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TENTH DISTRICT MANUFACTURING GROWTH SLOWED BUT REMAINED SOLID Federal Reserve Bank of Kansas City Releases November Manufacturing Survey

KANSAS CITY, Mo. – The Federal Reserve Bank of Kansas City released the November Manufacturing Survey today. According to Chad Wilkerson, vice president and economist at the Federal Reserve Bank of Kansas City, the survey revealed that growth in Tenth District manufacturing activity slowed slightly but remained solid, and optimism for future activity remained high.

"Factories reported another good month in November. However, a number of firms noted increasing difficulty finding skilled labor," said Wilkerson.

A summary of the November survey is attached. Results from past surveys and release dates for future surveys can be found at <a href="https://www.kansascityfed.org/research/indicatorsdata/mfg">www.kansascityfed.org/research/indicatorsdata/mfg</a>.

The Federal Reserve Bank of Kansas City serves the Tenth Federal Reserve District, encompassing the western third of Missouri; all of Kansas, Colorado, Nebraska, Oklahoma and Wyoming; and the northern half of New Mexico. As part of the nation's central bank, the Bank participates in setting national monetary policy, supervising and regulating numerous commercial banks and bank holding companies, and providing financial services to depository institutions. More information is available online at www.kansascityfed.org.

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## TENTH DISTRICT MANUFACTURING SUMMARY

The pace of growth in Tenth District manufacturing activity slowed slightly but remained solid, and optimism remained high for future activity. Raw materials price indexes increased modestly, while most indexes for selling prices were little changed.

The month-over-month composite index was 16 in November, down from 23 in October and 17 in September (Tables 1 & 2, Chart 1). The composite index is an average of the production, new orders, employment, supplier delivery time, and raw materials inventory indexes. Factory activity increased solidly at both durable and non-durable goods plants, particularly for food, plastics, computer and electronic products. Most month-over-month indexes eased somewhat from historically high levels in October. The production, shipments, new orders, and order backlog indexes all moderated slightly. The employment index slipped from 21 to 16, and the new orders for exports index fell into negative territory for the first time in 4 months. The finished goods inventory index dropped from 18 to 2, and the raw materials inventory index also decreased.

Most year-over-year factory indexes improved in November. The composite index edged higher from 34 to 37, and the production, shipments, order backlog, and employment indexes all moved higher. In contrast, the capital expenditures index inched lower from 21 to 19, and the new orders index fell slightly. The new orders for exports index was unchanged. The raw materials inventory index increased to 45, its highest reading in survey history, and the finished goods inventory index rose from 15 to 28.

Future factory activity expectations eased slightly from high levels. The future composite index inched lower from 32 to 27, and the future production, shipments, new orders, and order backlog also slowed slightly. The future capital expenditures index slipped from 22 to 20, while the future employment index was unchanged. The future raw materials inventory index dropped from 22 to 13, and the future finished goods inventory index decreased modestly.

Most price indexes were unchanged or slightly higher in November. The month-over-month finished goods and raw materials price indexes were mostly unchanged. The year-over-year finished goods price index edged higher from 33 to 35, and the year-over-year raw materials price index increased further. The future finished goods price index rose from 32 to 37, and the future raw materials price index jumped from 43 to 59.

## SELECTED COMMENTS

"We are implementing more automation to reduce reliance on direct labor and seriously evaluating collaborative robots to perform functions on the production floor."

"Fourth quarter has had some disappointment for us. Sales are good but we were expecting more. We are still anticipating a good year."

"We are keeping staffing levels stable. Hiring has been to replace attrition with relatively low lead times on replacement hires. Longer term concern is average age of our workforce."

"The oil and gas industry continues to grow in the regions we are located, thus enhancing our bottom lines. Lead times have deteriorated and pricing is inching up. We are cautiously optimistic going forward."

"The electrification of the automobile with so many new options has boosted our business globally. Employment difficulty is one of our major hurdles just due to lack of available manpower."

"One of the factors affecting hiring skilled workers is challenges with being in a rural area where specific skilled people choose not to live. The worker visa program has benefited my company greatly where we work with universities to transition students with master's degrees to work visas. We've lost very skilled workers due to challenges with our immigration policy. Our labor cost for these skilled people is high."

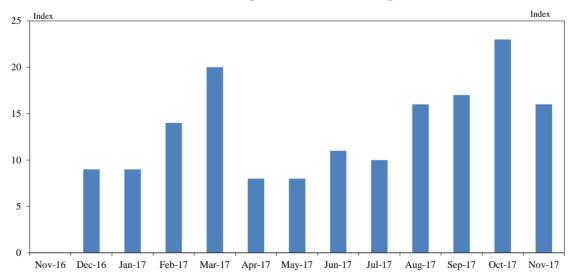
Table 1 Summary of Tenth District Manufacturing Conditions, November 2017

		mber vs. O (percent)*	November vs. Year Ago (percent)*				Expected in Six Months (percent)*							
		No		Diff	SA		No		Diff		No		Diff	SA
Plant Level Indicators	Increase	Change	Decrease	Index^	Index*^	Increase	Change	Decrease	Index^	Increase	Change	Decrease	Index^	Index*^
Composite Index				16	16				37				32	27
Production	38	39	22	16	15	65	21	14	51	64	21	15	49	40
Volume of shipments	40	38	21	19	20	64	20	16	49	61	25	15	46	37
Volume of new orders	40	40	20	21	22	54	33	13	41	52	31	18	34	31
Backlog of orders	31	49	19	12	12	54	34	12	42	46	40	14	32	28
Number of employees	30	58	12	18	16	51	31	18	32	49	43	9	40	35
Average employee workweek	24	61	15	10	7	48	39	13	35	33	53	14	18	15
Prices received for finished product	15	82	3	12	12	47	41	12	35	45	50	5	39	37
Prices paid for raw materials	28	68	4	23	24	70	23	6	64	68	27	5	63	59
Capital expenditures						35	48	16	19	39	50	11	28	20
New orders for exports	10	81	9	1	-2	18	73	9	9	18	74	8	10	7
Supplier delivery time	12	84	4	8	8	24	69	6	18	20	76	4	16	16
Inventories: Materials	31	55	14	17	22	53	38	9	45	32	55	13	19	13
Inventories: Finished goods	23	58	20	3	2	43	41	15	28	26	56	18	9	7

<sup>\*</sup>Percentage may not add to 100 due to rounding

Note: The November survey included 94 responses from plants in Colorado, Kansas, Nebraska, Oklahoma, Wyoming, northern New Mexico, and western Missouri.

Chart 1. Composite Index vs. a Month Ago



<sup>^</sup>Diffusion Index. The diffusion index is calculated as the percentage of total respondents reporting increases minus the percentage reporting declines.

<sup>\*^</sup>Seasonally Adjusted Diffusion Index. The month vs. month and expected-in-six-months diffusion indexes are seasonally adjusted using Census X-12.

Table2 Historical Manufacturing Survey Indexes

	Nov'16	Dec'16	Jan'17	Feb'17	Mar'17	Apr'17	May'17	Jun'17	Jul'17	Aug'17	Sept'17	Oct'17	Nov'17
Versus a Month Ago													
(seasonally adjusted)													
Composite Index	0	9	9	14	20	8	8	11	10	16	17	23	16
Production	5	18	20	11	37	13	-1	23	4	22	22	20	15
Volume of shipments	4	8	20	16	35	11	3	23	-2	23	25	25	20
Volume of new orders	5	5	20	26	32	9	9	4	10	25	10	27	22
Backlog of orders	-2	4	14	20	21	7	12	-6	-1	13	7	23	12
Number of employees	-1	8	6	17	13	9	11	15	15	14	18	21	16
Average employee workweek	-9	3	9	15	13	-4	1	7	1	9	7	12	7
Prices received for finished product	-4	10	0	1	9	6	8	-2	5	8	13	13	12
Prices paid for raw materials	12	29	24	26	29	34	17	17	18	21	24	25	24
Capital expenditures	n/a	n/a	n/a										
New orders for exports	-3	-4	-5	9	2	4	4	4	-3	4	6	8	-2
Supplier delivery time	0	7	4	6	2	5	14	9	10	10	22	20	8
Inventories: Materials	-8	4	-3	12	16	4	4	2	10	10	11	29	22
Inventories: Finished goods	-14	0	-4	5	18	8		-2	8	2	-6	18	2
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Versus a Year Ago													
(not seasonally adjusted)													
Composite Index	-10	0	7	6	14	13	18	28	24	23	35	34	37
Production	-21	0	11	3	17	19	20	43	28	27	56	41	51
Volume of shipments	-20	1	7	7	14	17	16	39	33	29	49	42	49
Volume of new orders	-8	4	20	15	30	16	28	35	38	27	47	45	41
Backlog of orders	-13	-5	6	10	16	20	27	20	22	18	37	34	42
Number of employees	-11	-5	3	-2	17	15	19	24	23	22	30	30	32
Average employee workweek	-9	5	-4	-3	6	0	13	11	15	20	31	26	35
Prices received for finished product	10	17	13	14	26	30	16	15	20	29	38	33	35
Prices paid for raw materials	20	25	31	28	37	50	45	48	45	48	56	61	64
Capital expenditures	-1	2	-2	15	12	5	16	13	15	21	26	21	19
New orders for exports	-12	-5	-1	-1	4	11	5	7	0	9	10	9	9
Supplier delivery time	4	8	6	10	7	14		15	19	23	27	26	18
Inventories: Materials	-15	-9	-3	4	1	4	8	22	10	18	16	30	45
Inventories: Finished goods	-6	-10	-3	-5	4	-3	17	11	7	6	2	15	28
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Expected in Six Months													
(seasonally adjusted)													
Composite Index	12	17	27	30	32	18	30	25	20	23	26	32	27
Production	23	29	50	42	51	29	50	42	29	38	38	47	40
Volume of shipments	22	29	47	40	53	29	44	38	34	38	38	45	37
Volume of new orders	25	35	42	38	43	16	46	39	26	39	27	45	31
Backlog of orders	10	26	36	15	29	13	30	13	10	19	21	33	28
Number of employees	6	11	32	31	43	28	25	33	26	26	26	35	35
Average employee workweek	5	14	22	20	11	6		10	18	1	7	27	15
Prices received for finished product	9	21	21	22	27	26		21	13	34	29	32	37
Prices paid for raw materials	21	38	38	54	60	47	37	51	37	39	39	43	59
Capital expenditures	14	10	20	28	34	12		17	17	18	13	22	20
New orders for exports	6	3	5	14	9	11		13	1	4	8	15	7
Supplier delivery time	4	5	5	17	13	14		11	15	14	18	9	16
Inventories: Materials	1	4	8	21	8	4		0	4	-2	19	22	13
Inventories: Finished goods	-3	2	7	25	4	13		7	18	-6	9	17	7
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