



# Purchases Report

November 2020

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### ***Important notes:***

*As of November 2016, unless explicitly specified otherwise, RTA uses 3-month moving average for reporting on inventory (including historical data), hence, affecting calculated values of purchases and Inventory-to-Sales Ratio. In this way, any exaggerations that might be manifest in monthly purchases data, due to regular inventory counts by members, are not emphasized.*

*Highlighted areas in the graphs represent time of recessions.*

*Explanation about how to read box plots and histograms can be found in the Appendix section.*

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*Disclaimer: The data and report presented herein are based solely on RTA member monthly reports on production and inventory. Occasionally, members send corrections to previously submitted data. If and when these corrections are received they are incorporated at that time. Users of this report should note while all care is taken to accurately compile the data submitted by member companies, that no warranty is made as to the accuracy of any RTA member reports.*

## Highlights

First and foremost, may your holidays be healthy, peaceful and full of joy.

The twelve-month moving average of production, inventory and the inventory-to-sales ratio all maintained their upward trends in November. The purchases still posted a negative annual growth but the slag narrowed to 1.4%. From a monthly perspective on a seasonally adjusted basis, production and purchases were significantly below their November medians.

## Long-Term Trends

Production grew at a 13.2% annual rate.

Purchases dwindled at a 1.6% annual rate.

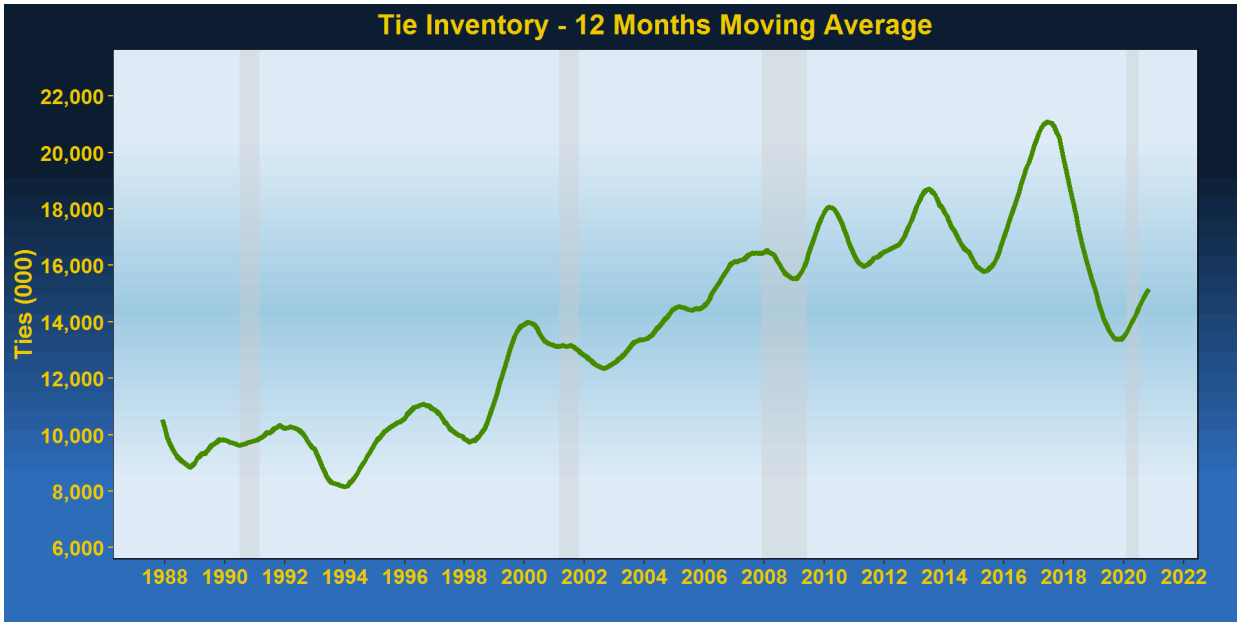
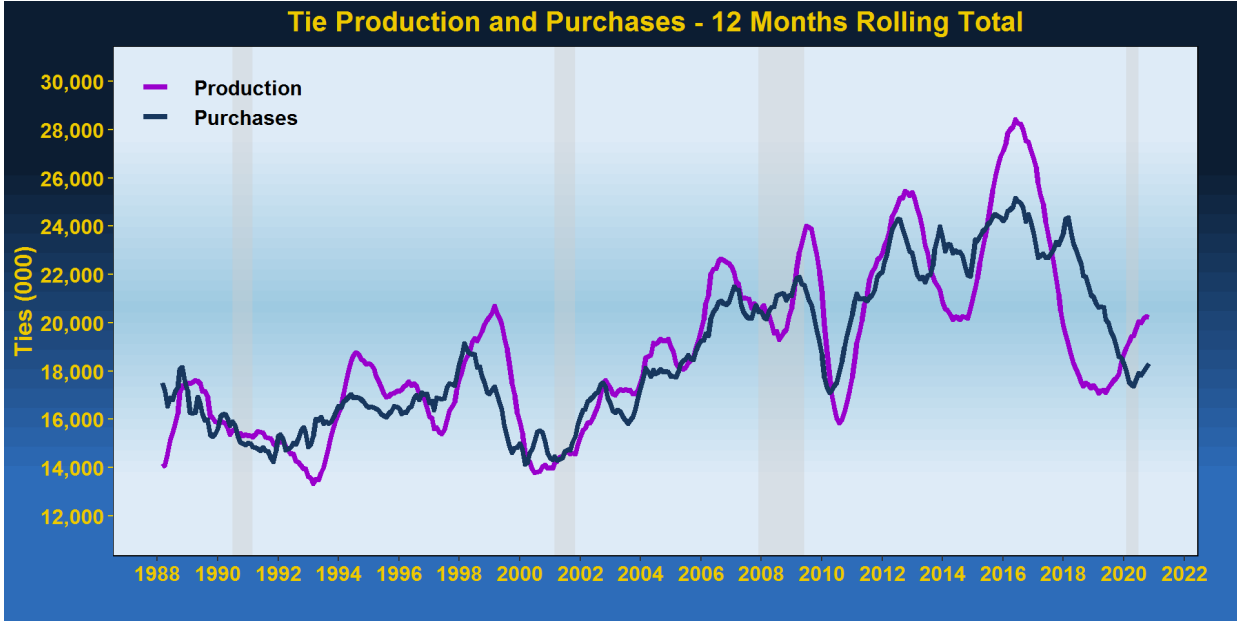
Inventory's 12 month moving average (12MMA) advanced by 13.4% from year ago levels.

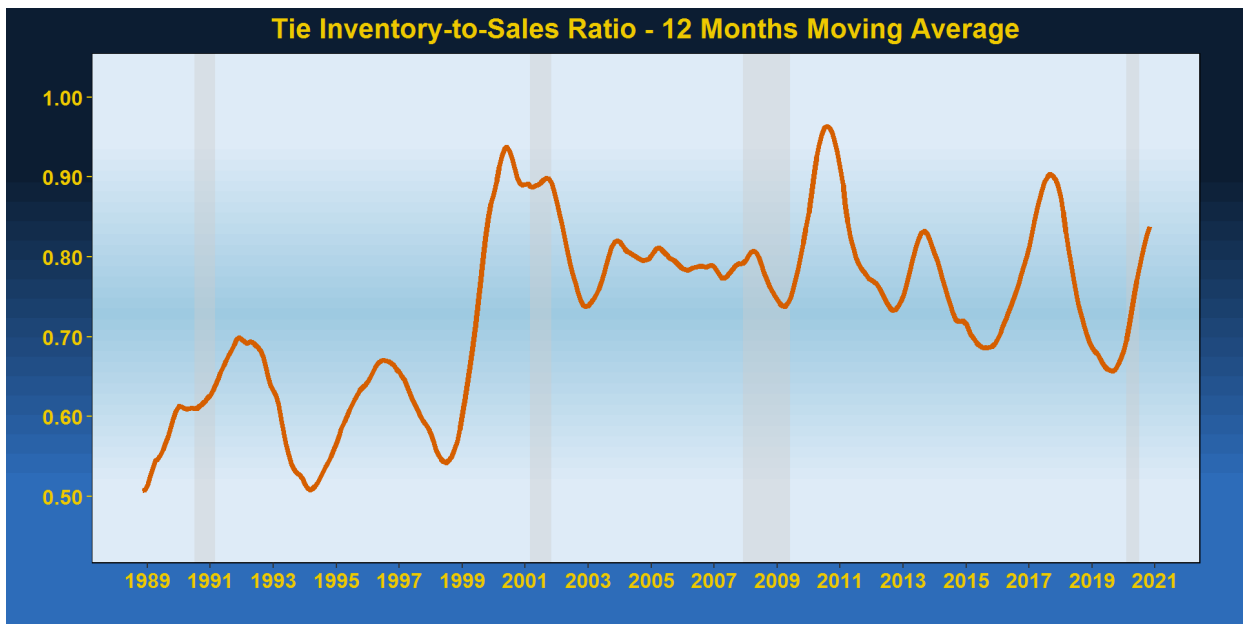
Inventory-to-Sales Ratio's 12MMA grew from 0.66 to 0.84.

### Table of Annual Observations

*Production and Purchases are 12 months rolling totals, Inventory and ISR are 12MMA*

Date	Production	Purchases	Inventory	ISR
November 2019	17,865	18,604	13,368	0.66
November 2020	20,226	18,306	15,158	0.84





## Analysis of Quarterly Data

Production in Q3 increased by 11.2% from last quarter and grew by 8.4% from year ago.

For the same intervals, purchases rose by 1.5% and expanded by 6.8% respectively.

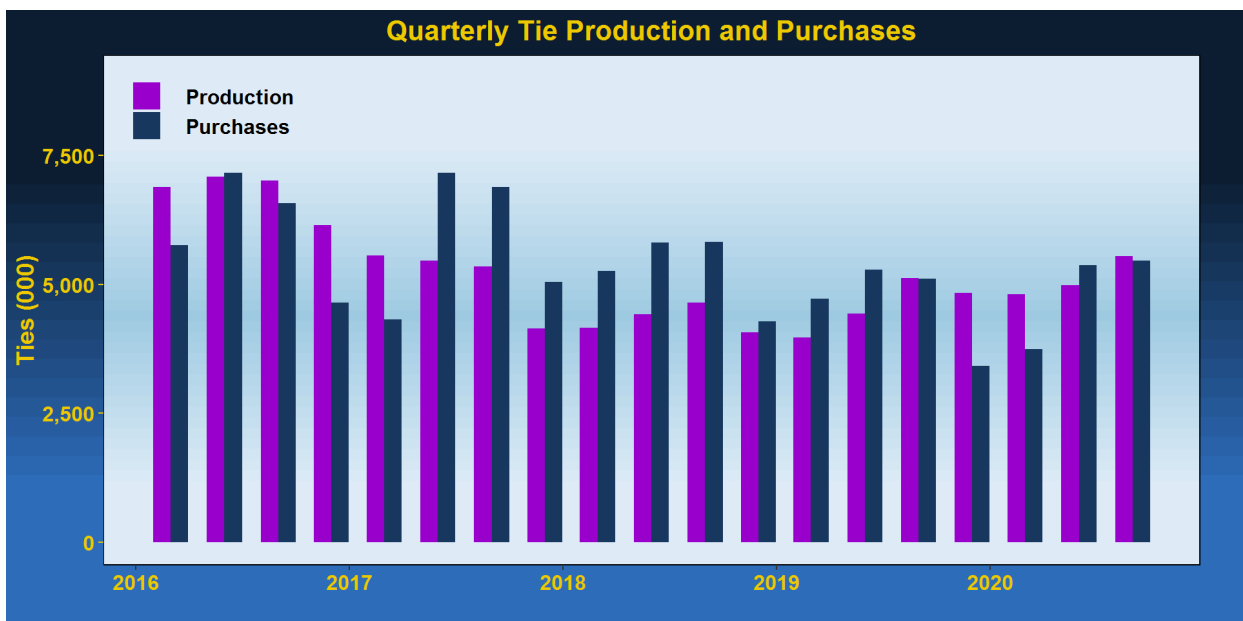
Inventory's 3MMA expanded by 0.6% from last quarter and increased by 17% from year ago levels.

From Q4 2019 to Q1 2020, the 3MMA of Inventory-to-Sales Ratio dwindled from 0.86 to 0.83. Year ago, the ratio was 0.64.

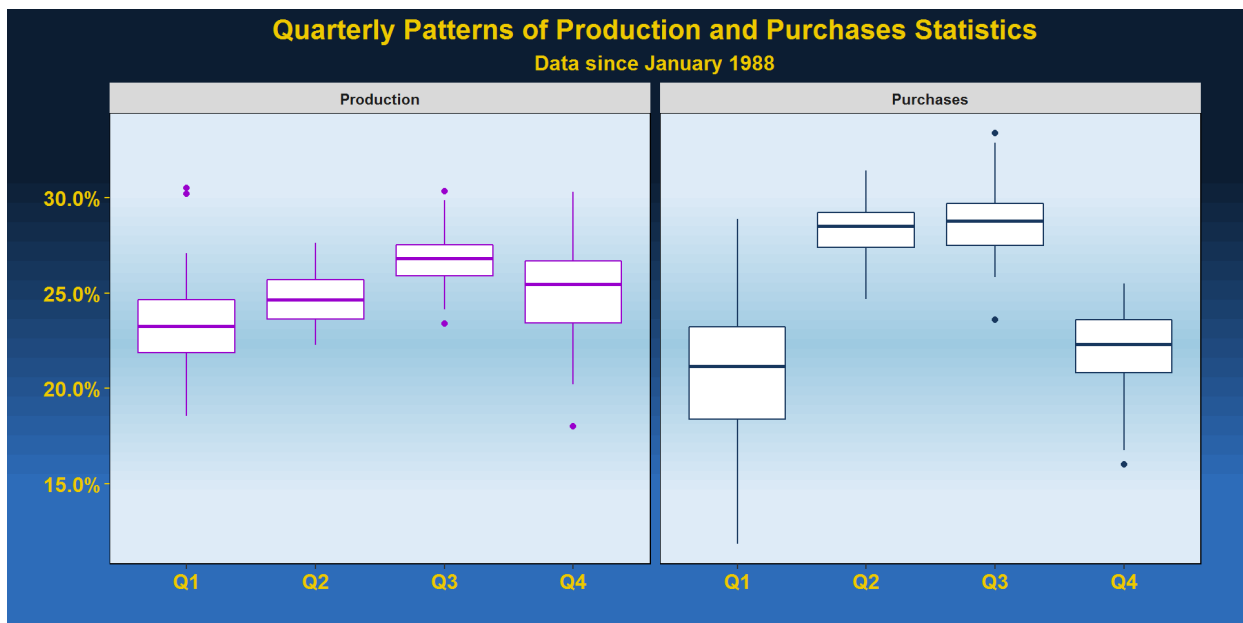
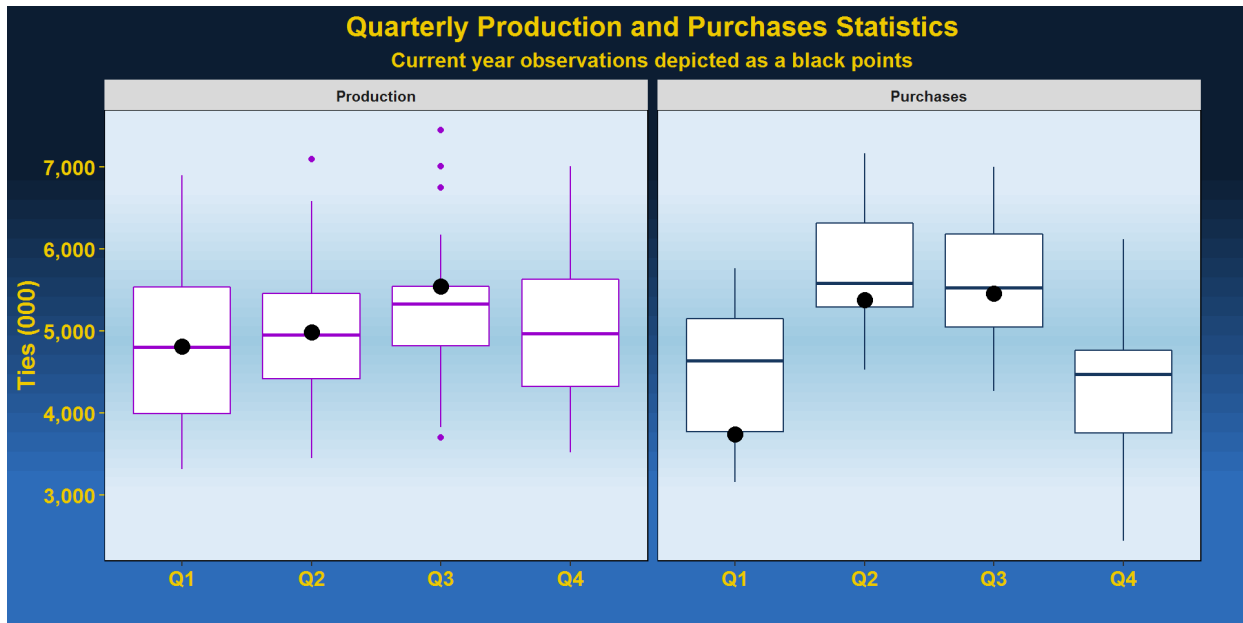
### Table of Quarterly Observations

*Production and Purchases Quarterly Sum, Inventory and ISR - 3MMA*

Date	Production	Purchases	Inventory	ISR
September 2019	5,117	5,112	12,819	0.64
June 2020	4,986	5,377	14,913	0.86
September 2020	5,546	5,460	14,999	0.83



Quarterly pattern of production and purchases uses data from January 2000. The top graph shows data analysis within each quarter. It shows the median, upper quartile and lower quartile boundary (a more detailed explanation is available in the Appendix section). It also displays what the production and purchases were in each quarter of reporting year represented by black points in relation to quarterly statistical values. The second graph shows the contribution of each quarter to the total annual production and purchases.



## Analysis of Monthly Data

Production fell by 22.8% from last month and fell by 1.8% from year ago.

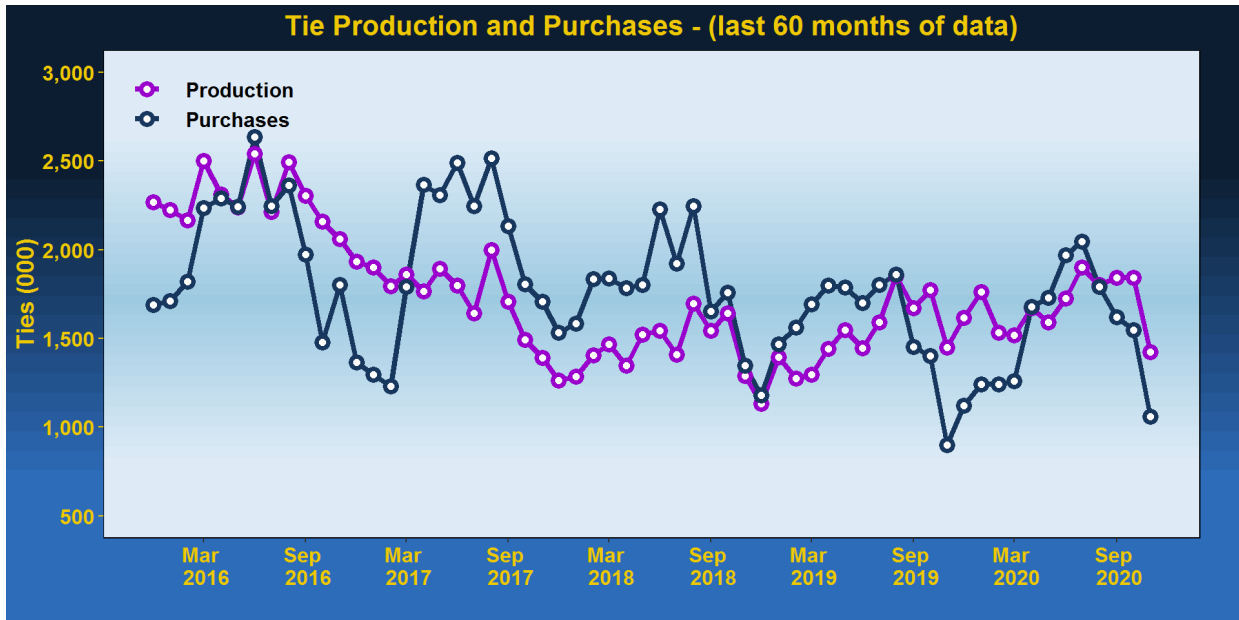
For the same time intervals, purchases dropped by 31.5% and increased by 17.9% respectively.

Inventory levels grew by 2.4% from last month and advanced by 14% from year ago levels.

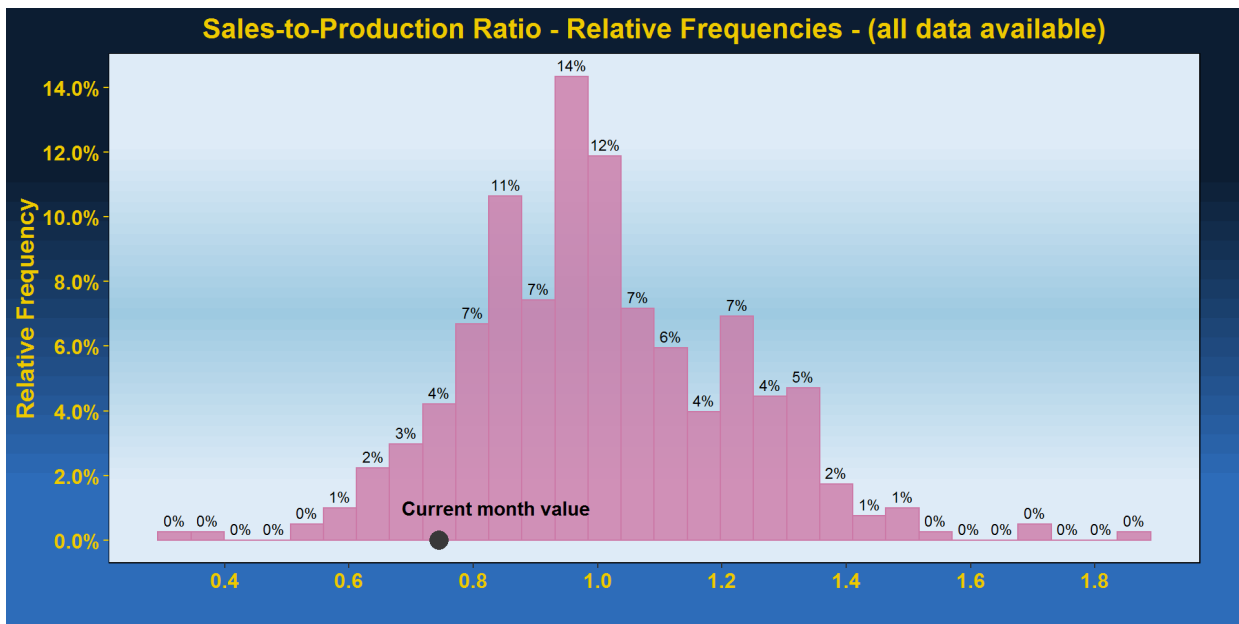
From month ago, the Inventory-to-Sales Ratio increased from 0.84 to 0.86, and from year ago, the ratio grew from 0.74.

**Table of Monthly Observations**

Date	Production	Purchases	Inventory	ISR
November 2019	1,449	899	13,737	0.74
October 2020	1,843	1,548	15,295	0.84
November 2020	1,423	1,060	15,657	0.86

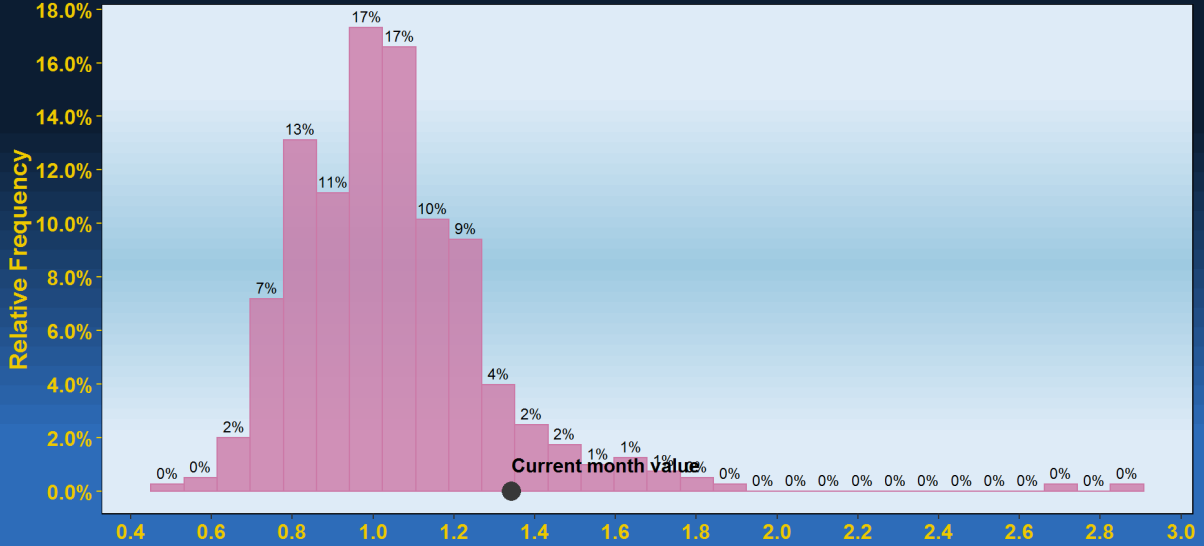


Sales-to-Production Ratio shows the replenishment/diminishment of inventory. Ratio above one signals diminishment and ratio below one replenishment of inventory stock.



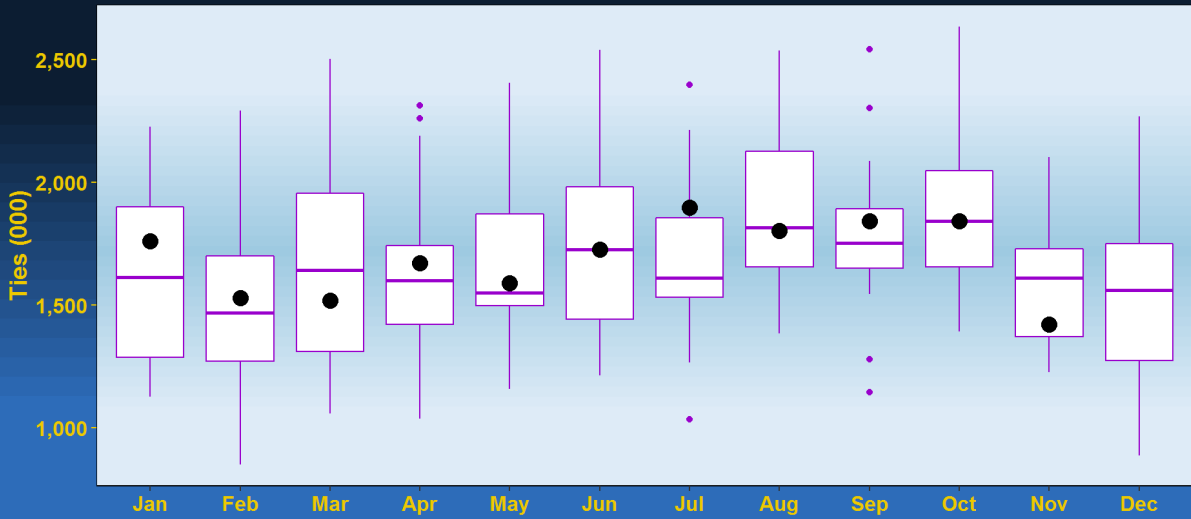
The following graph tells the same story as the graph above, just the ratio is reversed - Production-to-Sales Ratio.

**Production-to-Sales Ratio - Relative Frequencies - (all data available)**



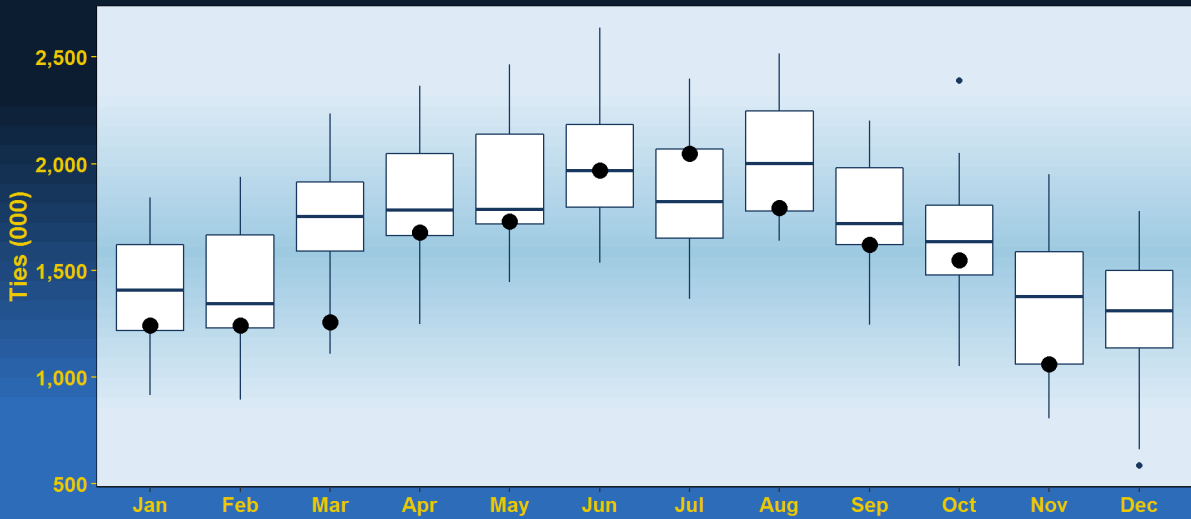
**Monthly Production Statistics - (data since 2000)**

Current year observations depicted as a black points



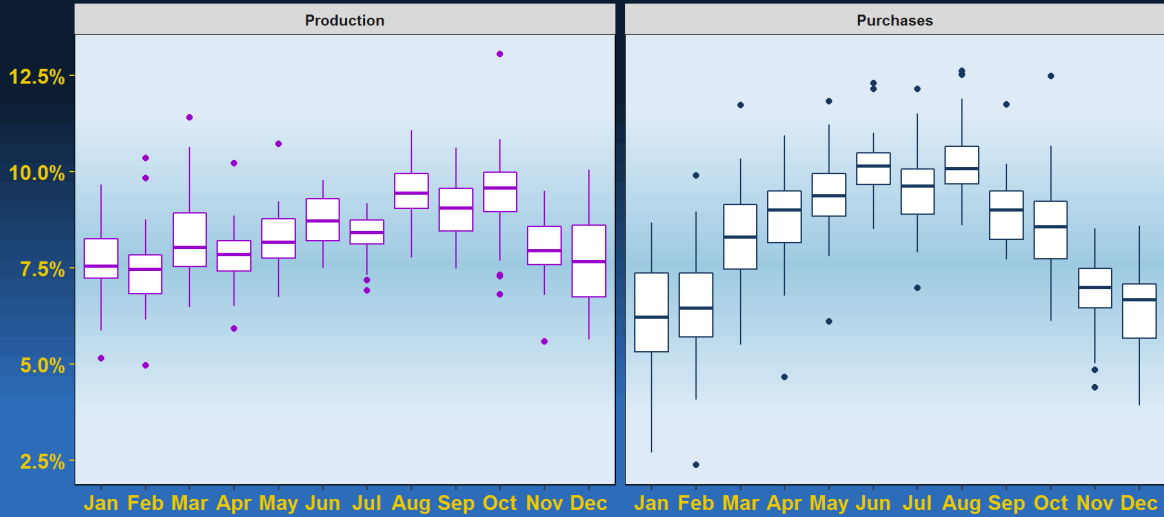
**Monthly Purchases Statistics - (data since 2000)**

Current year observations depicted as a black points

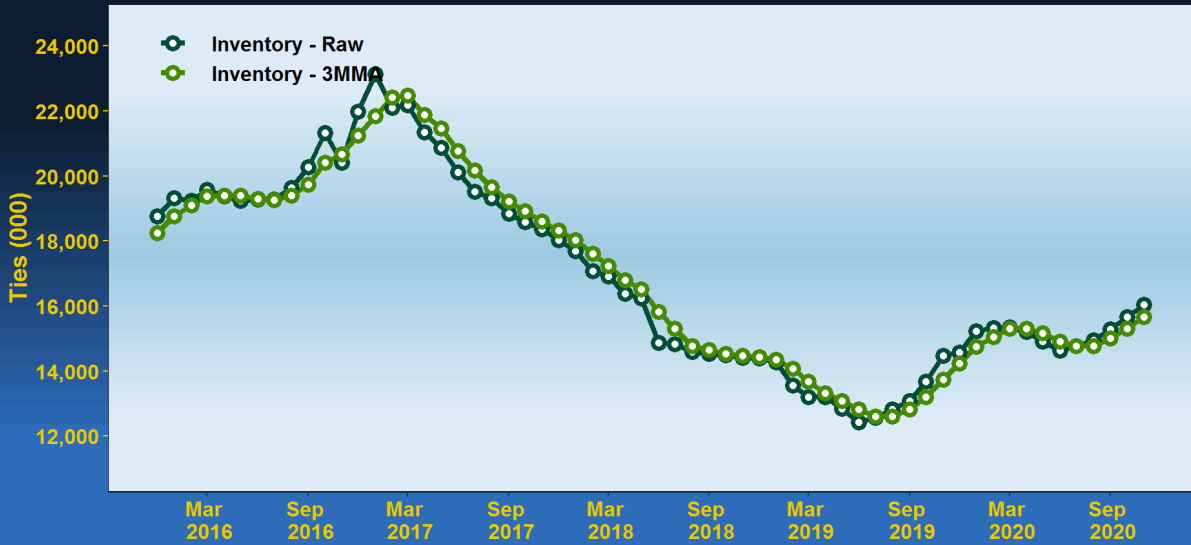


### Monthly Pattern of Production and Purchases Statistics - Percent of Annual Total

Data since January 1988

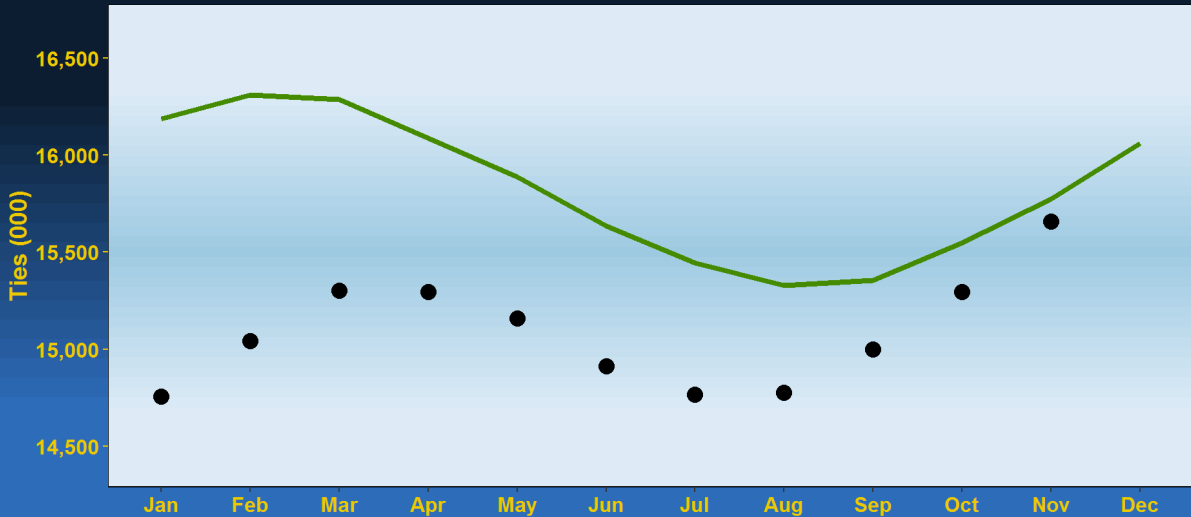


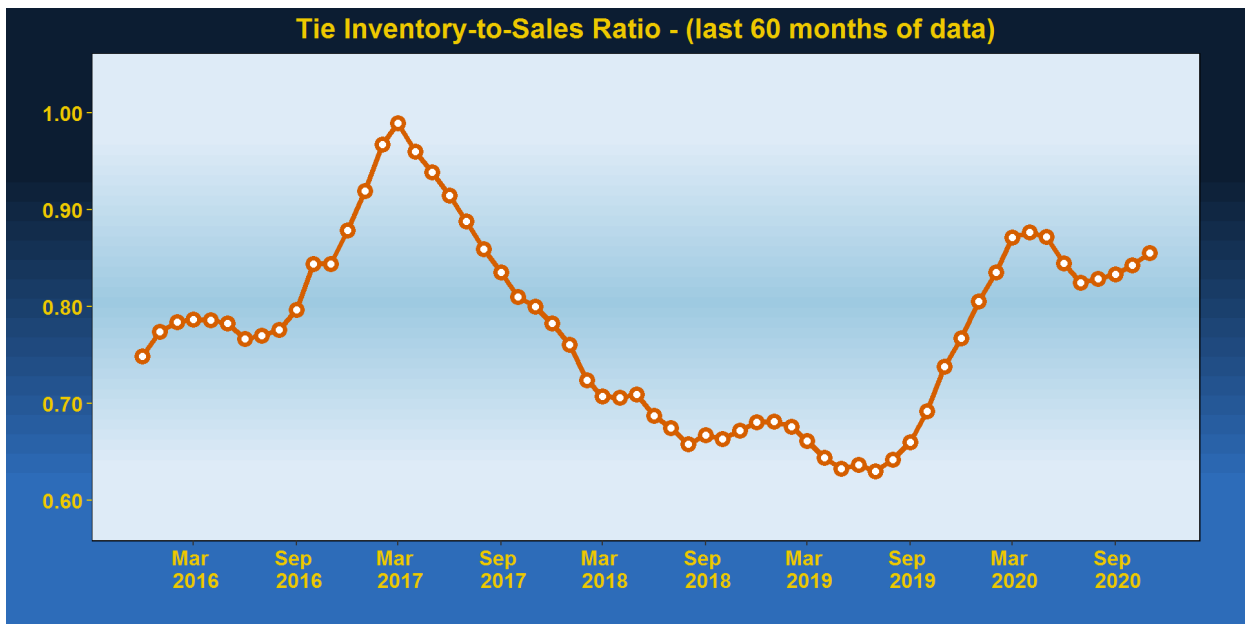
### Tie Inventory - Raw Monthly and 3MMA Data - (last 60 months of data)



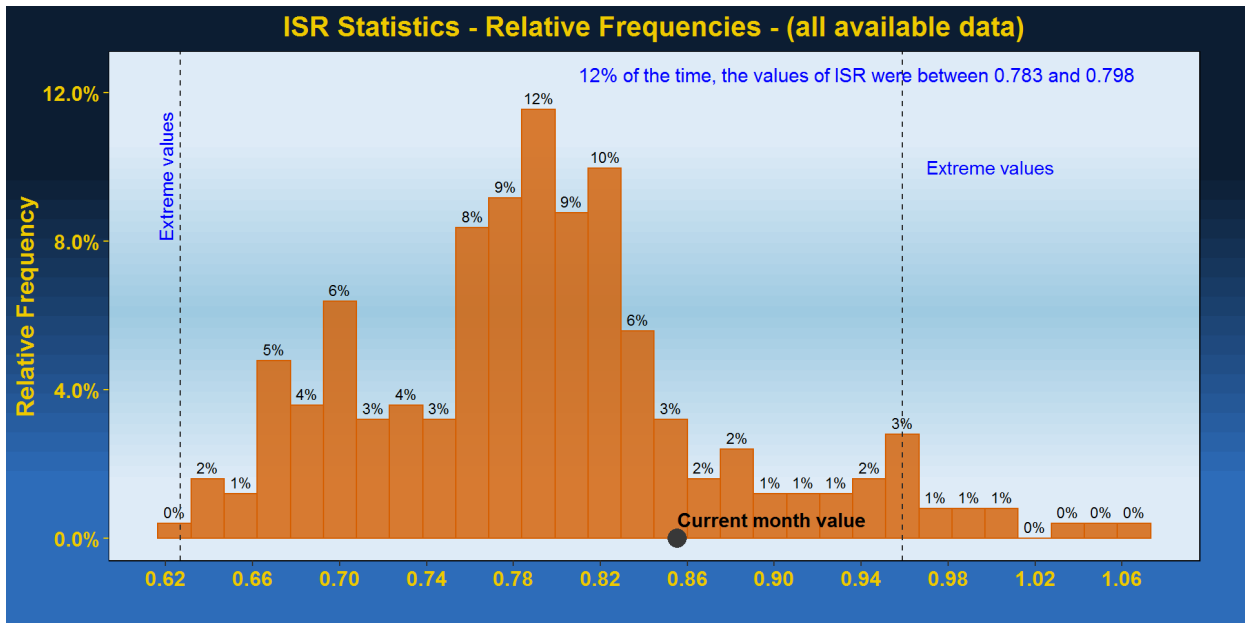
### Monthly Patterns of Inventory - (data since 2000)

Monthly average depicted with solid green line, current year observations depicted as a black points





Inventory-to-Sales Ratio (ISR) histogram of relative frequencies shows the monthly ISR data distribution and the black point represents the value for the current reporting month.

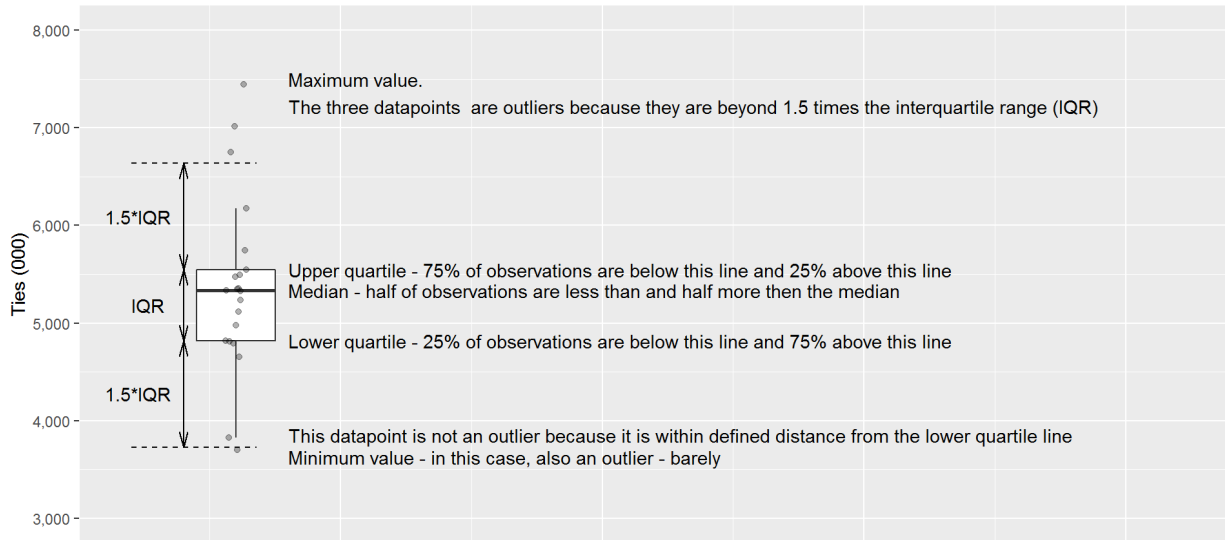




# Appendix

## Box Plot Explained

Underlying data displayed as 'jittered' points



## Histogram of Relative Frequencies Explained

