Purchases Report

January 2020

Table of Contents

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.

Highlights

In January, the production's long-term trend continued its upward trend while purchases showed a declining trend. January production was strong, above the median. On the other hand, purchases were weaker than usual for January. Thus, the inventory levels and inventory-to-sales ratio improved.

Long-Term Trends

In January, production advanced at a 7.6% annual rate.
Purchases declined at a 13% annual rate.
Inventory's 12 month moving average (12MMA) fell by 11.7% from year ago levels.
Inventory-to-Sales Ratio's 12MMA decreased from 0.69 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
January 2019	17,394	21,068	15,248	0.69
January 2020	18,717	18,319	13,464	0.68

Tie Production and Purchases - 12 Months Rolling Total

Tie Inventory - 12 Months Moving Average

Tie Inventory-to-Sales Ratio - 12 Months Moving Average
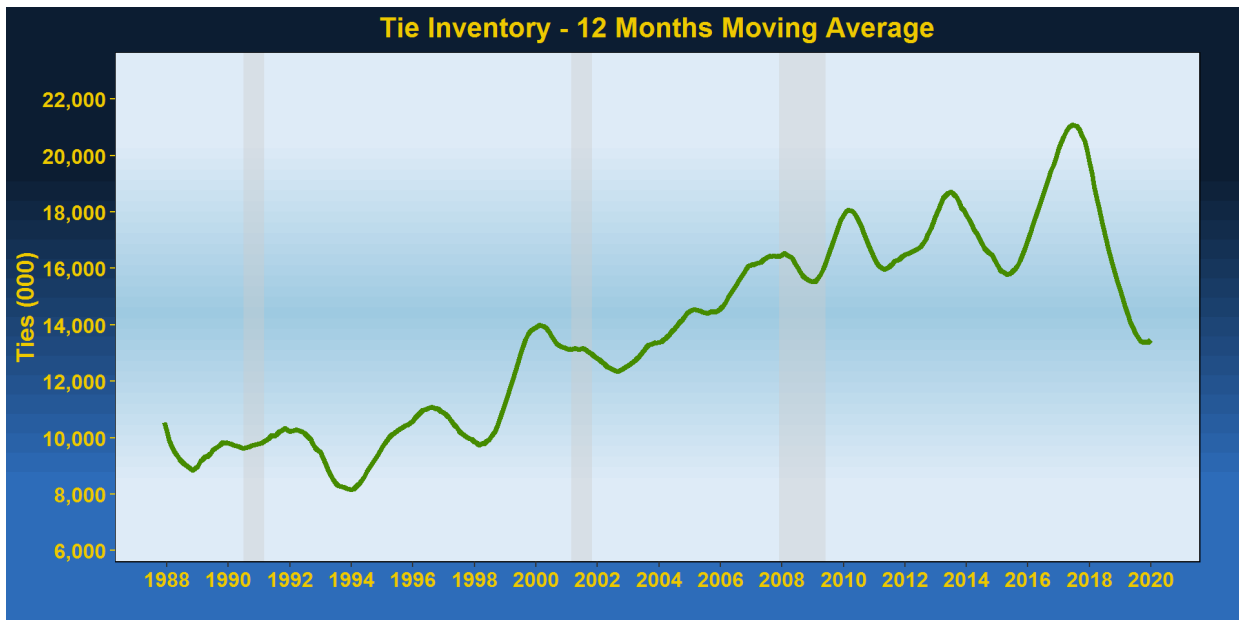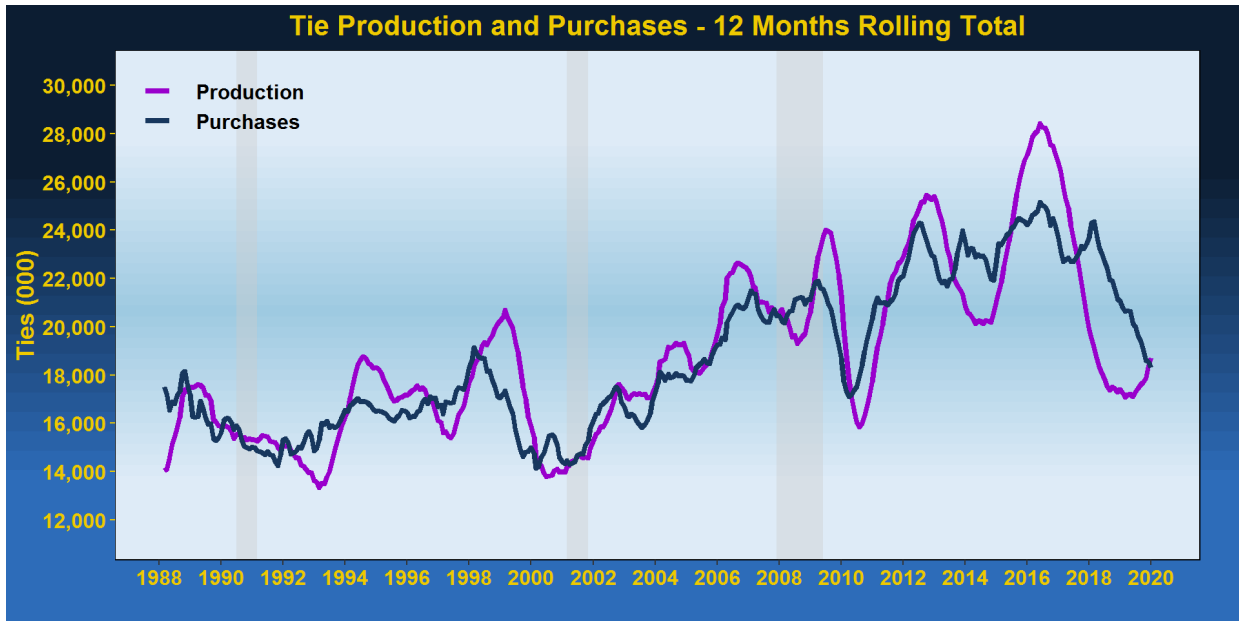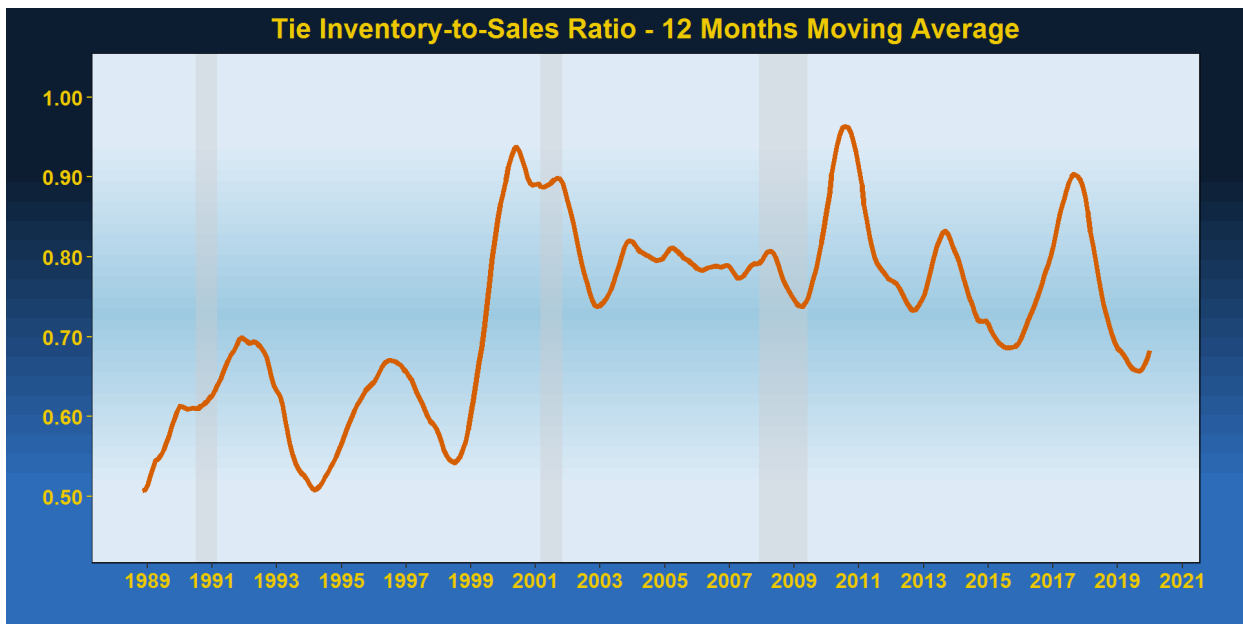
Analysis of Quarterly Data

Production in Q4 fell by 5.5% from last quarter and rose by 19% from year ago.
For the same intervals, purchases dropped by 33% and came down by 20.1% respectively.
Inventory's 3MMA rose by 11% from last quarter and decreased by 1.4% from year ago levels.
From Q3 2019 to Q4 2019, the 3MMA of Inventory-to-Sales Ratio grew from 0.64 to 0.73. Year ago, the ratio was 0.67.

Table of Quarterly Observations
Production and Purchases Quarterly Sum, Inventory and ISR - 3MMA

Date	Production	Purchases	Inventory	ISR
December 2018	4,063	4,285	14,429	0.67
September 2019	5,117	5,112	12,819	0.64
December 2019	4,837	3,423	14,233	0.73

Quarterly Tie Production and Purchases
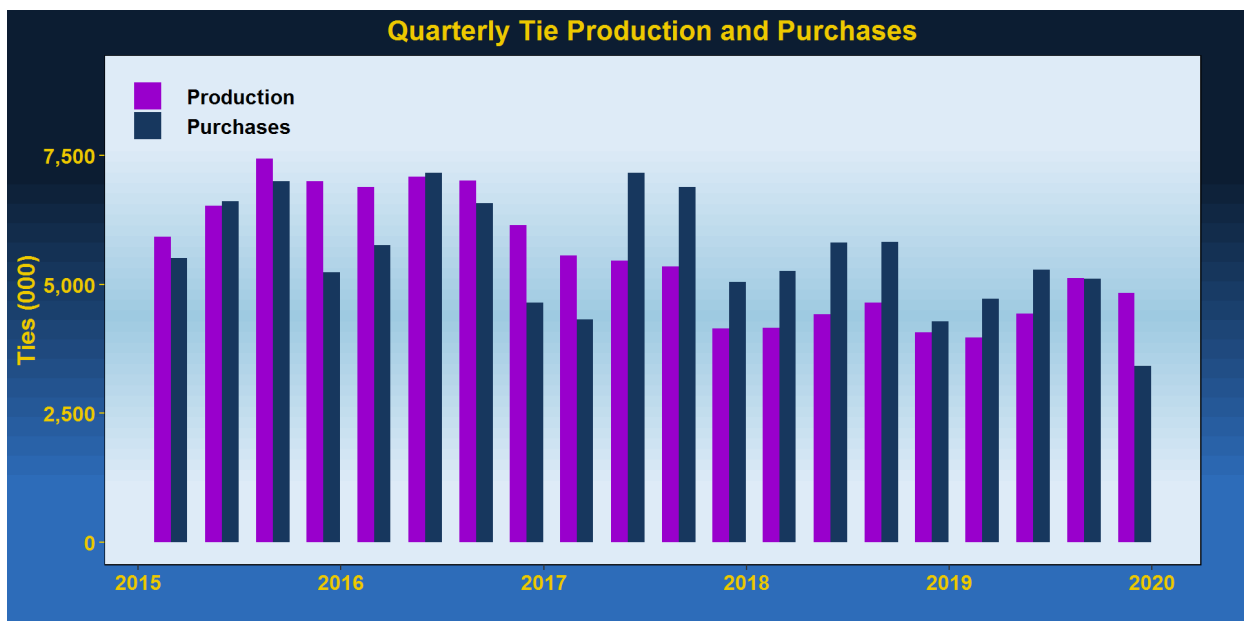
Quarterly pattern of production and purchases uses data from January 2000. The top graph shows data analysis within each quarter. It shows the median, upper quartile and lower quartile boundary (a more detailed explanation is available in the Appendix section). It also displays what the production and 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.
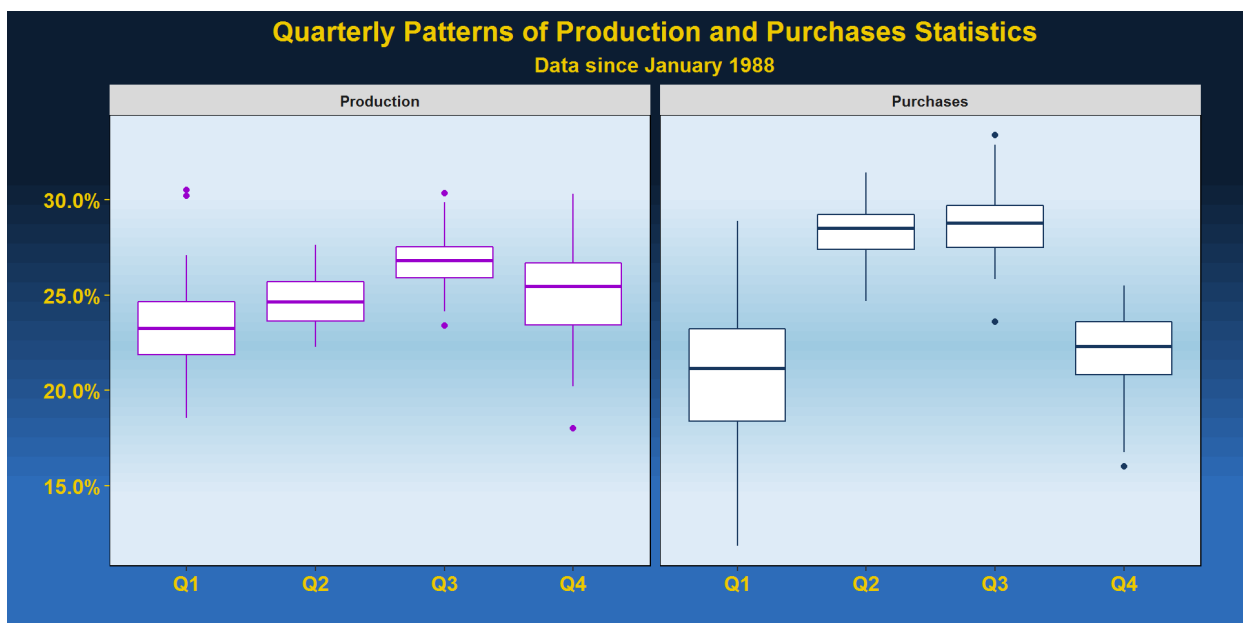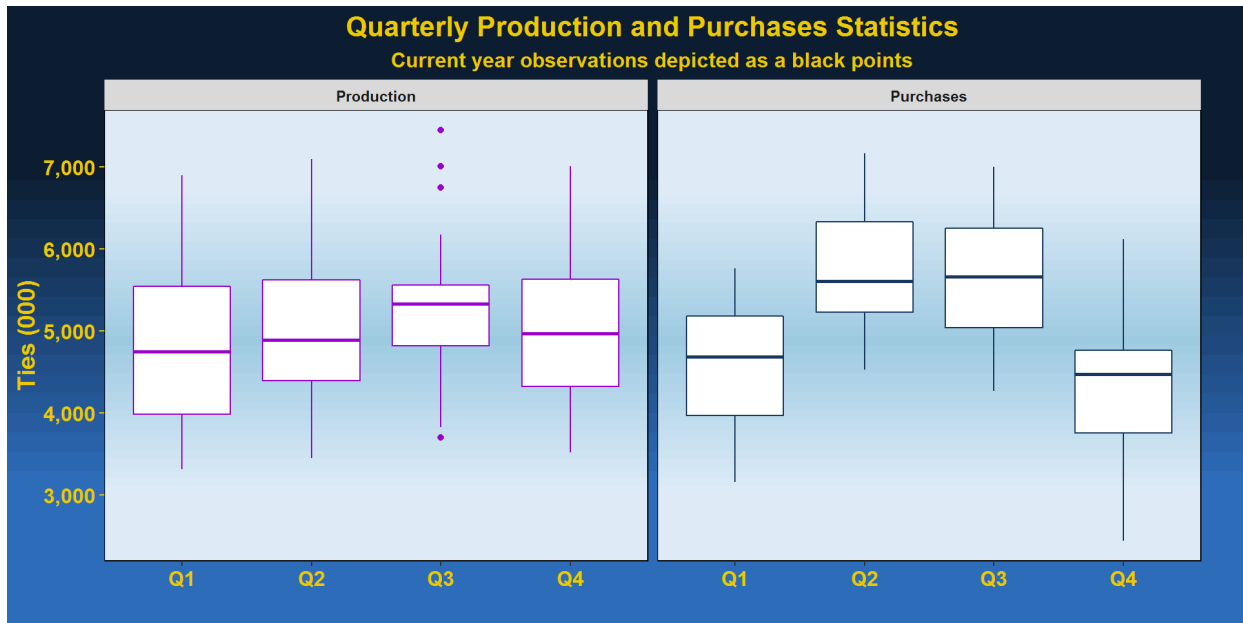
Analysis of Monthly Data

Production rose by 9% from last month and grew by 26.4% from year ago.
For the same time intervals, purchases expanded by 10.7% and declined by 15.5% respectively.
Inventory rose by 3.7% from last month and expanded by 2.8% from year ago levels.
From one month ago, the Inventory-to-Sales Ratio rose from 0.77 to 0.81, and from year ago, the ratio expanded from 0.68.

Table of Monthly Observations

| Date	Production	Purchases	Inventory	ISR
January 2019	1,395	1,468	14,356	0.68
December 2019	1,617	1,121	14,233	0.77
January 2020	1,762	1,241	14,754	0.81
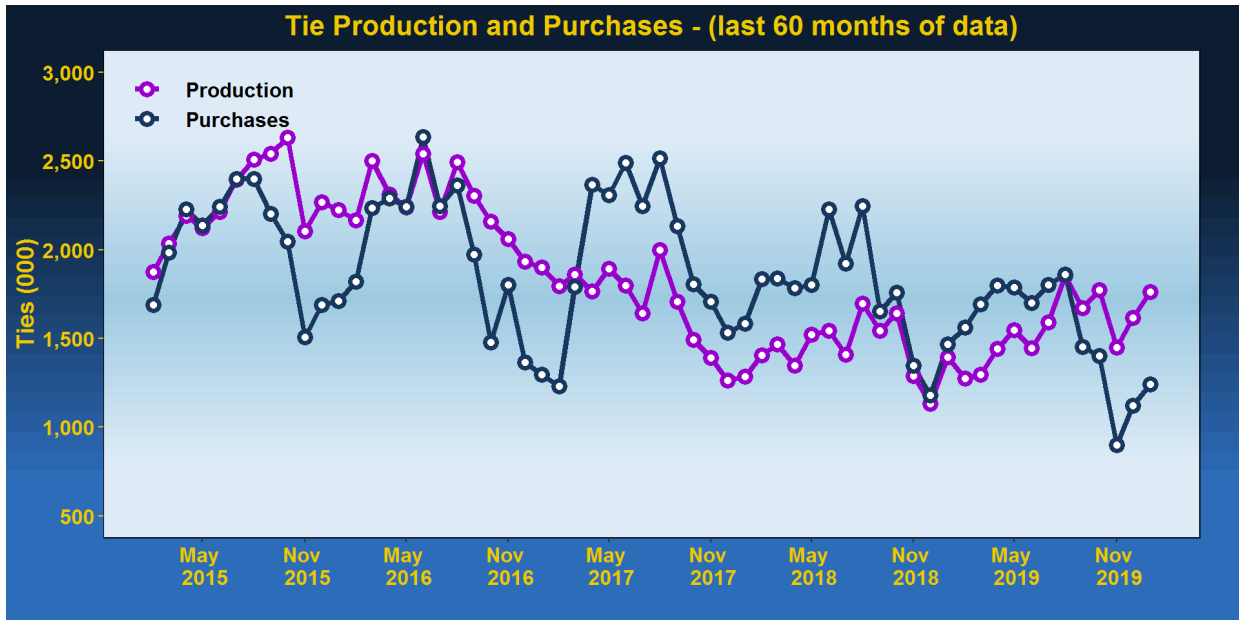
Sales-to-Production Ratio shows the replenishment/diminishment of inventory. Ratio above one signals diminishment and ratio below one replenishment of inventory stock.
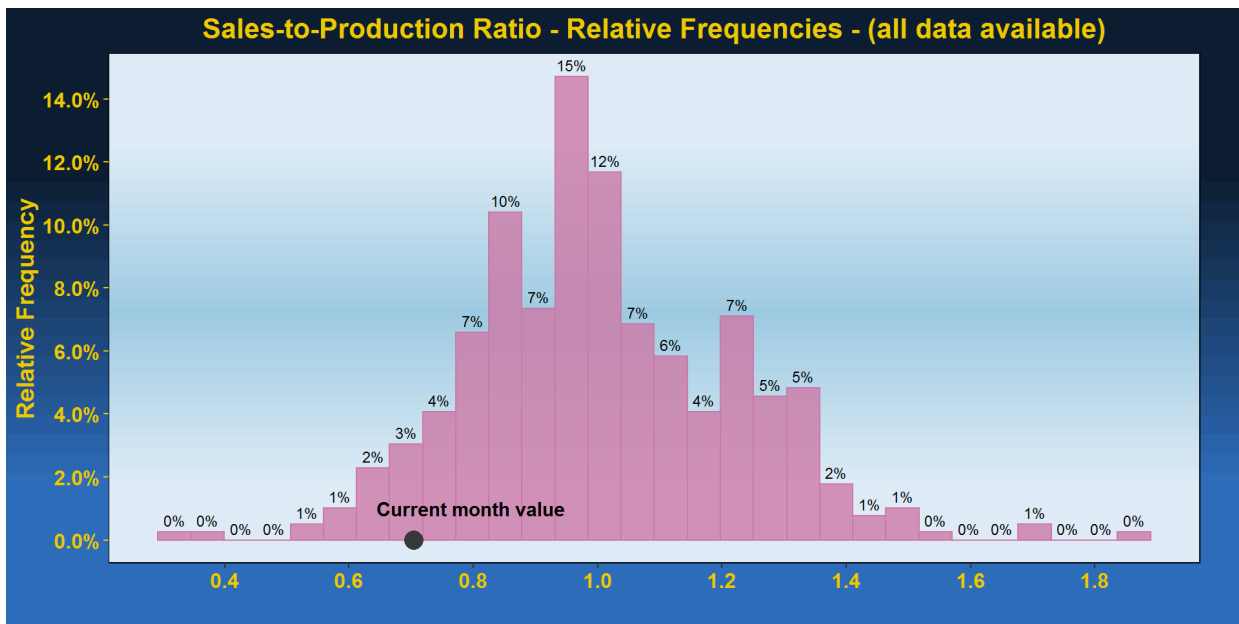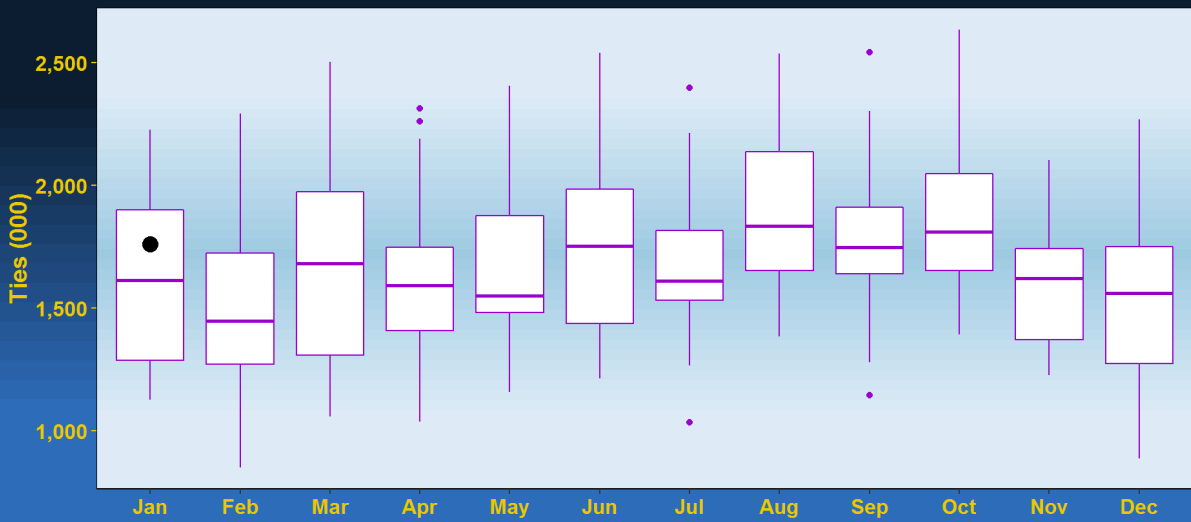

The folowing graph tells the same story as the graph above, just the ratio is reversed - Production-to-Sales Ratio.

Production-to-Sales Ratio - Relative Frequencies - (all data available)
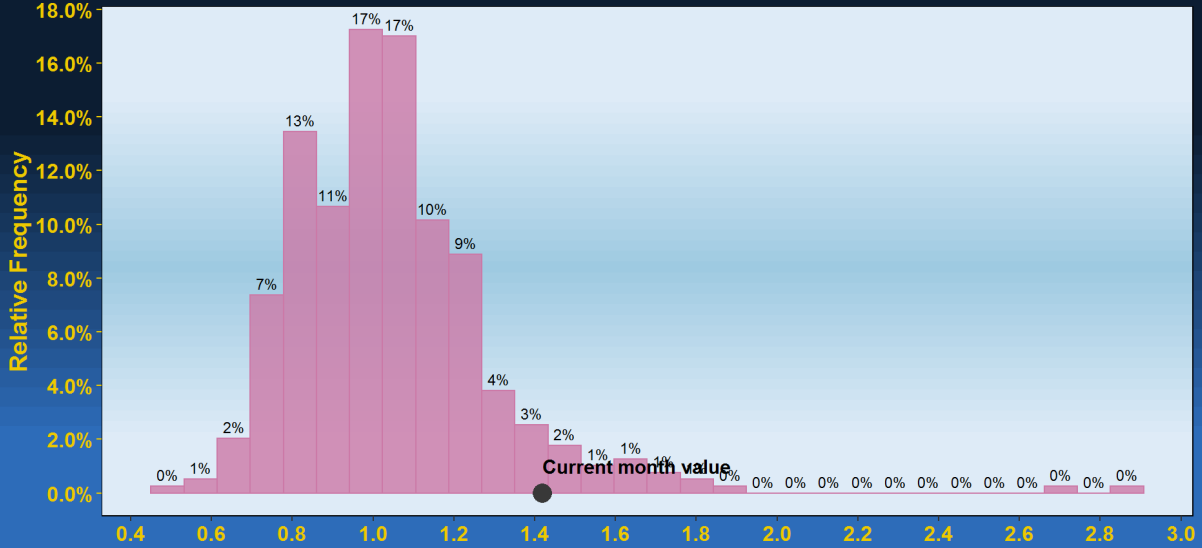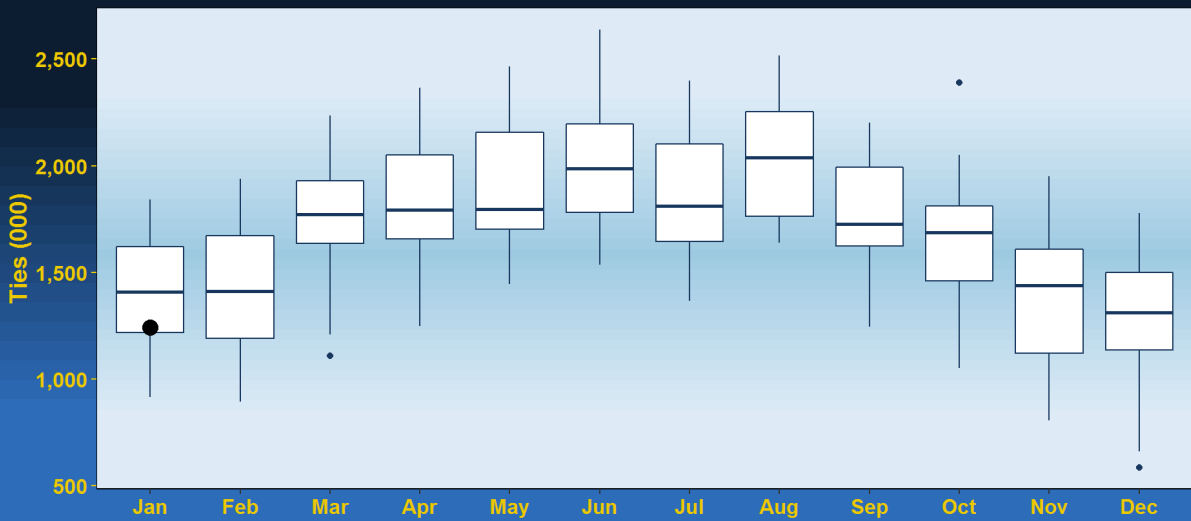
Monthly Production Statistics - (data since 2000)
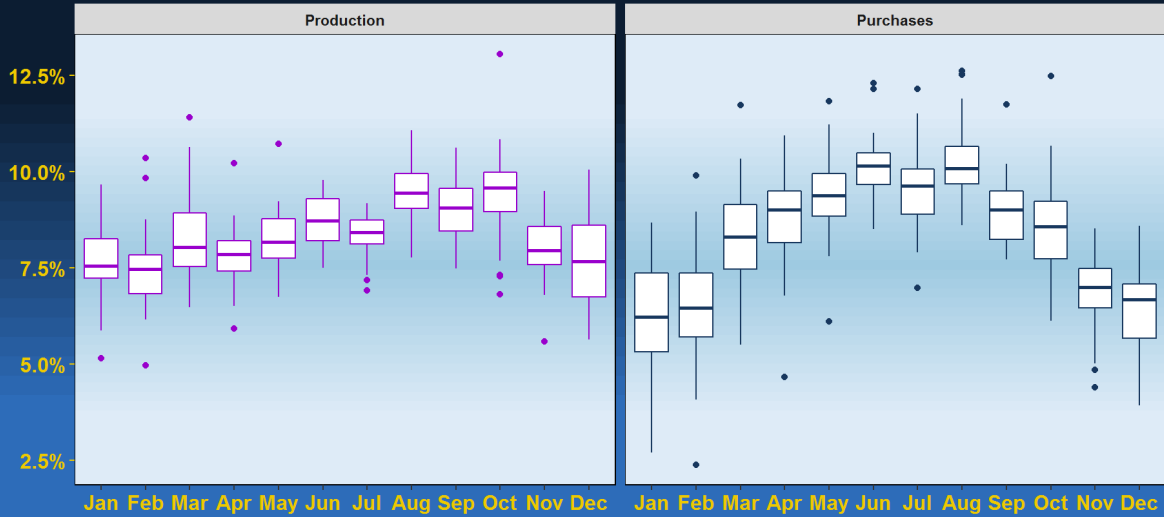Current year observations depicted as a black points

Monthly Purchases Statistics - (data since 2000)
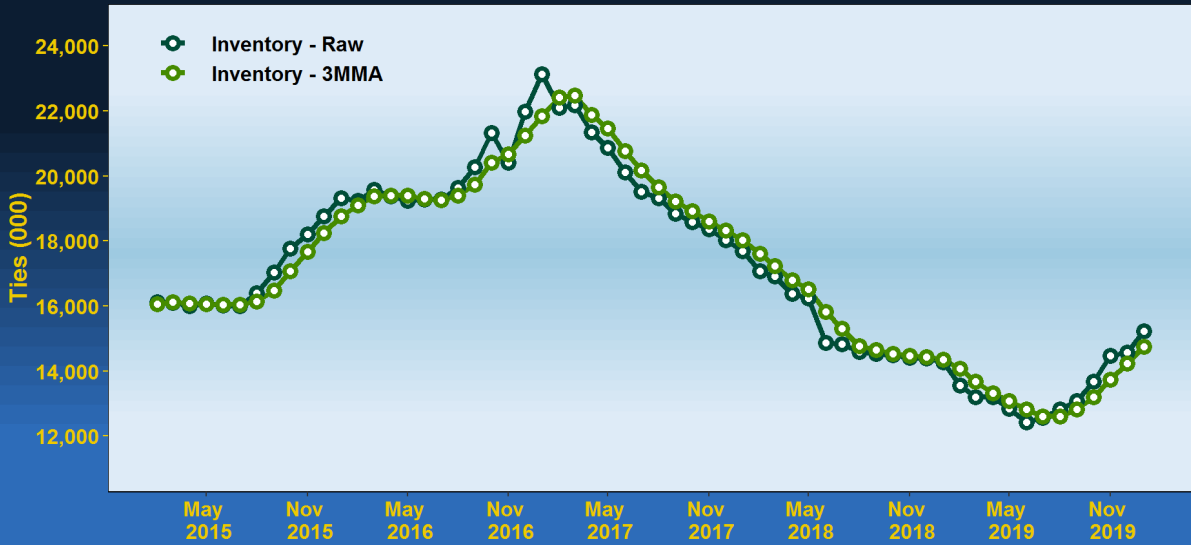Current year observations depicted as a black points

Monthly Pattern of Production and Purchases Statistics - Percent of Annual Total
Data since January 1988

Production	Purchases

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

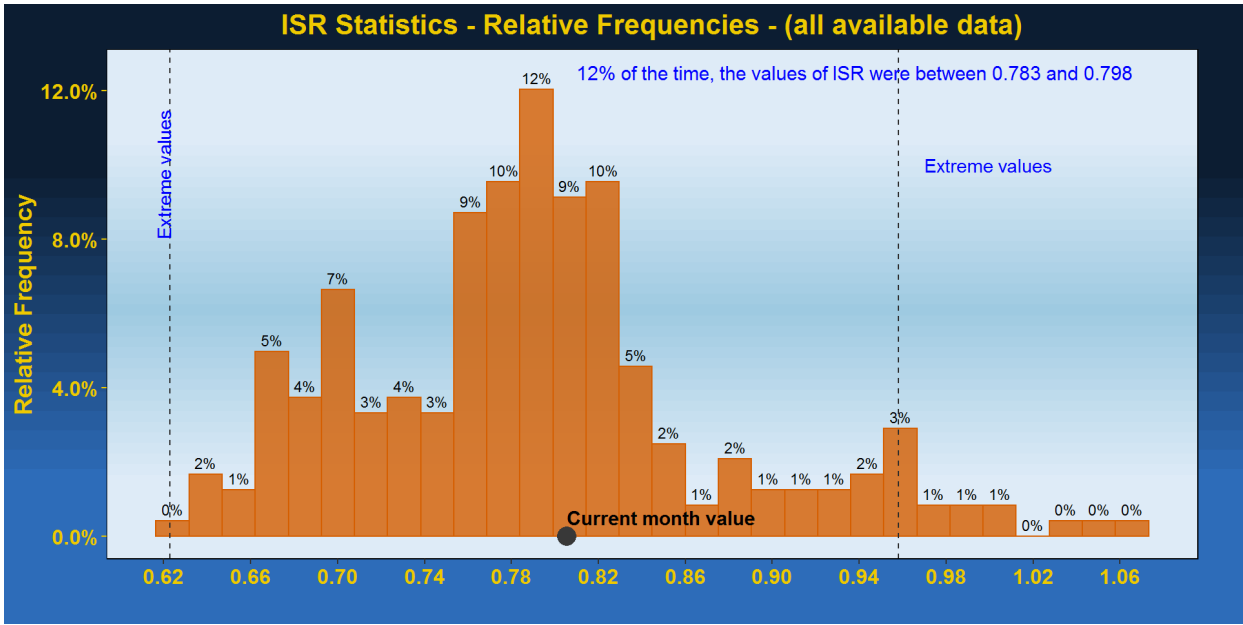- Inventory - Raw
- Inventory - 3MMA

Monthly Patterns of Inventory - (data since 2000)
Monthly average depicted with solid green line, current year observations depicted as a black points

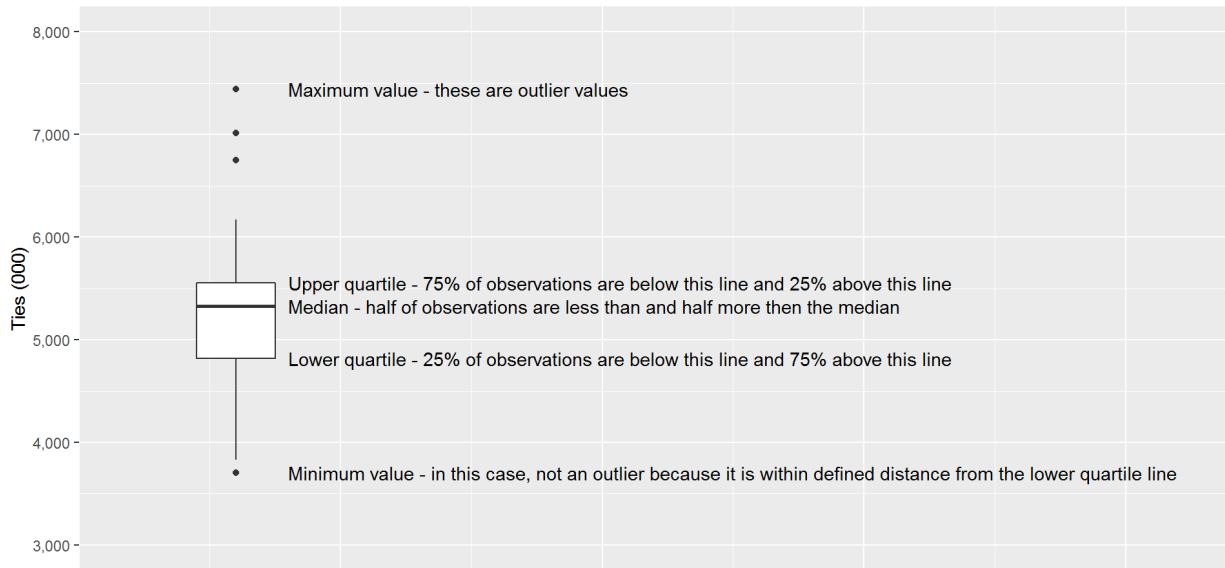**Tie Inventory-to-Sales Ratio - (last 60 months of data)**
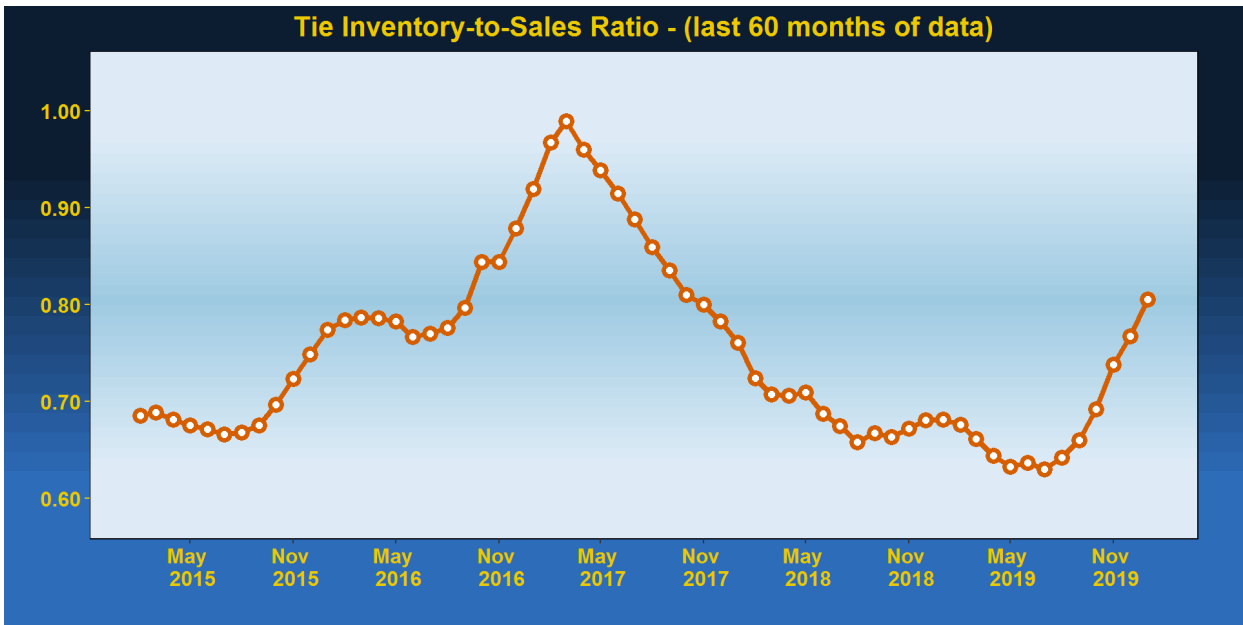
Inventory-to-Sales Ratio (ISR) histogram of relative frequencies shows the monthly ISR data distribution and the black point represents the value for the current reporting month.

ISR Statistics - Relative Frequencies - (all available data)

12% of the time, the values of ISR were between 0.783 and 0.798

Appendix

Box Plot Explained

Maximum value - these are outlier values

Upper quartile - 75% of observations are below this line and 25% above this line
Median - half of observations are less than and half more then the median

Lower quartile - 25% of observations are below this line and 75% above this line

Minimum value - in this case, not an outlier because it is within defined distance from the lower quartile line

Histogram of Relative Frequencies Explained

12% of the time, the values of ISR were between 0.795 and 0.81.