



TPC Semiconductor Market Survey

December 2024

December '24 Survey Summary

*Survey Date: 12/15-22 Respondents: ~5,900 Location: Worldwide (~80% Asia) Who: Active Electronics Industry Professionals
Response Composition (multiple choices): Industrial 33%, Auto 21%, Comm 20%, Computing 26%, Mobile 20%, Data Ctr 19%, Other 16%*
%

- Our latest monthly survey indicates C4Q showing modest improvement after being weaker over the previous 3 surveys; however, bookings continue to weaken. C1Q shows a weakening outlook with seasonality also weaker compared to last year.
- C4Q bookings also continues to weaken but is still significantly above the past 7 years Q4 data. However, C1Q bookings did improve slightly.
- The survey's inventory responses show little change vs. last month.
- We believe all of this continues to point to a slow recovery with some sectors recovery faster than others.
- Our C4Q24 outlook (slide 4) showed a slight improvement vs. last month. This month, 5% see it as better vs. 4% last month, with fewer responses indicating weakness. The bookings outlook for C4Q weakened vs. last month's outlook; but remained much stronger compared to previous years.
- Our C1Q25 outlook (slide 5) showed a weakening outlook vs. last month. This month, 5% see it as better vs. 9% last month with the seasonality outlook also weaker. The bookings outlook for C4Q was slightly better vs. last month's outlook and remained weaker compared to previous years.
- Overall book-to-bill trends (slide 7) are also trending downward.
- Cancellation/reschedules expectations (slide 8) remained close to neutral levels. We believe this is neither positive nor negative as inventory levels SLOWLY return to more nominal levels.
- Most key product inventories and availability (slides 9 & 10) remained in the average range. The exception is DRAM where HBM continues to impact availability and leadtimes.
- Inventory levels (slide 11) showed little change for C4Q and C1Q.
- Pricing trends (slide 12) also showed little change for both Q4 and Q1.

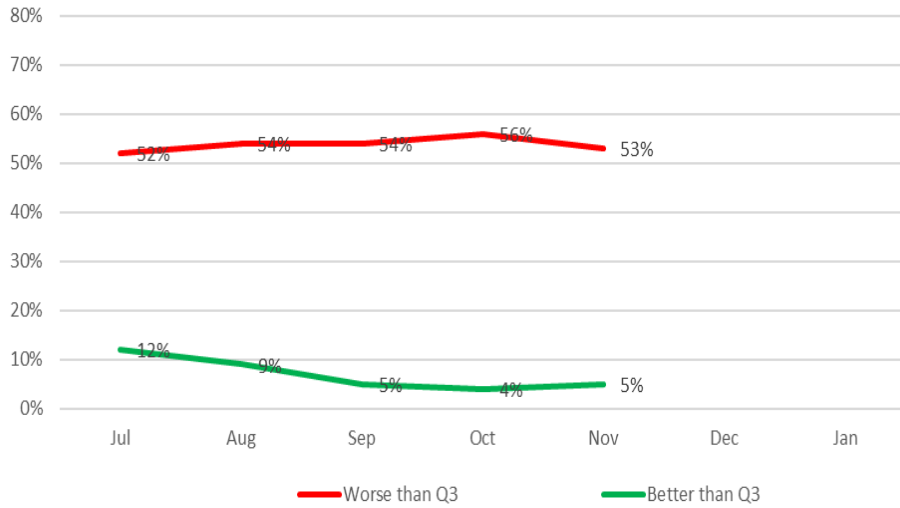
Survey Question Definitions

- **Outlook**
 - Do you anticipate end demand (billings) for the current quarter better, worse or the same vs. the previous quarter. Same question for the upcoming quarter.
- **Seasonality**
 - Do you see end demand (billings) for the current quarter seasonally better, worse or the same vs. the same quarter in previous years. Same question for the upcoming quarter.
- **Bookings**
 - Do you anticipate bookings for the current quarter better, worse or the same vs. the previous quarter. Same question for the upcoming quarter.
- **Inventory**
 - Do you see inventory for the current quarter better, worse or the same vs. the previous quarter. Same question for the upcoming quarter.

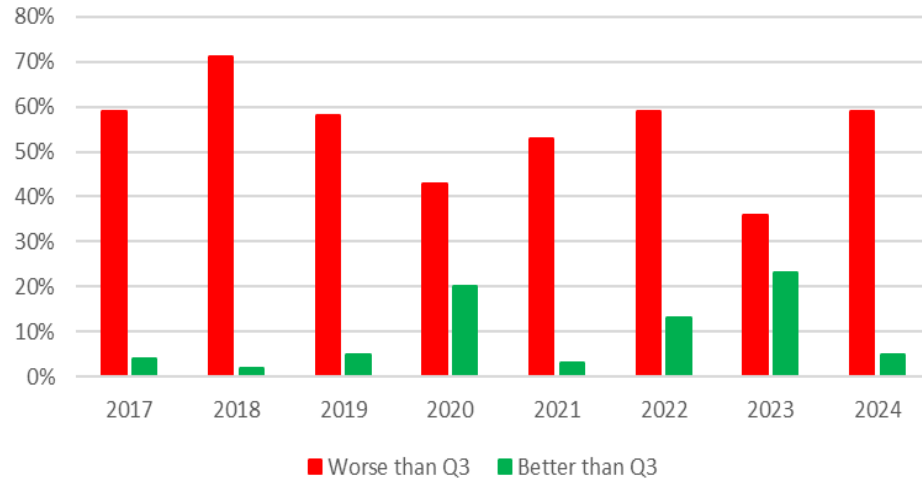
C4Q24 Outlook

C4Q outlook continues to show growth expectations weaker vs. last year.

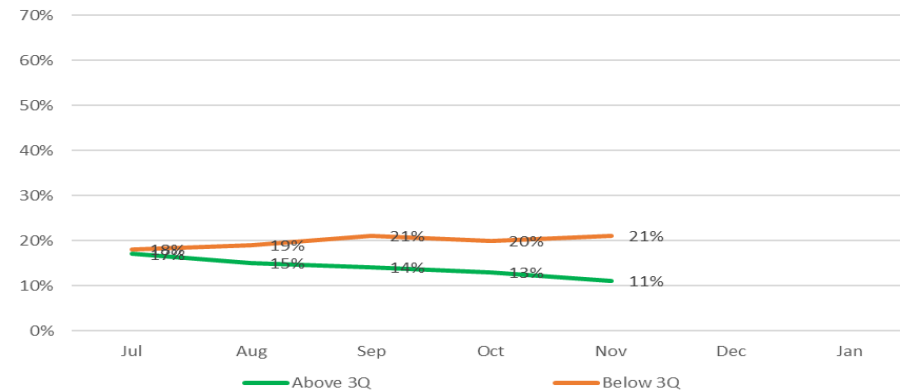
4Q24 Growth Expectations



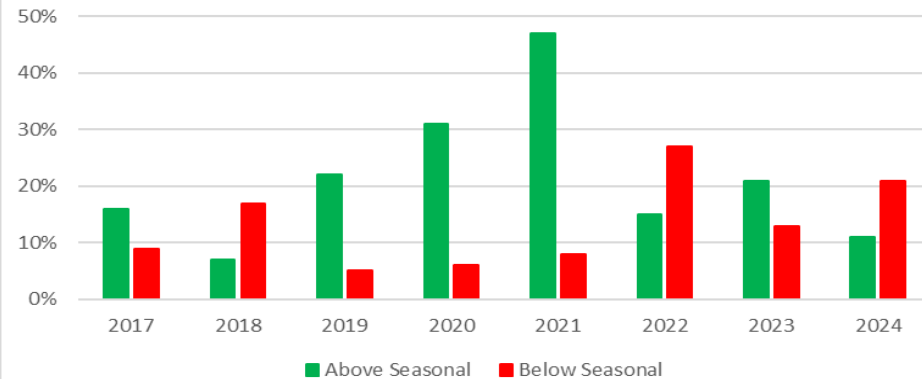
C4Q Growth Expectations



4Q24 Seasonality Expectations



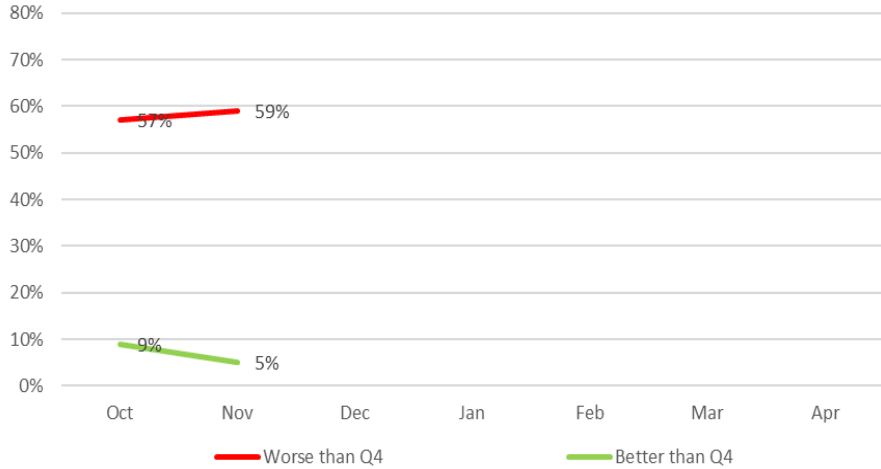
C4Q Seasonality Expectations



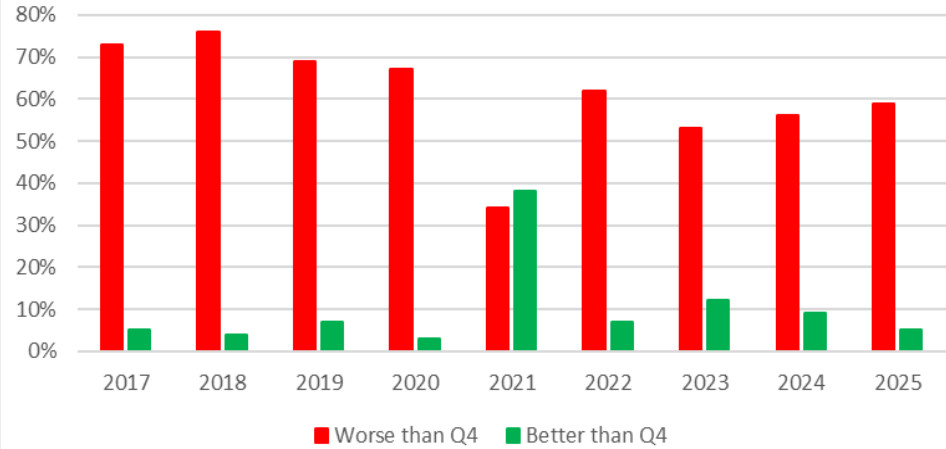
C1Q25 Outlook

C1Q's outlook shows weaker expectations vs. last year.

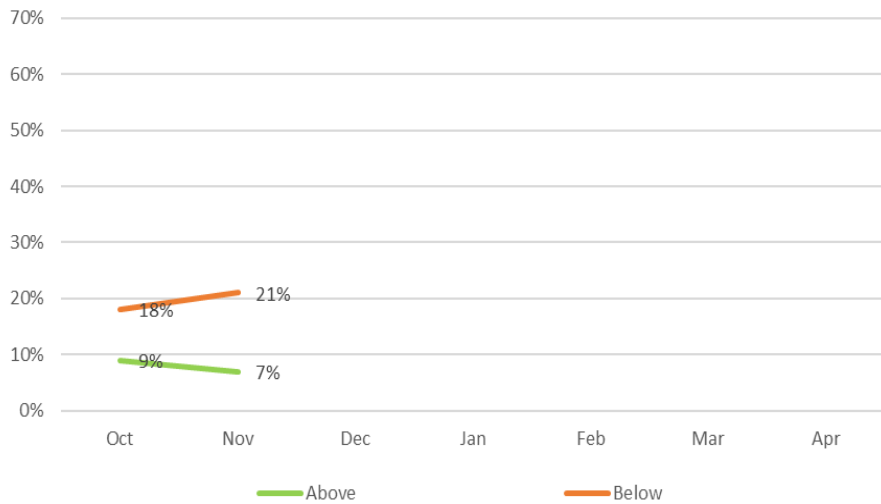
C1Q25 Growth Expectations



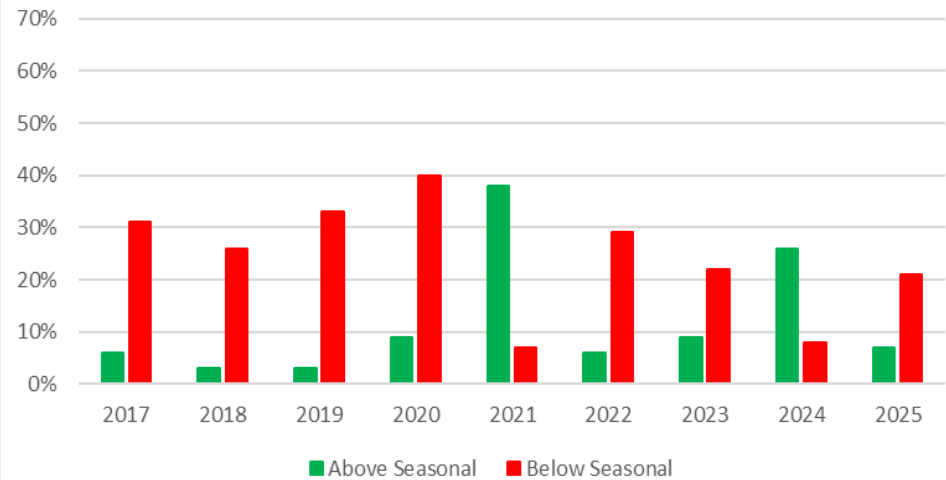
C1Q Growth Expectations vs. C4Q



C1Q25 Seasonality Expectations



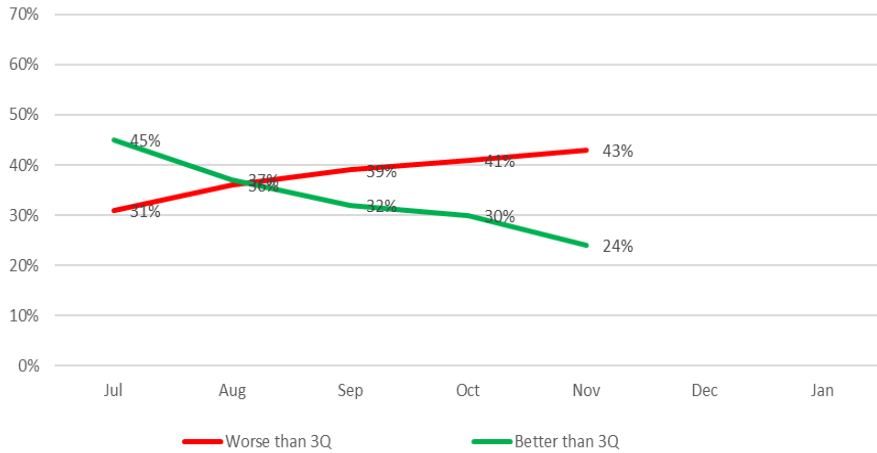
C1Q Seasonality Expectations



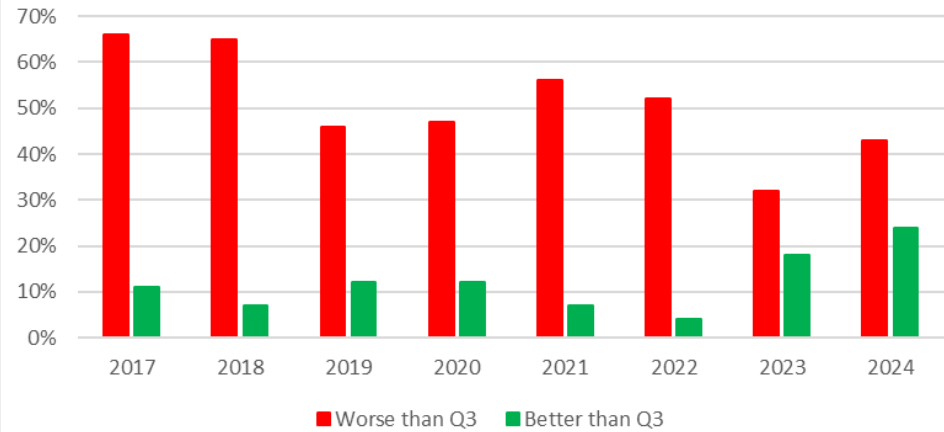
Bookings Outlook

C4Q booking outlook has continued to weaken over the last 3 months.

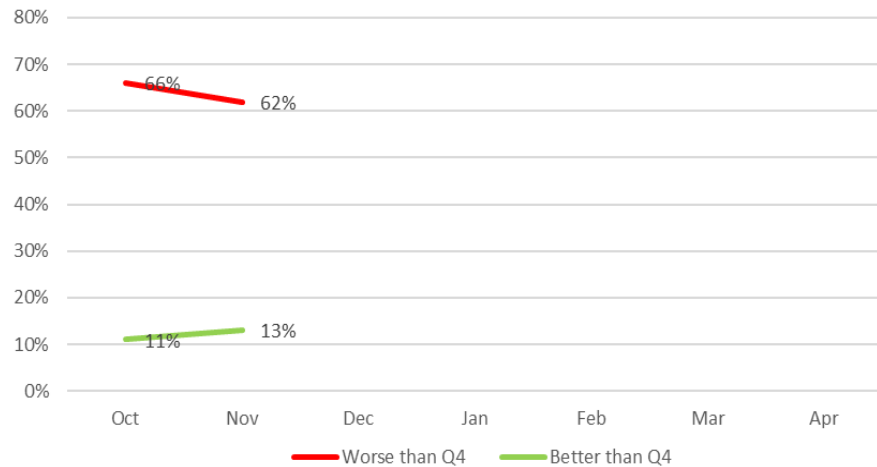
4Q24 Bookings Expectations



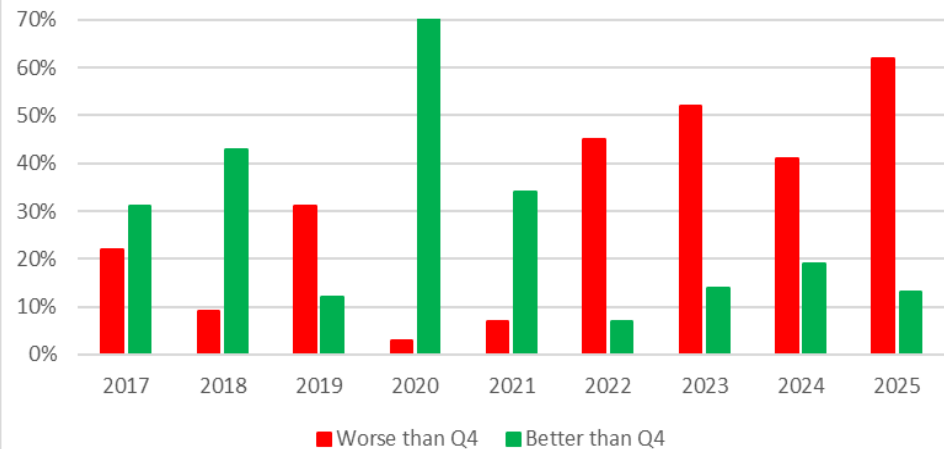
C4Q Bookings Expectations



C1Q25 Bookings Expectations

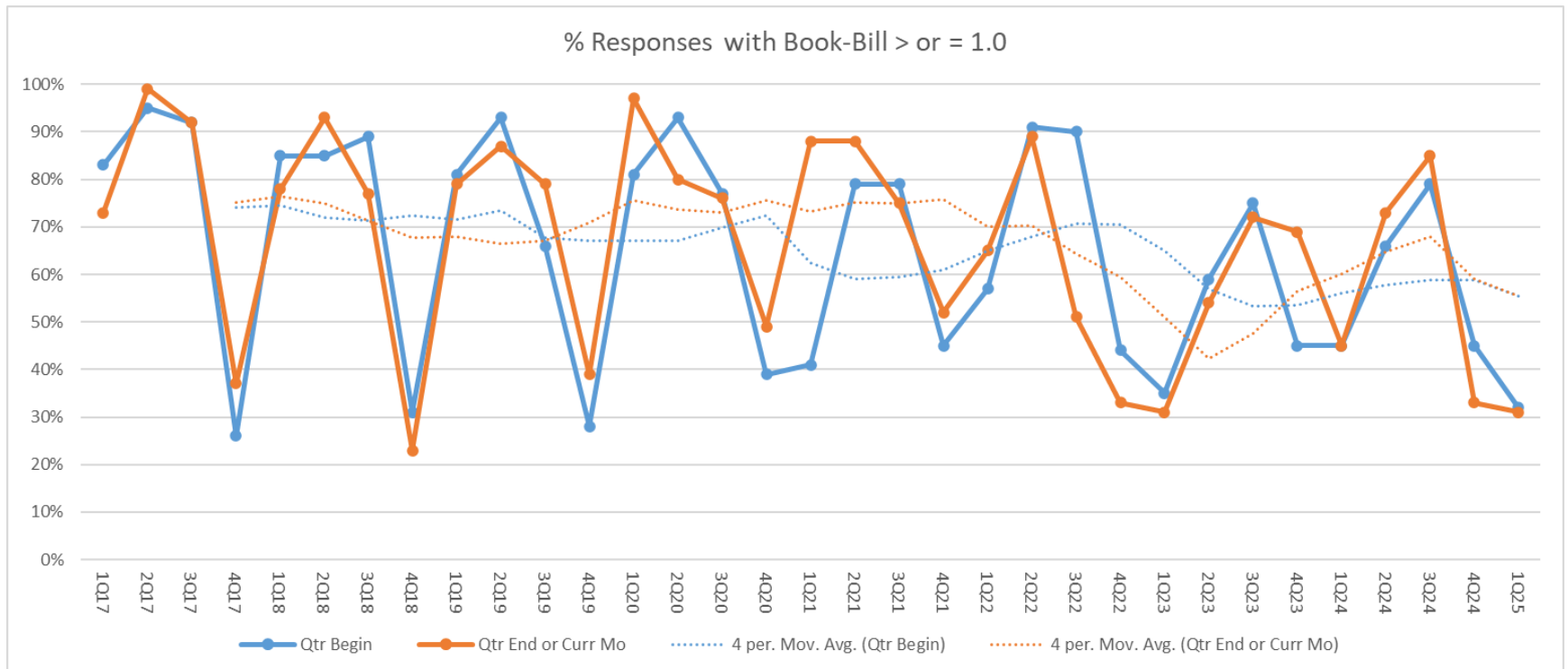


C1Q Bookings Expectations



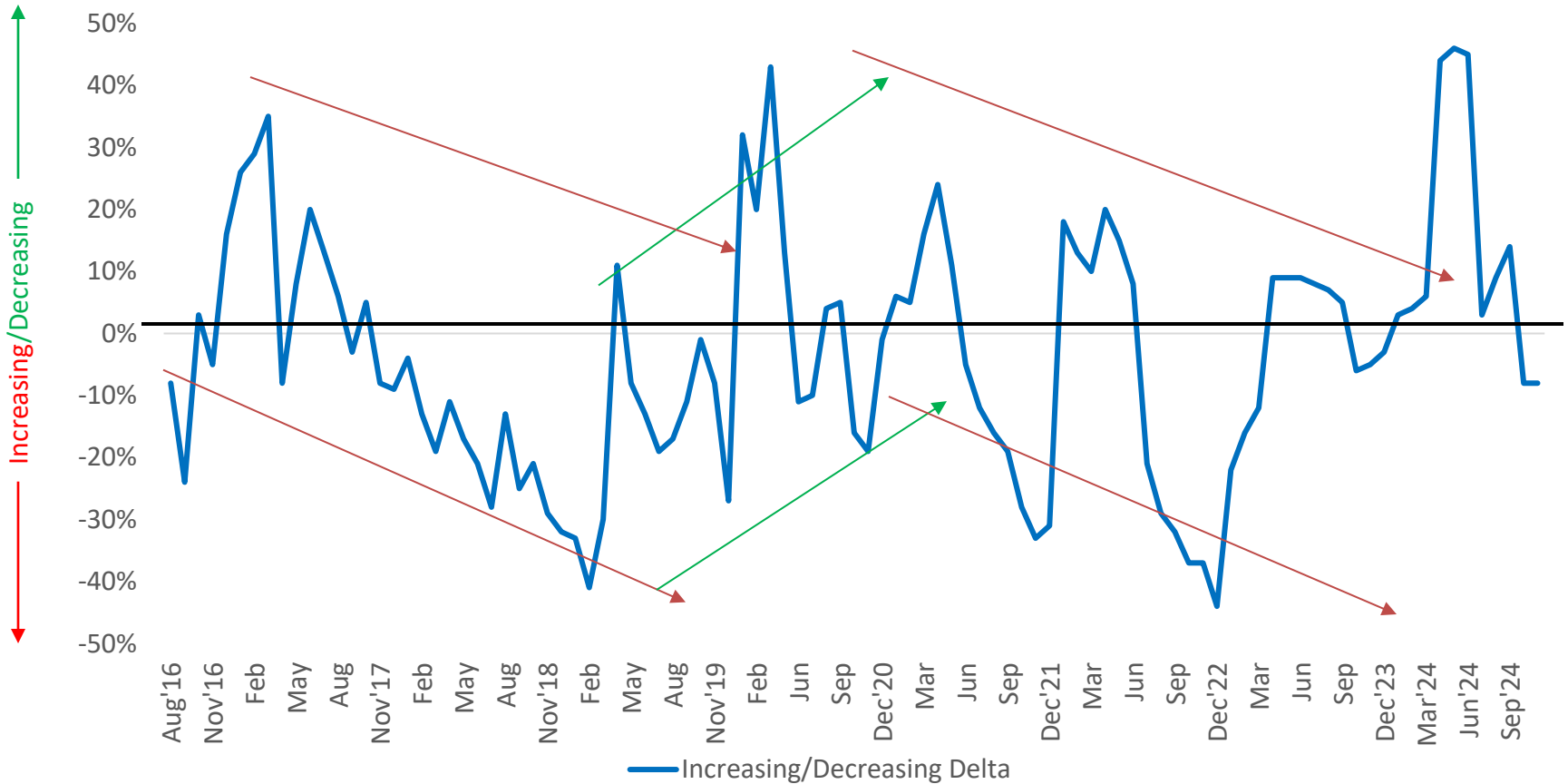
Book to Bill History & Trends

(Calendar quarters)



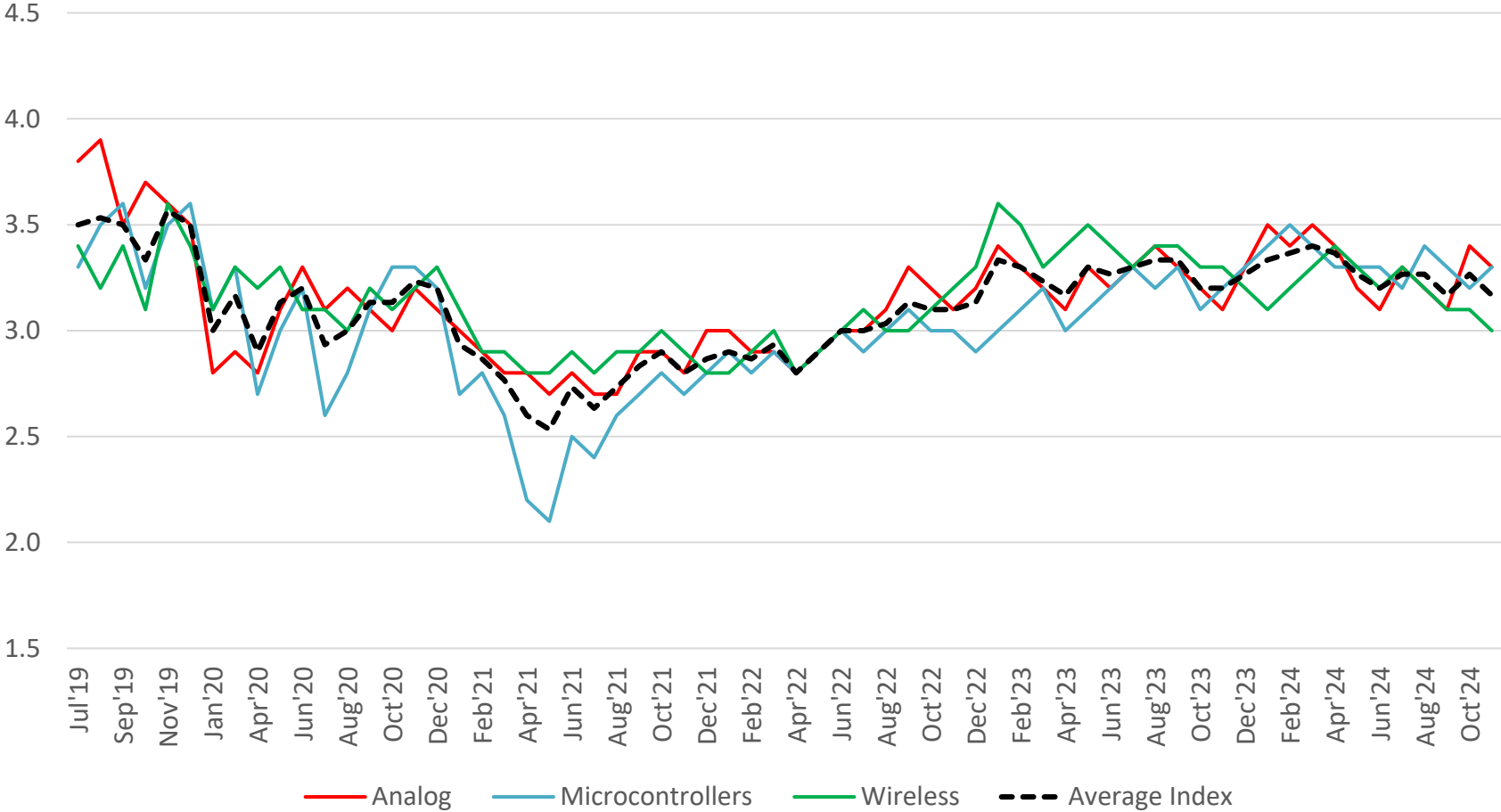
Backlog Order Push Outs/Cancellations vs. 30 Days Ago

(Delta between increasing and decreasing cancellations – Higher % is more positive)



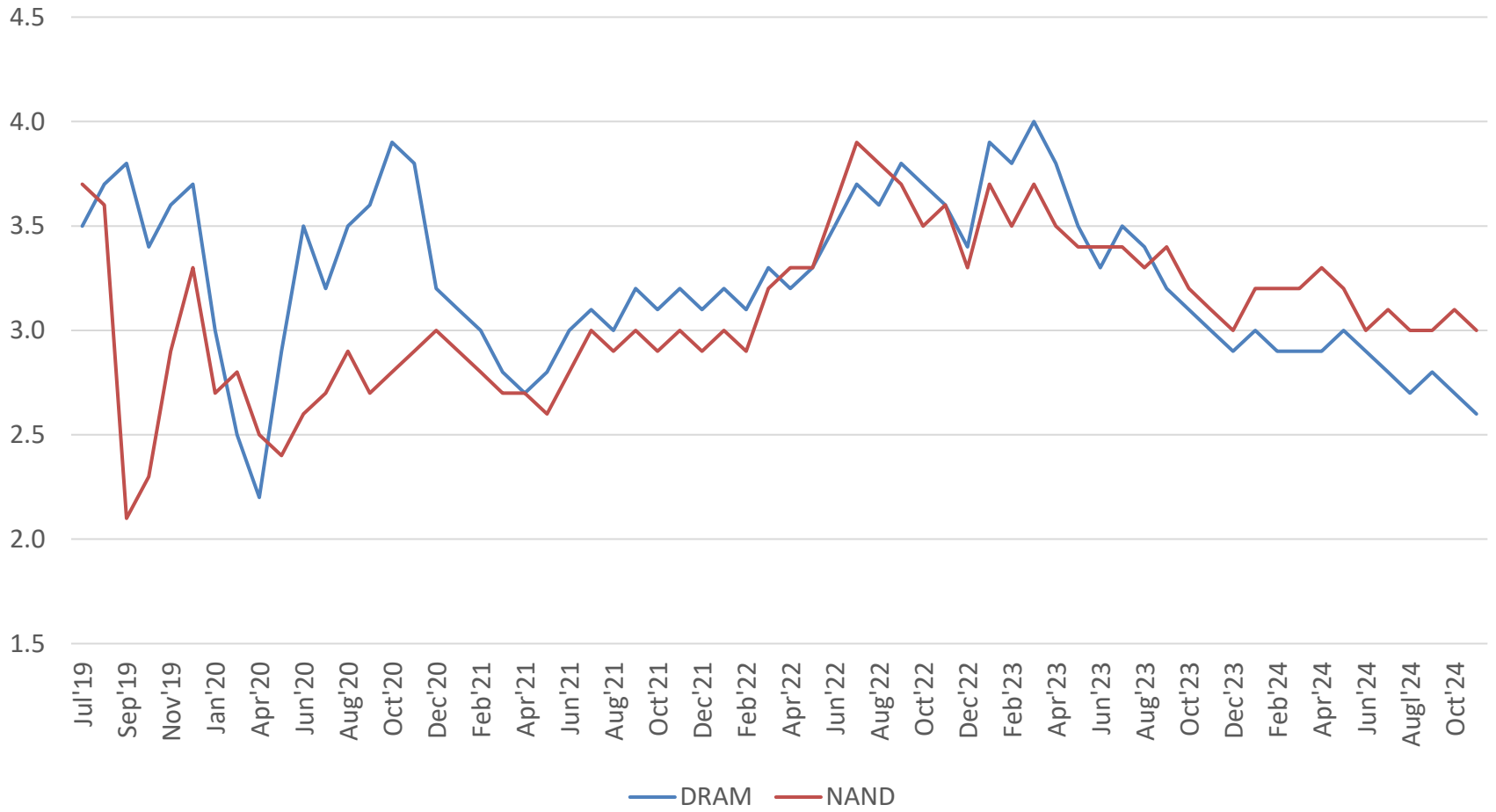
Component Inventory Status (x-Memory)

(Using a scale of 1 to 5 with 1 being extremely low inventory, 3 being the normal amount, and 5 being extremely high; how do you view inventory levels for the following products?)



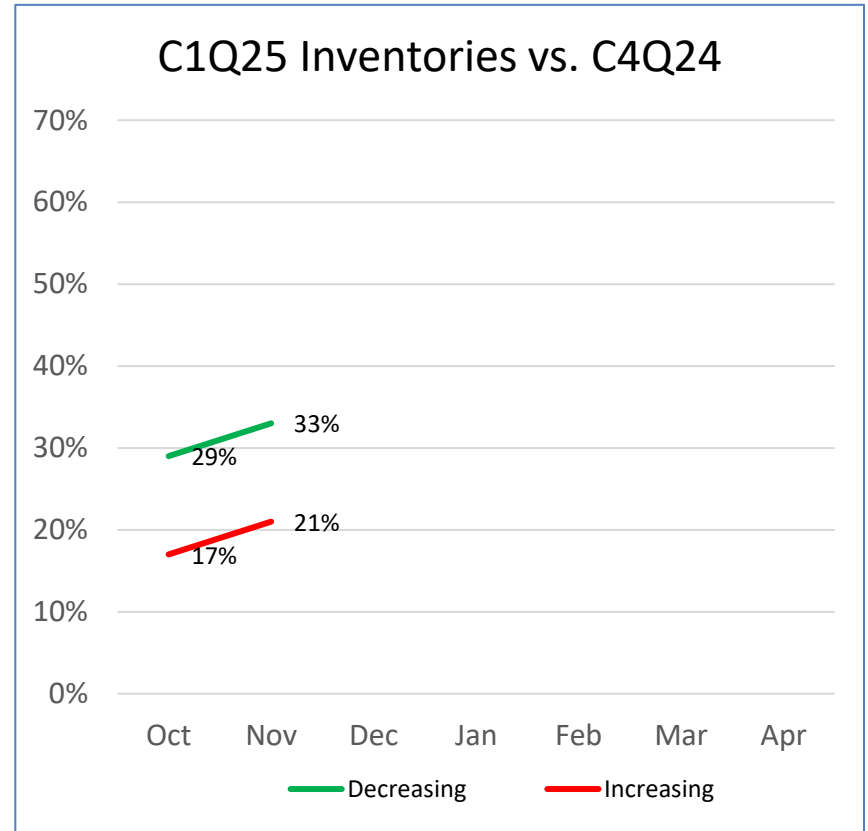
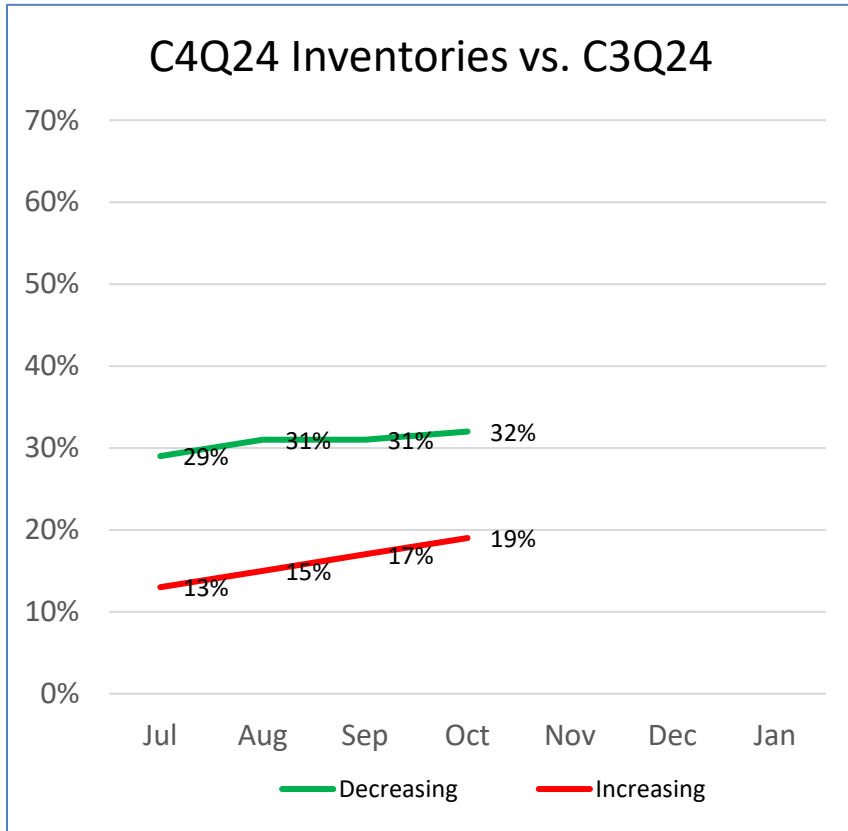
Memory Inventory Status

(Using a scale of 1 to 5 with 1 being extremely low inventory, 3 being the normal amount, and 5 being extremely high; how do you view inventory levels for the following memory products?)



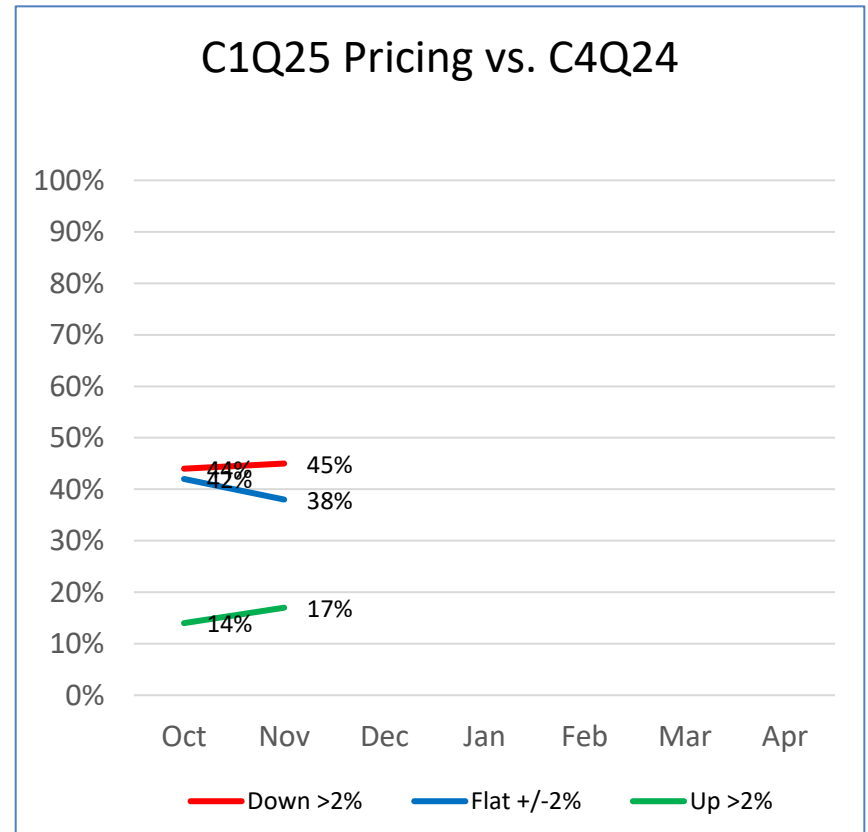
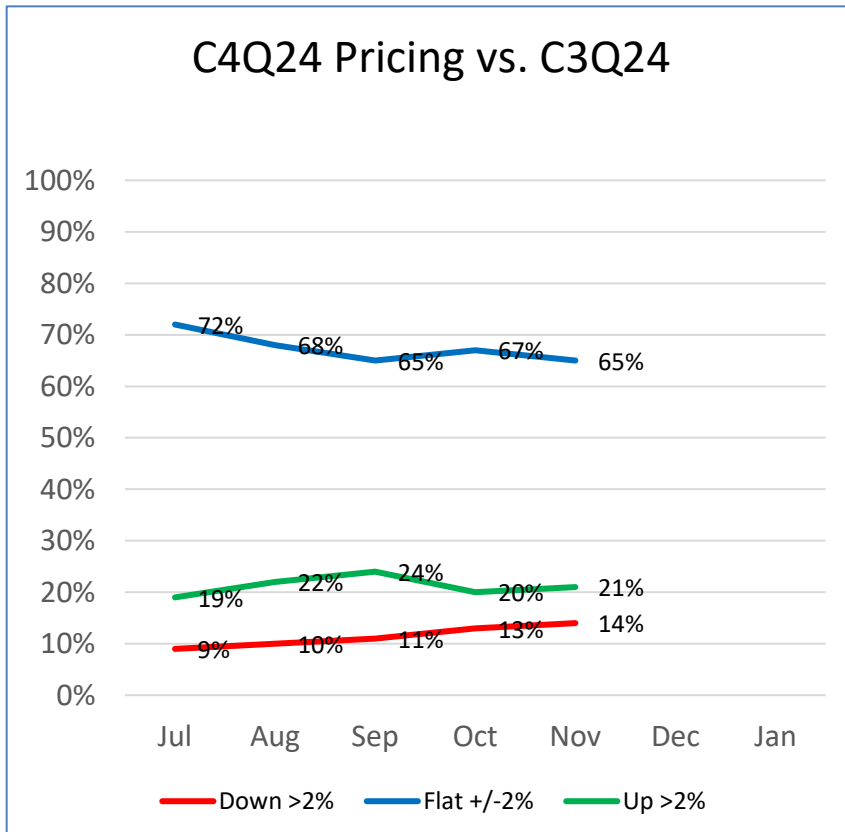
Q/Q Inventory Growth

Inventory levels showed little changes for C4Q and C1Q.



Q/Q Pricing Trends

Pricing appears to be stabilizing for Q4 and looking into Q1.



Vertical Outlook

Industrial continues to weaken over the past year.

Consumer continues to rebound.

