many times, with multiple independent samples drawn from the population, what would be the spread of the sample estimates?” If the sample estimates are tightly grouped about the sample mean, the variance is small. If they are widely distributed, the variance is larger. Because conducting the survey several times is not possible, the PPI program uses a simulation method of variance estimation called *bootstrapping*, which involves drawing 150 replicate samples, with replacement, from the original sample and then calculating the percent change estimates for each replicate sample.

*Selecting replicates:*

First, within each industry, variance strata are formed, in accordance with the following criteria:

- For probability establishments, each sampling stratum is set to be a variance stratum with each establishment serving as a primary sampling unit (PSU). If there are no additional sampling strata within an industry, then all probability establishments are placed into a single variance stratum.
- Certainty establishments with more than one item become their own variance stratum. Within this variance stratum, each item is a variance PSU.
- Certainty establishments from which only one item is collected are paired with similar units, with each item being its own variance PSU. As many as three of these units can be collapsed into a single variance stratum. If no like unit exists, this single-item unit is paired with a multi-item certainty unit to form a variance stratum. Again, each item is a variance PSU. Finally, if there are no other certainty units in the sample, this single-item certainty unit is included in every replicate.

After the variance strata are defined, 150 bootstrap replicates are selected from the sample. Each replicate is selected in the following manner:

- Of the  $n_h$  PSUs in each variance stratum, a replicate sample is of size  $n_h - 1$ . One exception is when there is a certainty unit containing a single item and there are no like establishments with which to pair that unit. In this circumstance, the unit/item is the only variance PSU in its variance stratum, and it is included in every replicate. Another exception occurs when there is only one probability unit in a sample; in that case, that unit also is included in all replicates.
- Using the sample as a frame, the PPI selects each replicate by means of random sampling with replacement. This strategy gives each PSU an equal probability of selection and allows a PSU to be selected more than once.

*Reweighting:*

Item weights are rescaled in each replicate with the use of the formula

$$w_{hik}^* = w_{hik} \left[ \left( \frac{n_h}{n_h - 1} \right) m_{hi}^* \right],$$

where  $h$  is the variance stratum,  $i$  is the variance PSU,  $k$  is the item,  $w_{hik}^*$  is the bootstrap weight,  $w_{hik}$  is the weight of the original item,  $n_h$  is the number of original sample units in the variance stratum, and  $m_{hi}^*$  is the number of times variance PSU  $i$  in stratum  $h$  is selected in a given replicate.

*Calculating variance estimates:*

Variance estimates are calculated for each percent change estimate calculated by the PPI program. The variance replicates that are selected at the detailed industry level are aggregated by using PPI aggregation structures to produce estimates for all 1-month and 12-month percent changes for each replicate. Variance estimates are then calculated with the formula

$$v_{PC_{c,t,t-m}} = \frac{1}{B} \sum_{b=1}^B (\hat{\theta}_b - \hat{\theta}_{full})^2,$$

where  $B$  is the number of bootstrap replicates (in the current implementation,  $B = 150$ ),  $\hat{\theta}_b$  is the percent change estimate for a given replicate, and  $\hat{\theta}_{full}$  is the percent change estimate of the original sample.

The standard error is the square root of the variance estimate:

$$SE = \sqrt{v_{PC_{c,t,t-m}}}$$

For more information, email the Producer Price Index Section of Index Analysis and Public Information at [ppi-info@bls.gov](mailto:ppi-info@bls.gov), or call (202) 691-7705.

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