



# Purchases Report

March 2019

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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.*

### **Copyright: Railway Tie Association, 2019.**

*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

In March, tie production was marginally up from last month, though the 12 month rolling total still shows a declining trend. Purchases were up moderately but the long term trend is still declining. Due to purchases outpacing production, inventory is declining substantially and monthly ISR is at 0.66 with the prospect for further decline as the raw ISR is at 0.64.

## Long-Term Trends

In March, production came down at a 10.6% annual rate.

Purchases came down at a 15.2% annual rate.

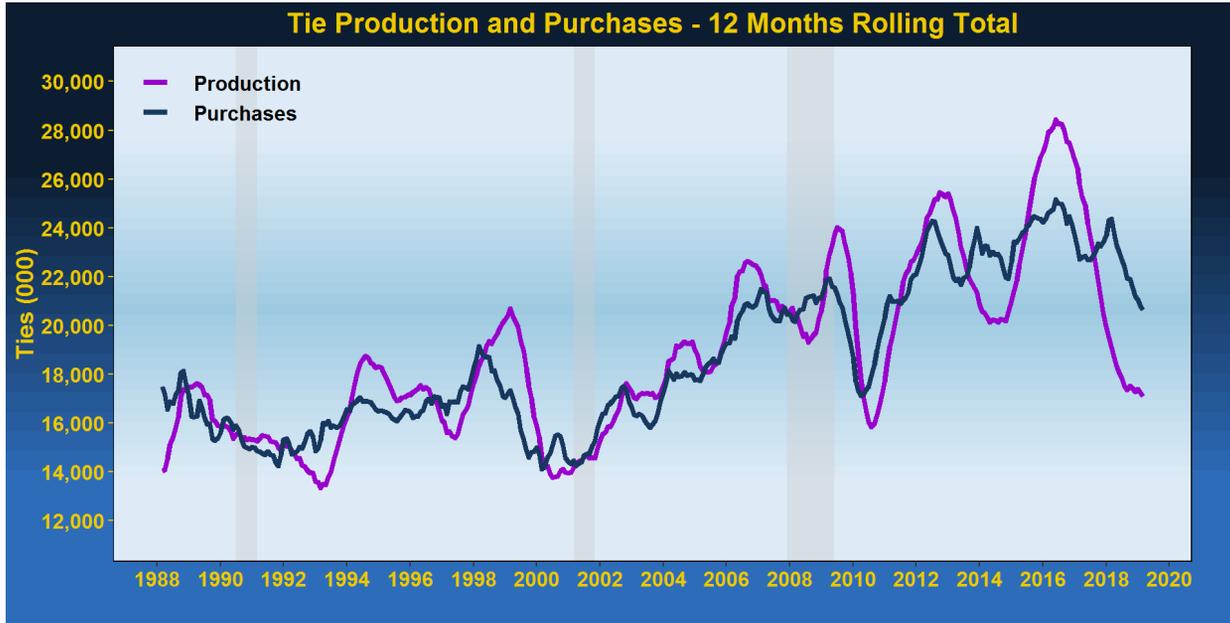
Inventory's 12 month moving average (12MMA) declined by 22.5% from year ago levels.

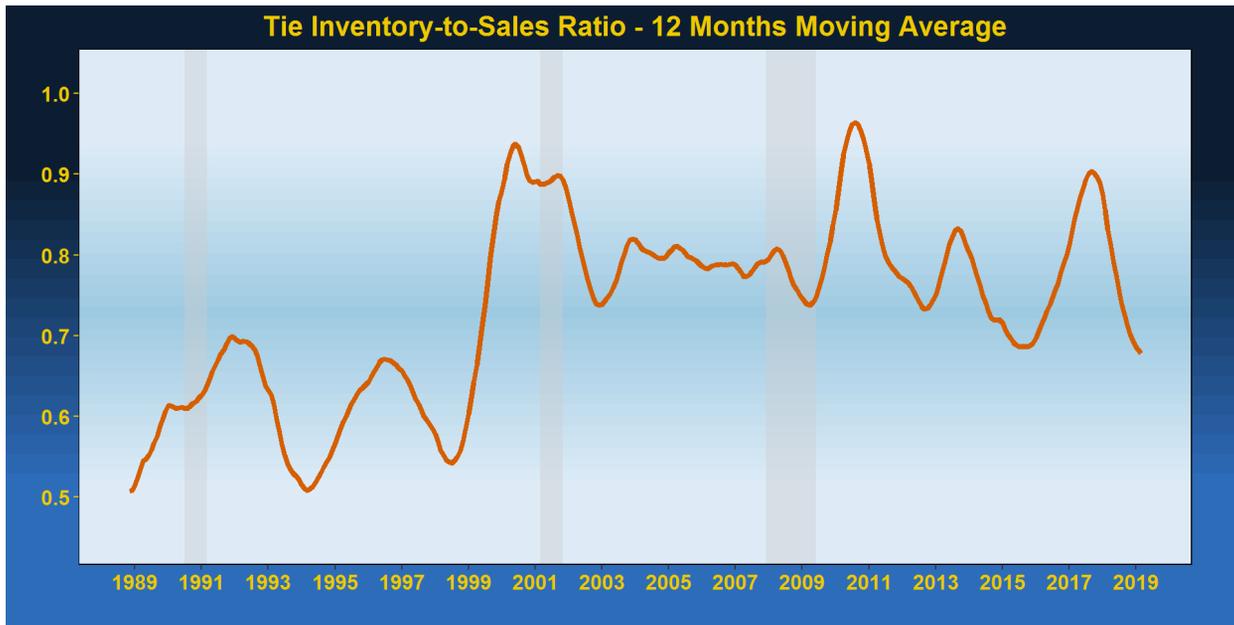
Inventory-to-Sales Ratio's 12MMA declined from 0.83 to 0.68.

### Table of Annual Observations

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

Date	Production	Purchases	Inventory	ISR
March 2018	19,106	24,355	18,889	0.83
March 2019	17,089	20,650	14,644	0.68





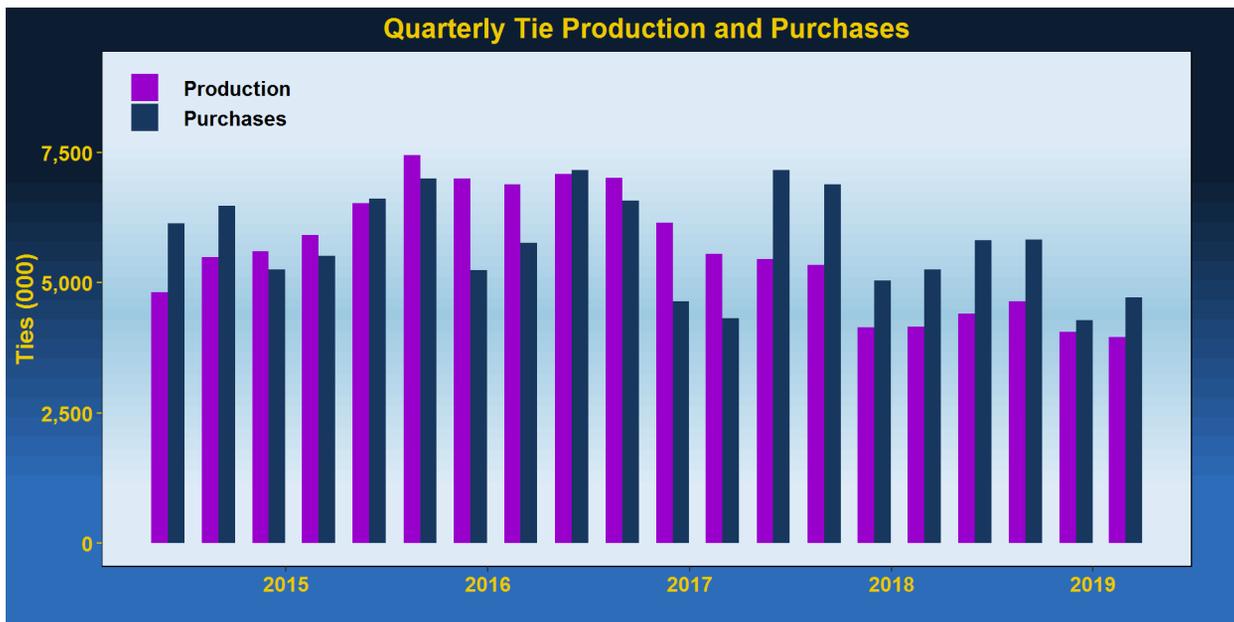
## Analysis of Quarterly Data

Production in Q1 came down by 2.5% from last quarter and fell by 4.7% from year ago. For the same intervals, purchases rose by 10.2% and dwindled by 10.2% respectively. Inventory's 3MMA fell by 5.3% from last quarter and dwindled by 20.7% from year ago levels. From Q4 2018 to Q1 2019, the 3MMA of Inventory-to-Sales Ratio remained flat at 0.67. One year ago, the ratio was 0.73.

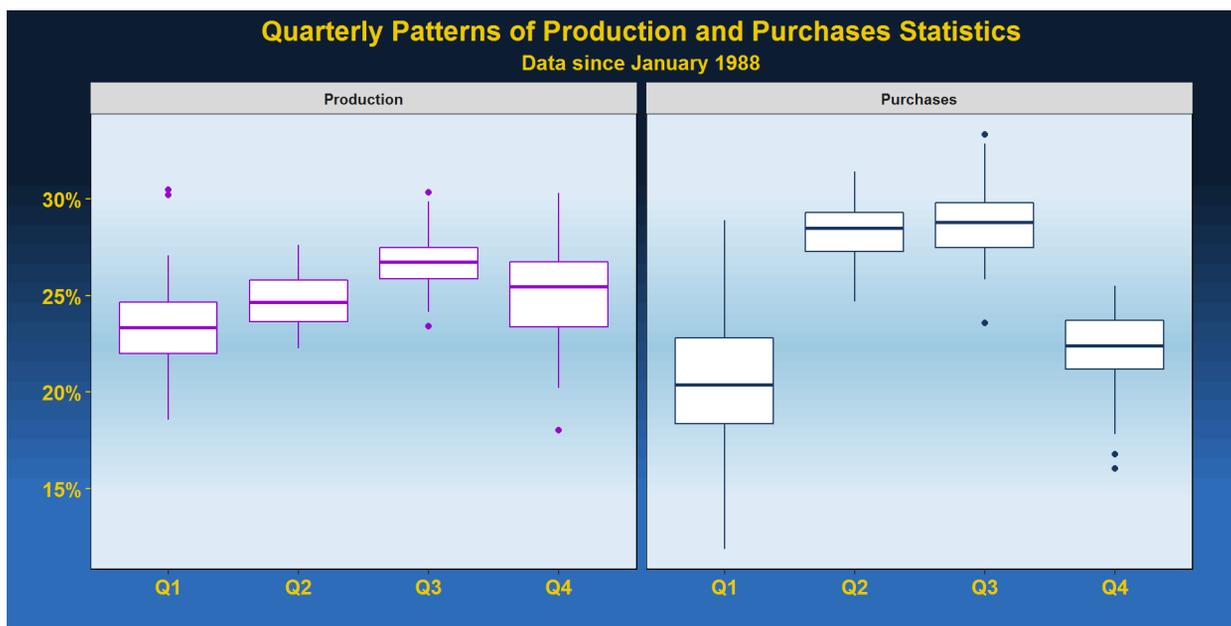
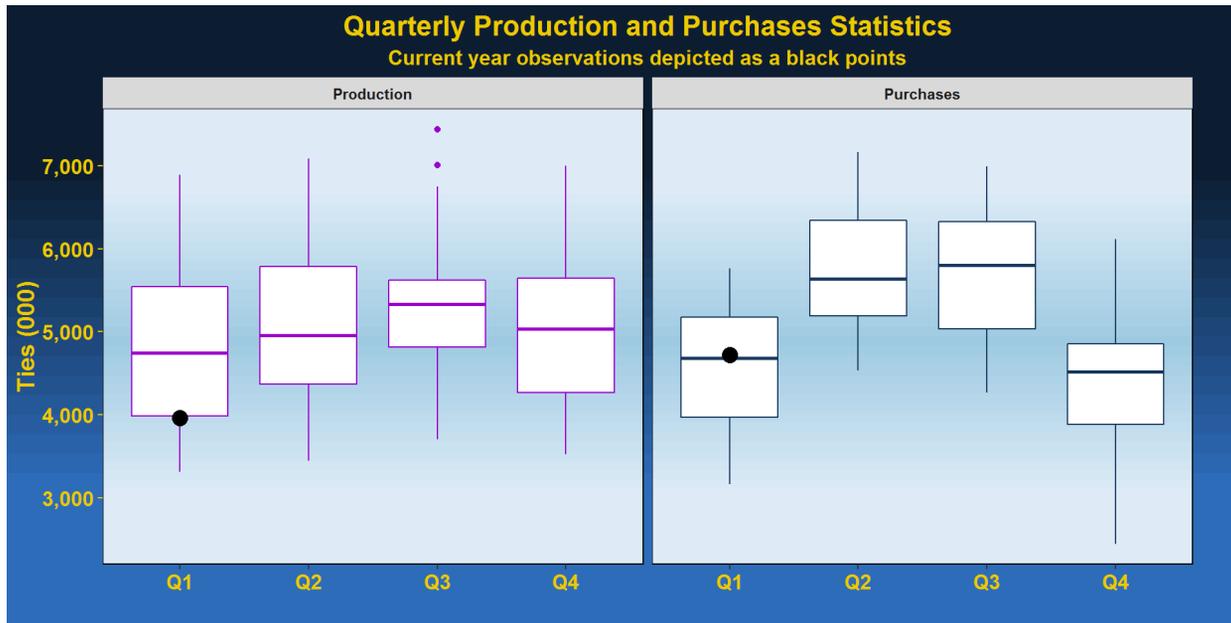
### Table of Quarterly Observations

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

Date	Production	Purchases	Inventory	ISR
March 2018	4,159	5,258	17,229	0.73
December 2018	4,063	4,285	14,429	0.67
March 2019	3,962	4,723	13,668	0.67



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 advanced by 1.8% from last month and dropped by 11.7% from year ago.

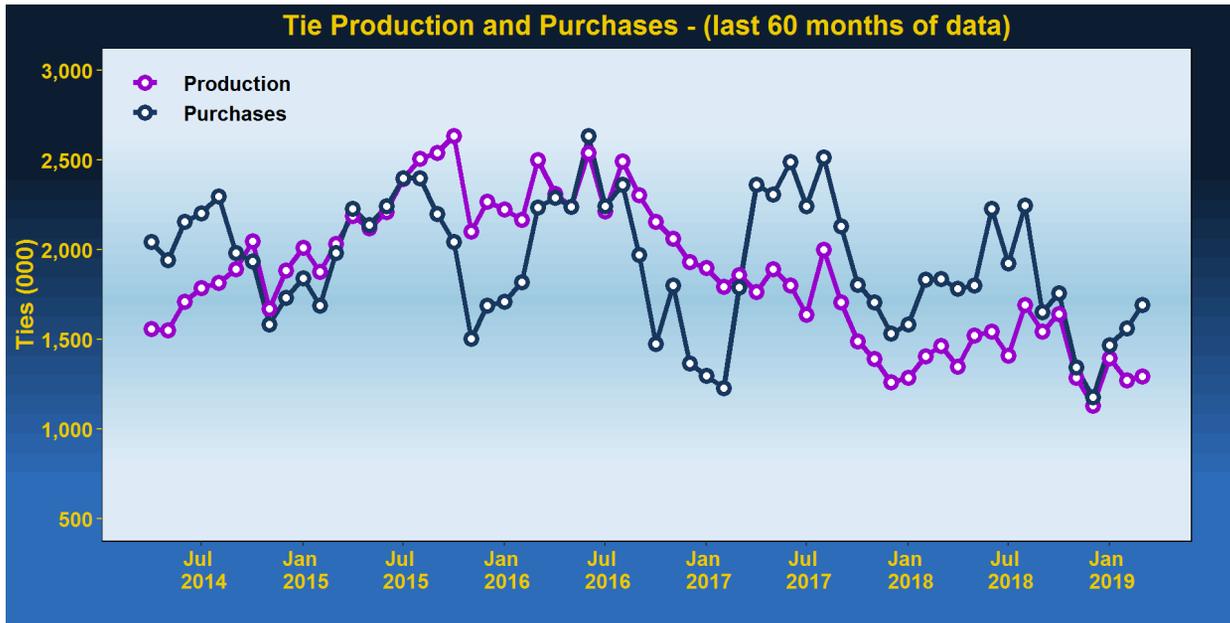
For the same time intervals, purchases rose by 8.2% and dwindled by 8% respectively.

Inventory came down by 2.8% from last month and decreased by 20.7% from year ago levels.

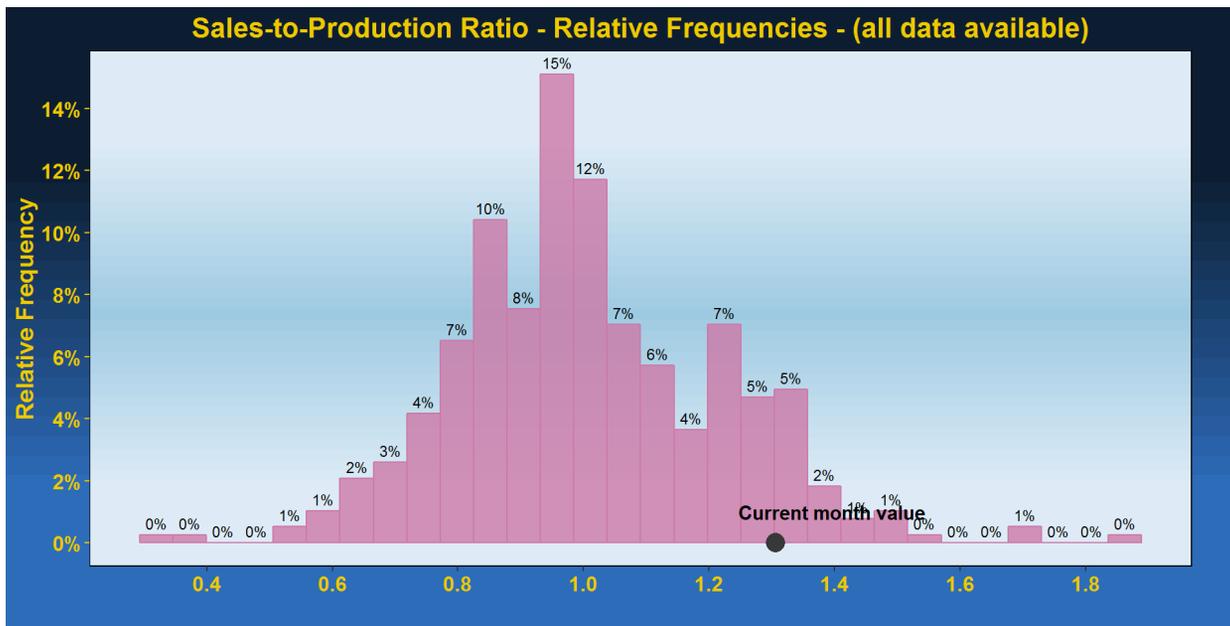
From one month ago, the Inventory-to-Sales Ratio declined from 0.68 to 0.66 and from year ago, the ratio came down from 0.71.

**Table of Monthly Observations**

Date	Production	Purchases	Inventory	ISR
March 2018	1,467	1,839	17,229	0.71
February 2019	1,273	1,563	14,065	0.68
March 2019	1,295	1,692	13,668	0.66

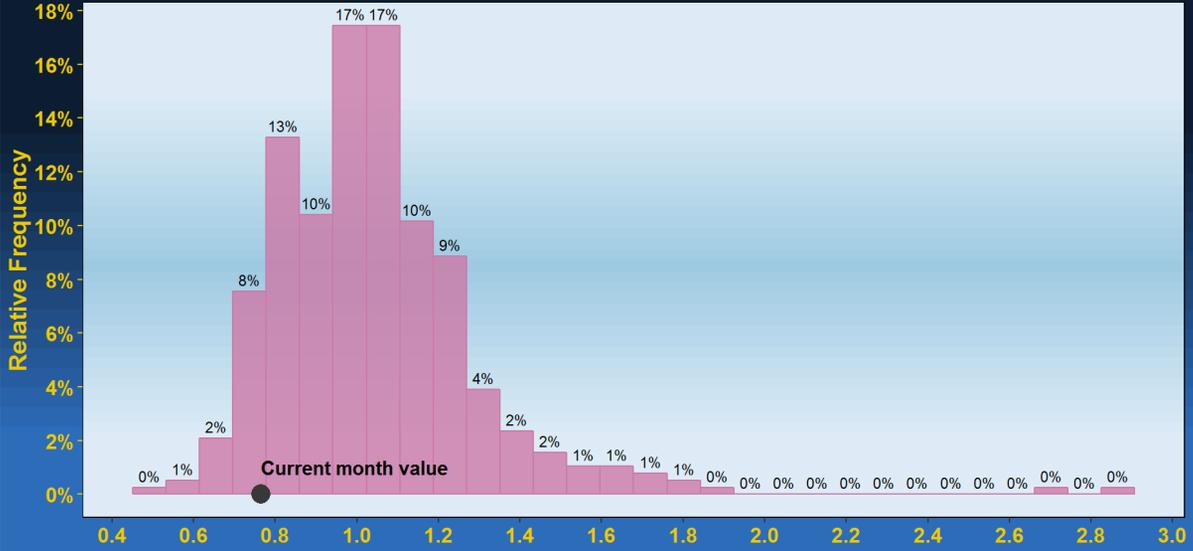


Sales-to-Production Ratio shows the replenishment/diminishment of inventory. Ratio above one signals diminishment and ratio below one replenishment of inventory stock.



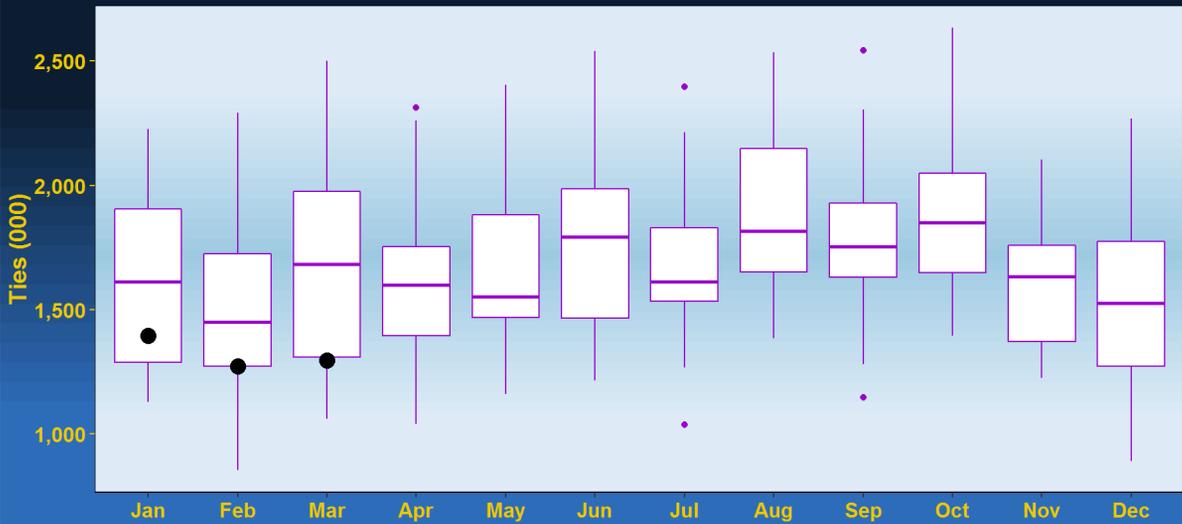
The following graph tells the same story as the graph above, just the ratio is reversed - Production-to-Sales Ratio.

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



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

Current year observations depicted as a black points



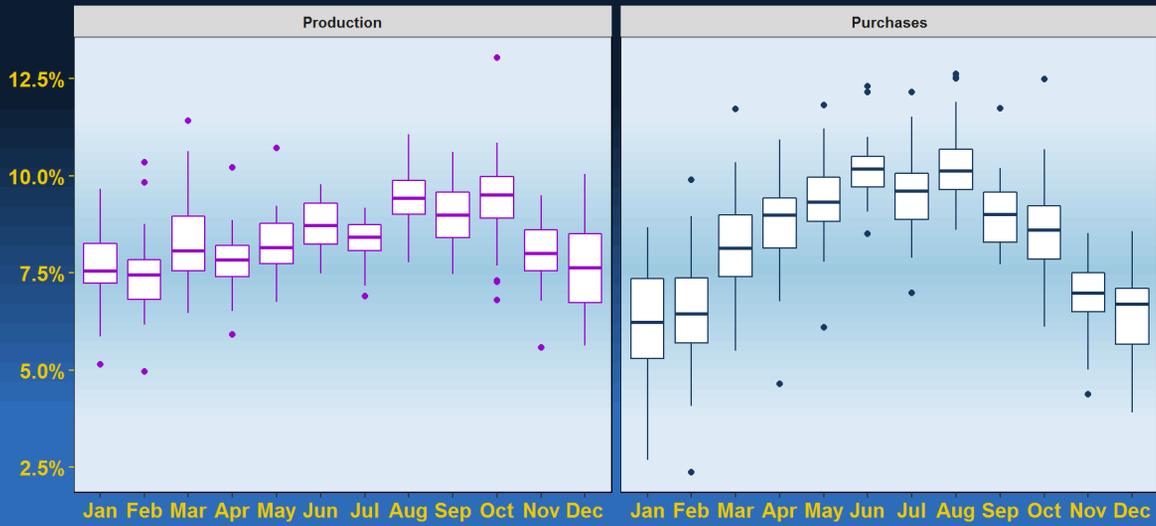
### Monthly Purchases Statistics - (data since 2000)

Current year observations depicted as a black points

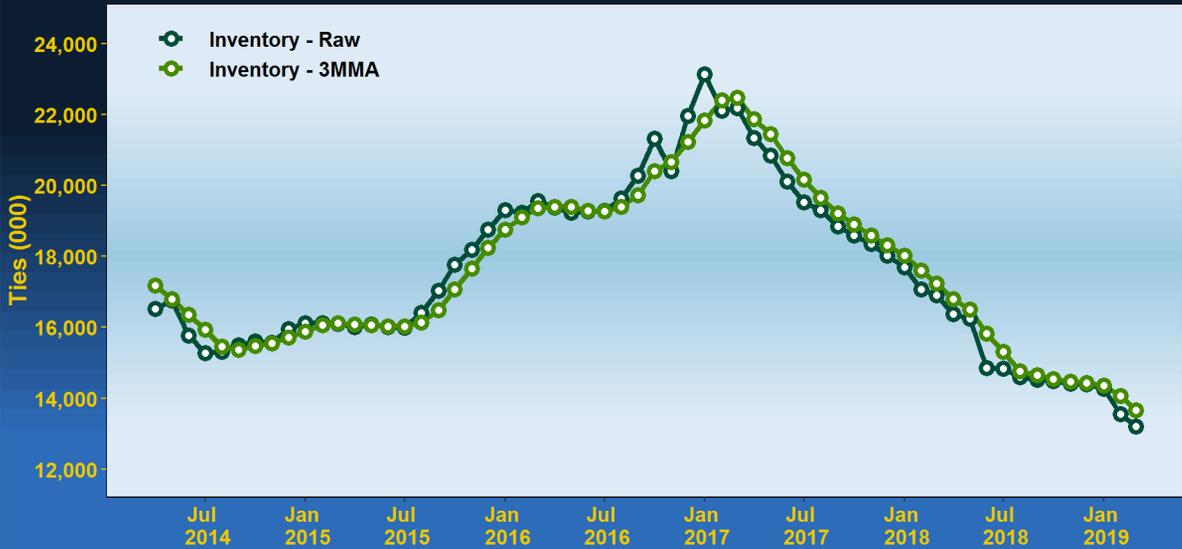


### Monthly Pattern of Production and Purchases Statistics - Percent of Annual Total

Data since January 1988



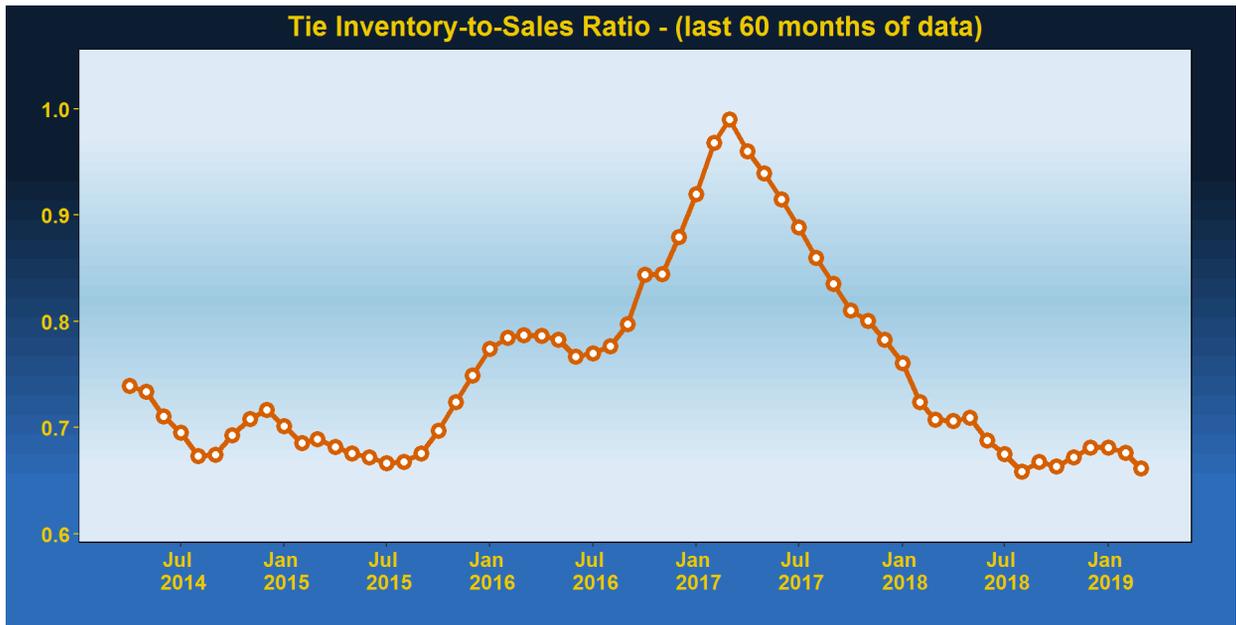
### Tie Inventory - Raw Monthly and 3MMA Data - (last 60 months of data)



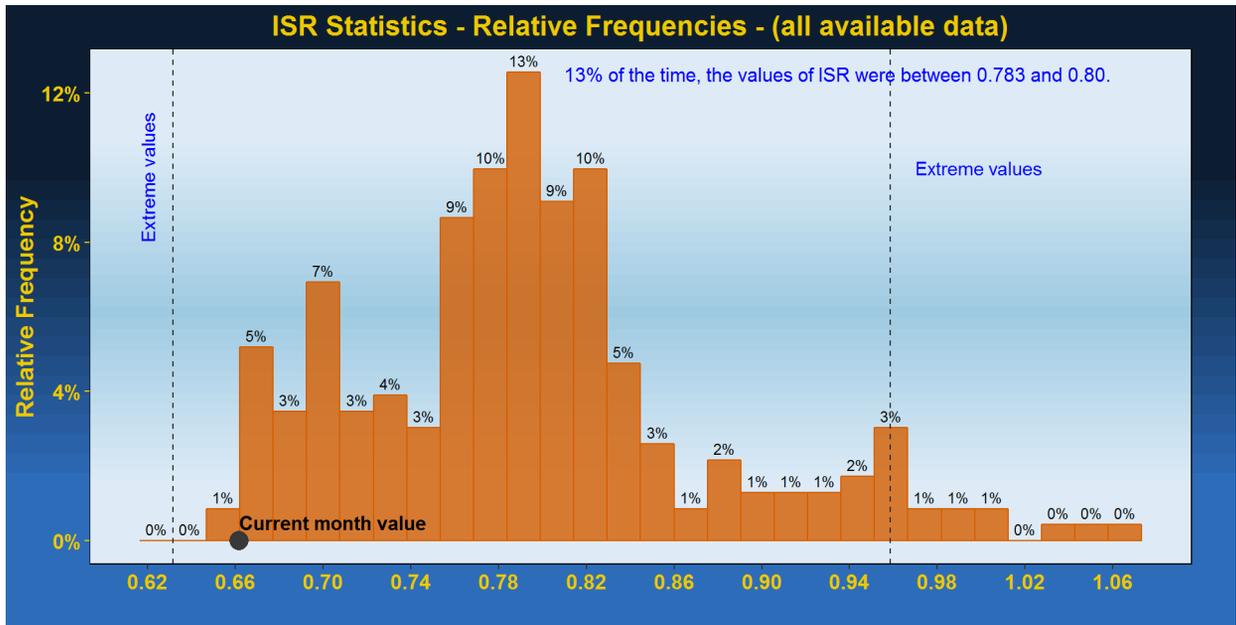
### Monthly Patterns of Inventory - (data since 2000)

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



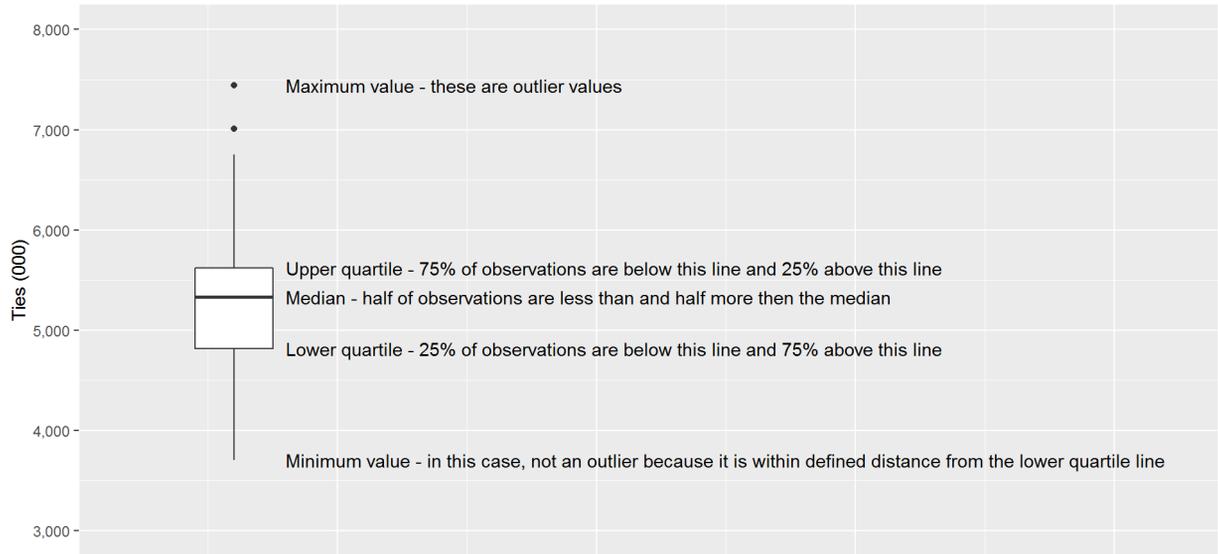


Inventory-to-Sales Ratio (ISR) histogram of relative frequencies shows the monthly ISR data distribution and the black point represents the value for the current reporting month.



# Appendix

## Box Plot Explained



## Histogram of Relative Frequencies Explained

