



# **TPC Semiconductor Market Survey**

**December 9, 2021**

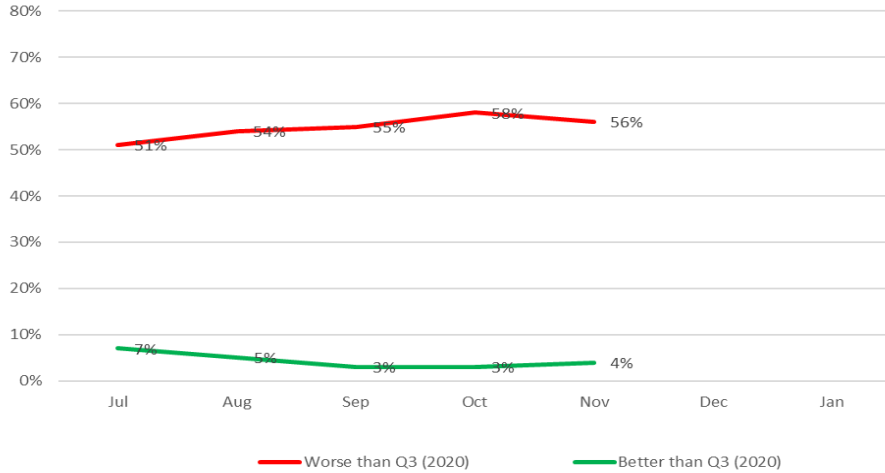
# TPC November 2021 Survey Summary

*Survey Date: 12/3-12/6 Respondents: ~8,800 Location: Worldwide (~80% Asia) Who: Active Electronics Industry Professionals  
Response Composition (multiple choices): Industrial 39%, Auto 19%, Comm 19%, Computing 20%, Mobile 30%, Data Ctr 18%, Other 17%*

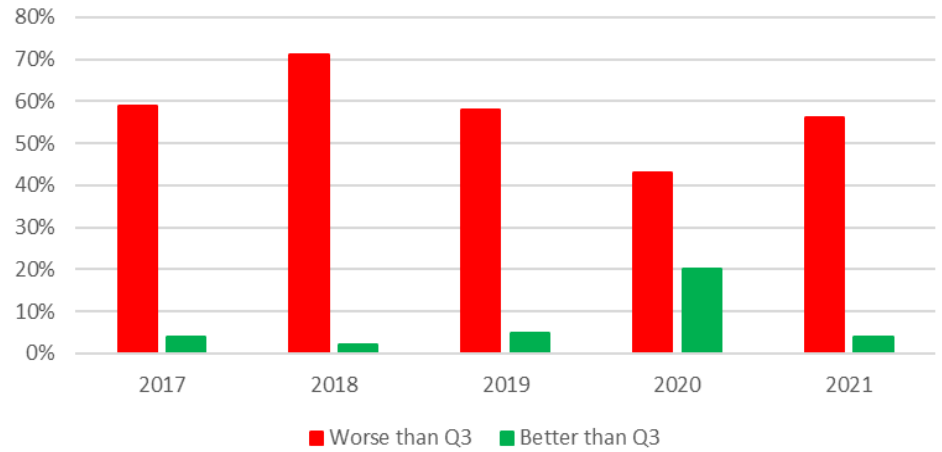
- We recently completed our monthly survey (~8,800 respondents) which saw a slight increase in C4Q21 outlook for growth while showing a decrease in C1Q22's growth outlook. The same was true for seasonality. However, C4Q is still being viewed by respondents as above seasonal vs. the last 4 years.
- Our C1Q22 outlook shows a return to more normal pre-COVID expectations, but still slightly better seasonality vs. CY18 & 19. However, the bookings outlook for C1Q22 is markedly weaker vs. CY18 & CY19. This could be a possible harbinger of weaker component demand heading into C2Q22 and 2H22.
- Based on our survey's past 3 months of more negative growth outlook, as well as seeing a continued increase in inventories, we believe we are still in the beginning stages of an inflection in demand. However, this will likely take a couple of quarters to play out.
- The survey showed C4Q21 improving vs. last month with 4% expecting q/q growth vs. 3% previously; while 56% see it as weaker vs. 58% last month.
- The survey showed C1Q22 outlook weaker vs. last month with 8% expecting q/q growth vs. 11% previously; while 59% see it as weaker vs. 57% last month.
- Backlog cancellation expectations (slide 7) has now shown increases in cancellations over the past 5 months and is close to a 5 year high.
- Key product inventory and availability (slide 8) also continues to improve with DRAM and NAND now slightly above normal levels while most other key products are at or just under nominal levels.
- Inventories growth (slide 9) has appeared to ratcheting up again for both C4Q and C1Q.

# Q/Q Demand Growth Outlook

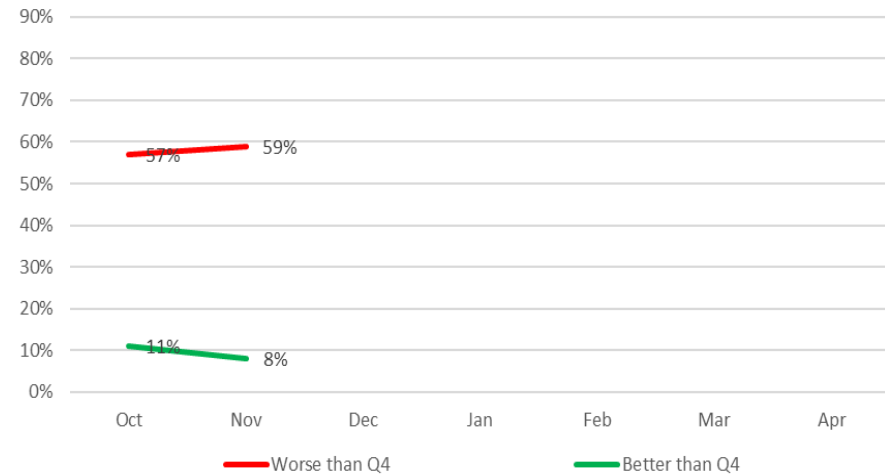
### 4Q21 Growth Expectations



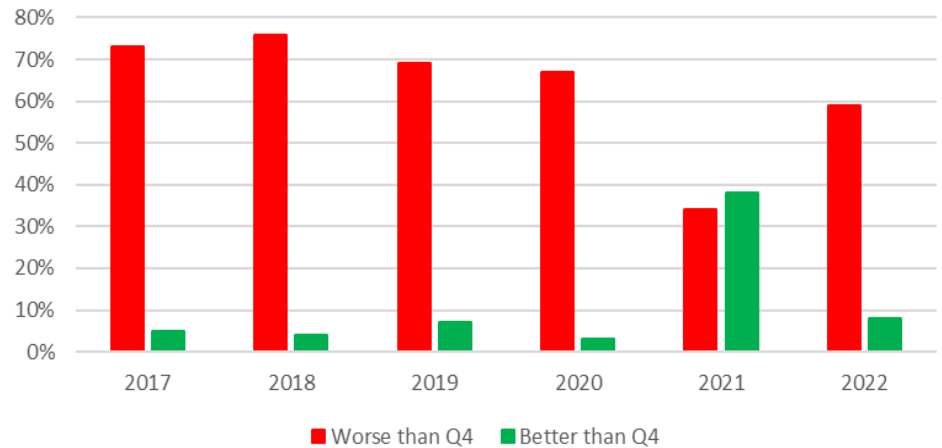
### C4Q Growth Expectations vs. C3Q



### C1Q22 Growth Expectations

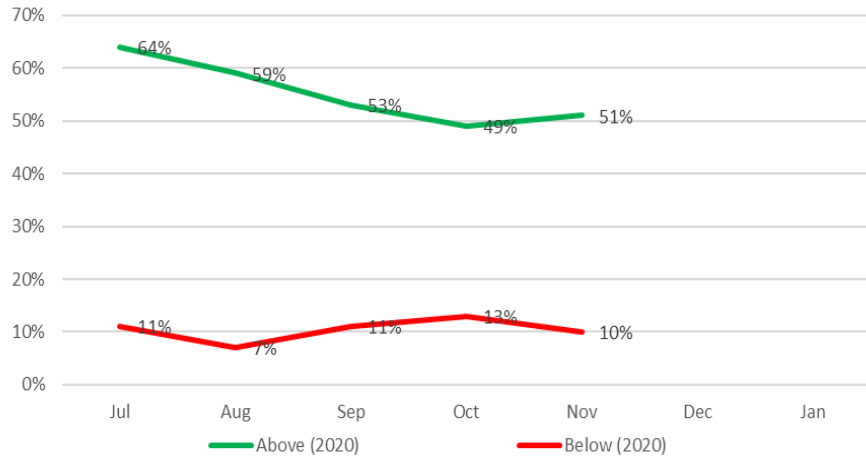


### C1Q Growth Expectations vs. C4Q

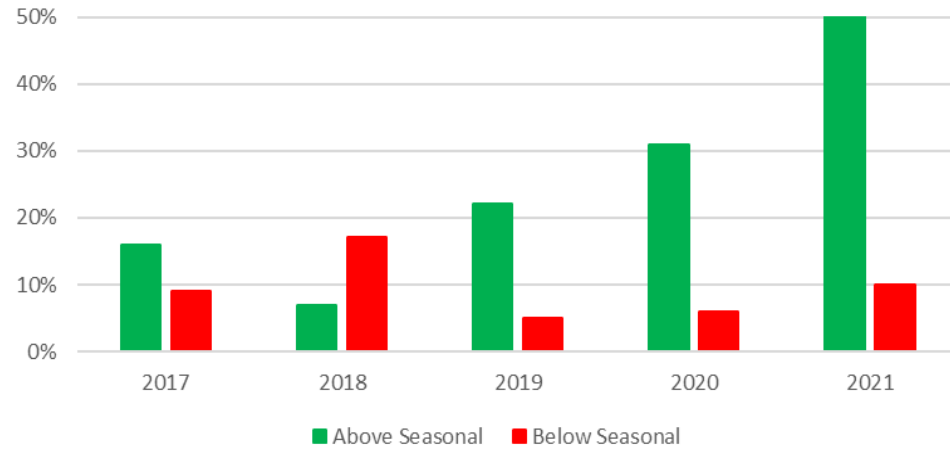


# Q/Q Seasonality Expectations

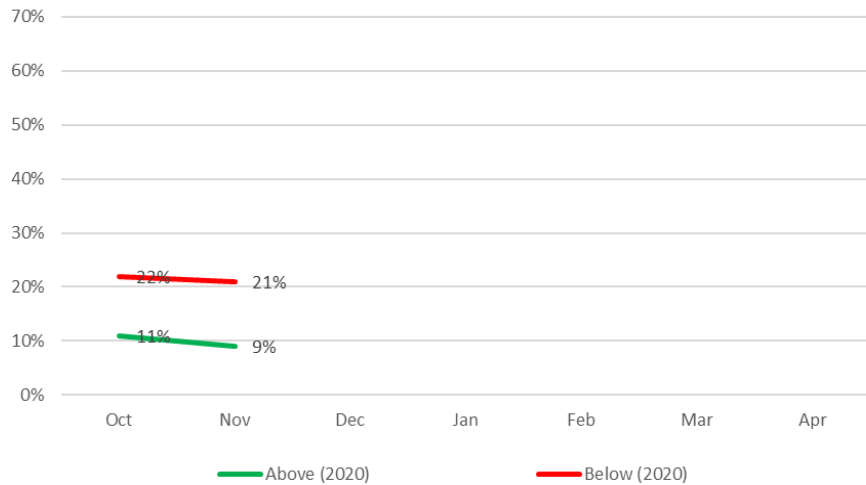
### 4Q21 Seasonality Expectations



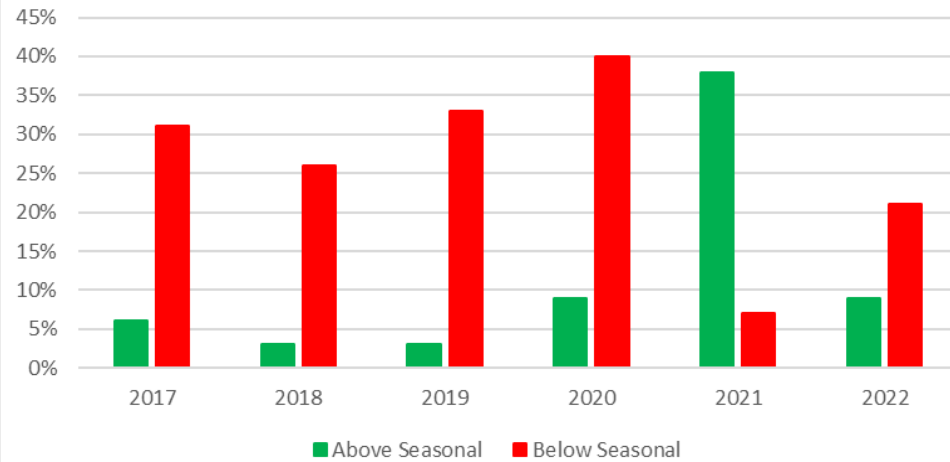
### C4Q Seasonality Expectations



### C1Q22 Seasonality Expectations

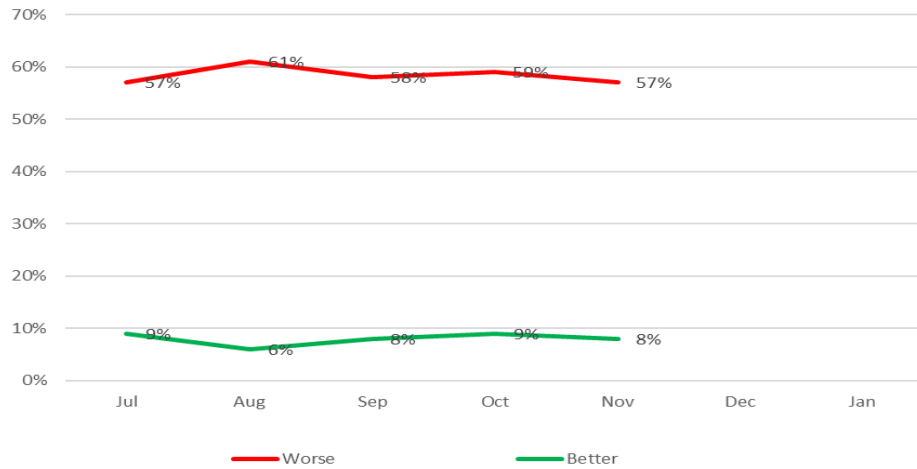


### C1Q Seasonality Expectations

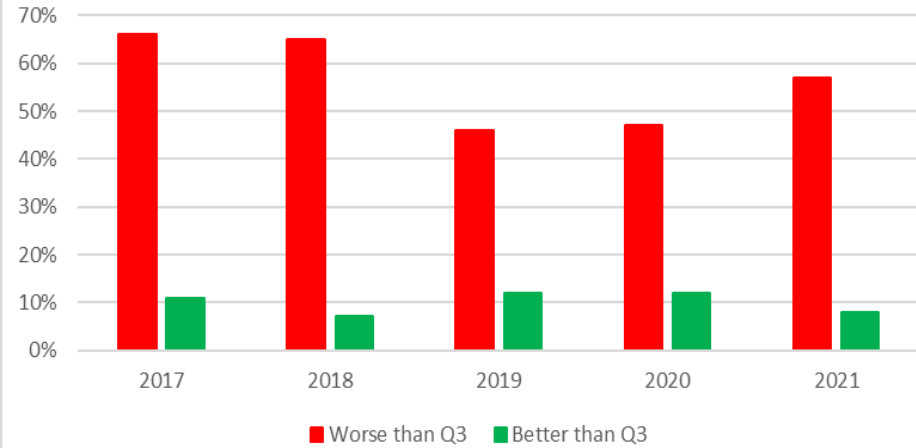


# Q/Q Bookings Growth Expectations

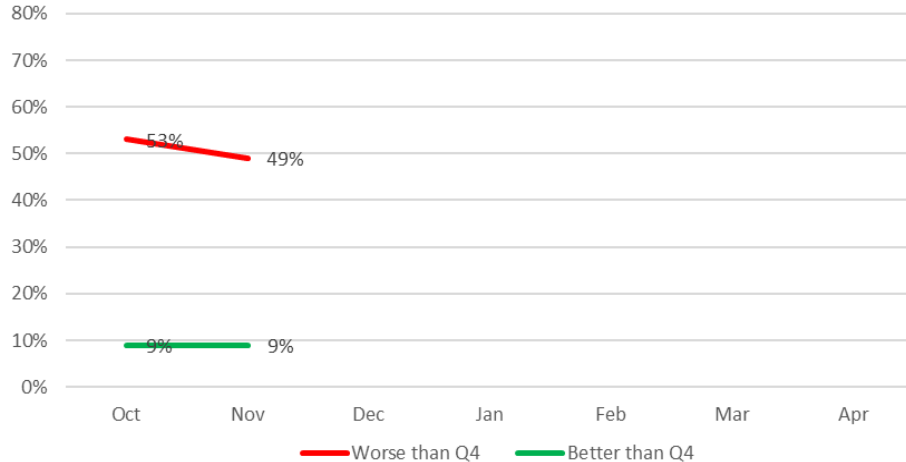
4Q21 Bookings Expectations



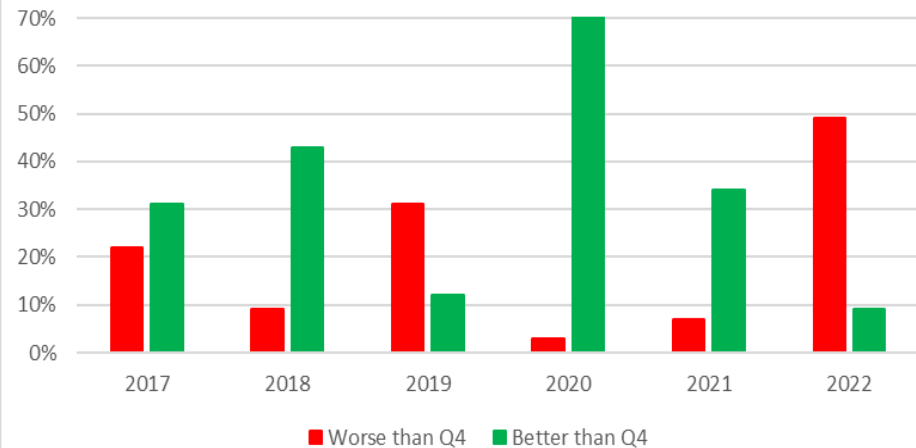
C4Q Bookings Expectations Seasonality



C1Q22 Bookings Expectations

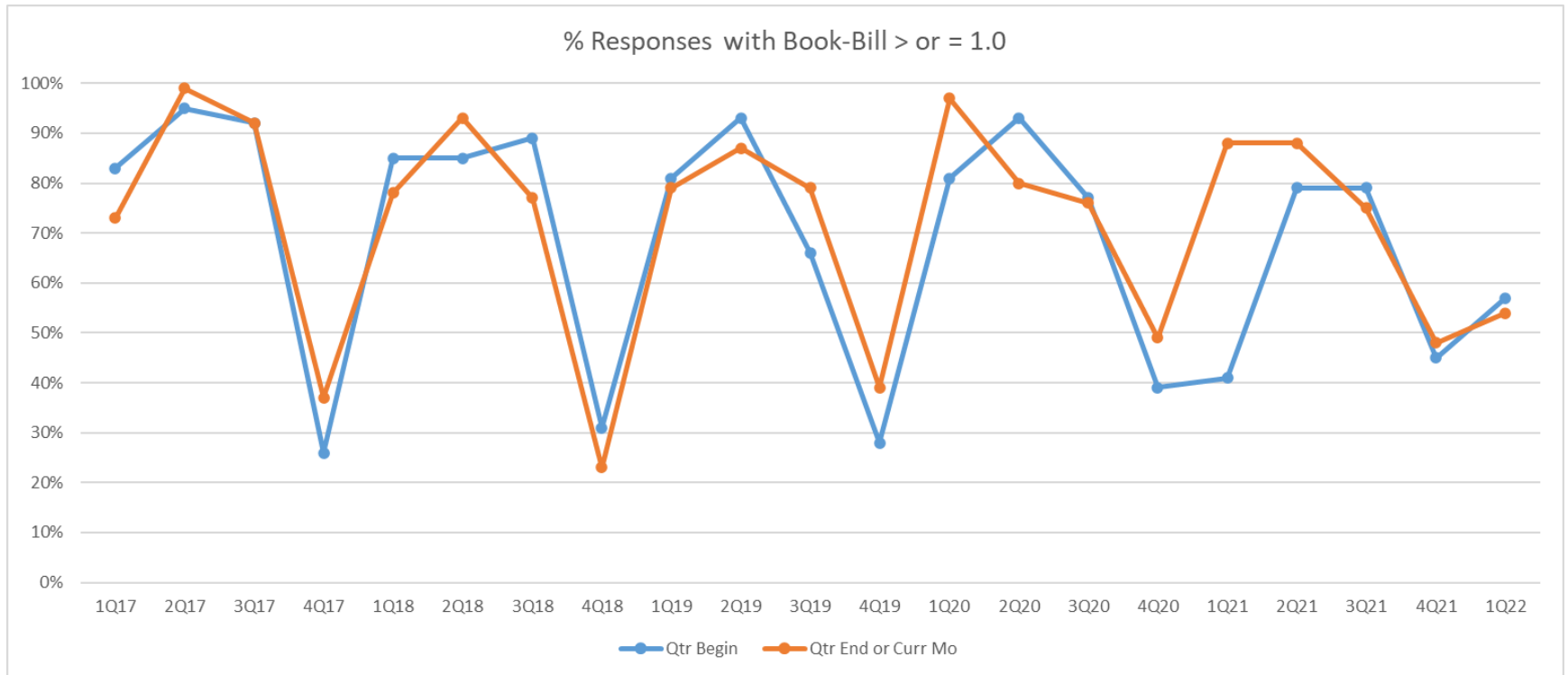


C1Q Bookings Expectations



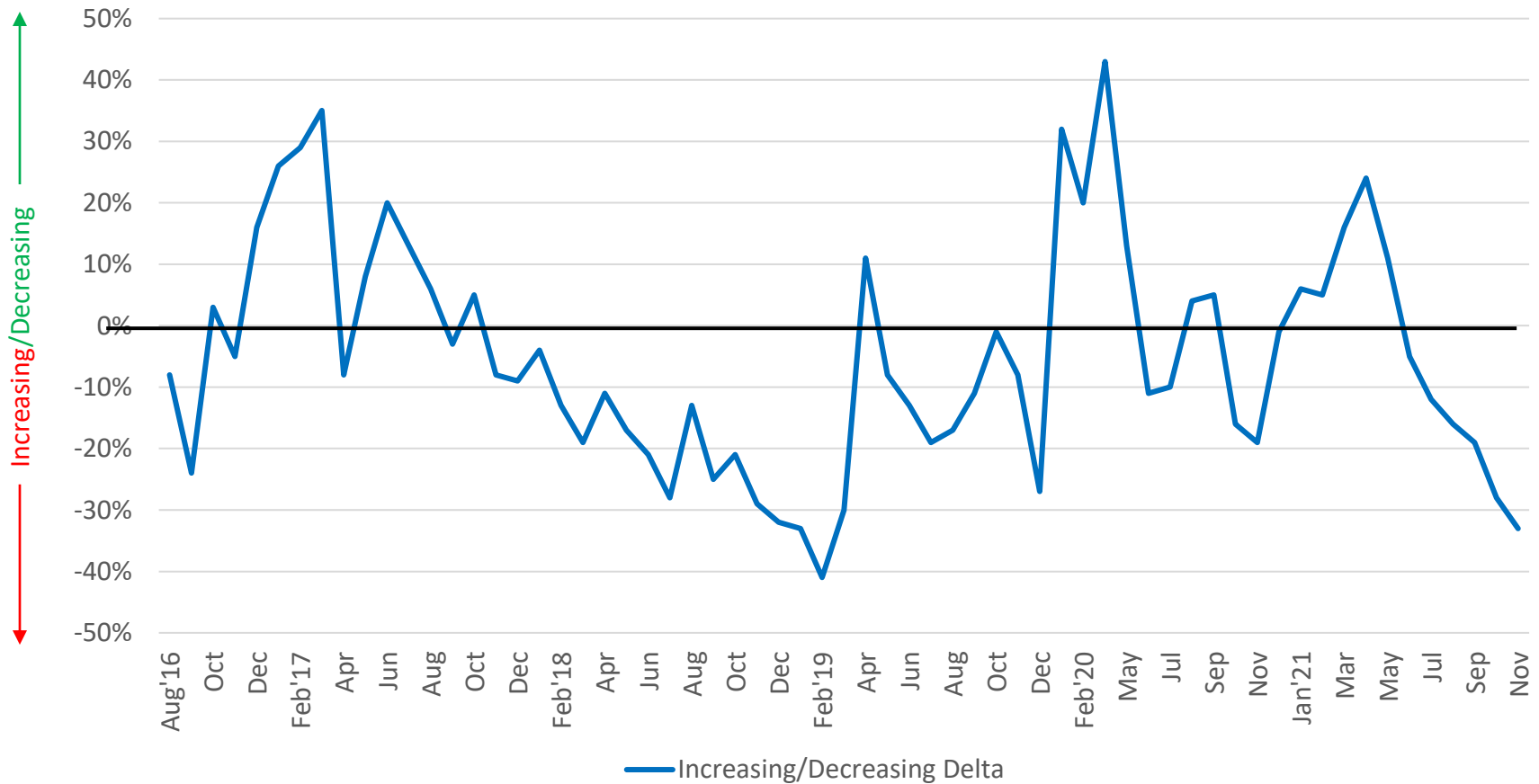
# Book to Bill History & Trends

(Calendar quarters)



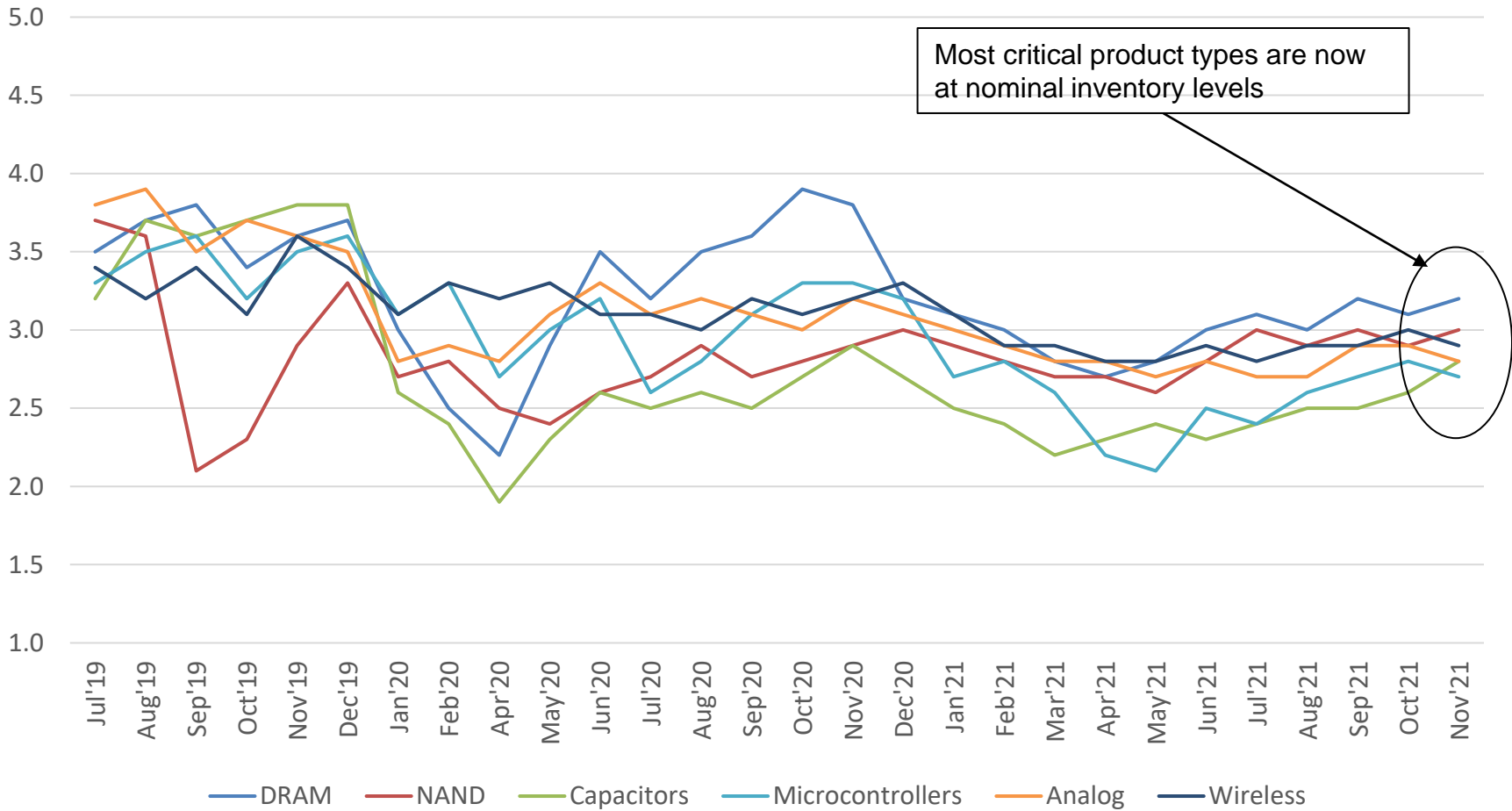
# Backlog Order Push Outs/Cancellations vs. 30 Days Ago

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



# Inventory Status

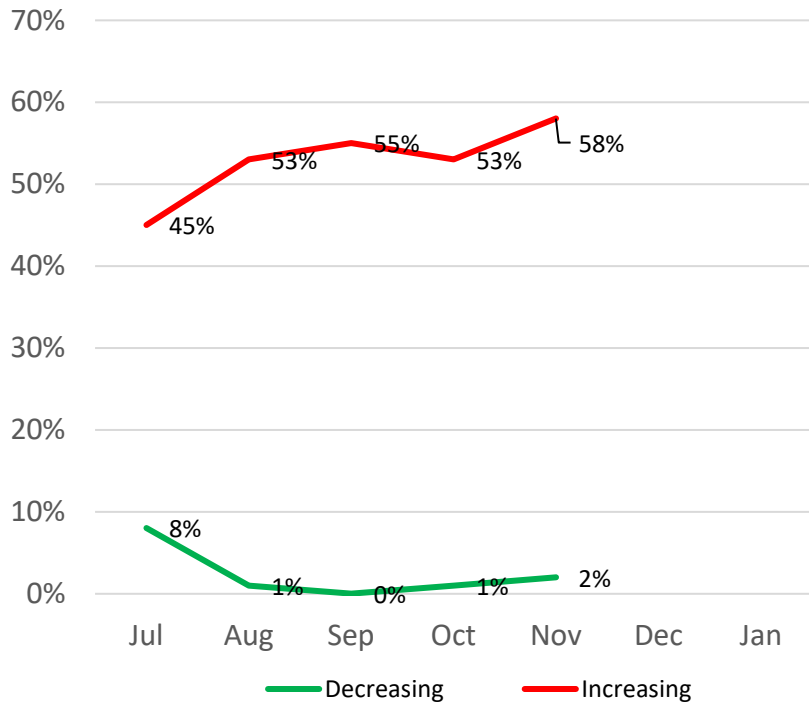
(Using a scale of 1 to 5 with 1 being extremely low inventory, 3 being the normal amount, and 5 being extremely high; how do you view inventory levels for the following products?)



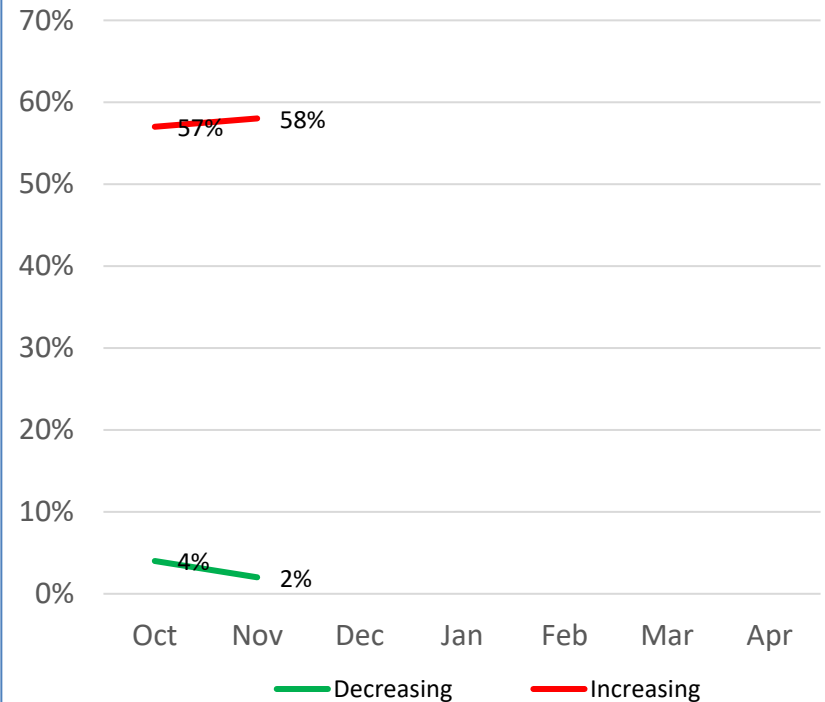


# Q/Q Inventory Growth

## C4Q21 Inventories vs. C3Q21

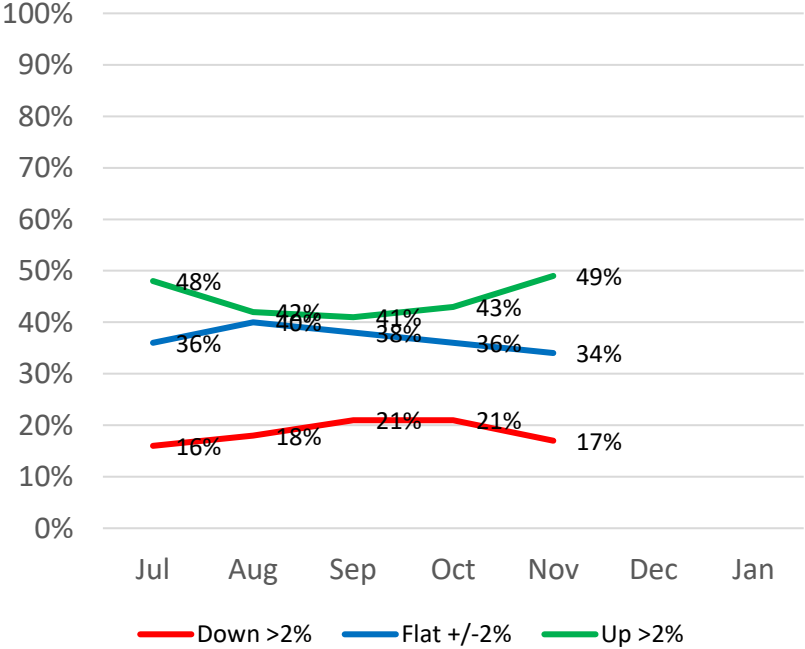


## C1Q22 Inventories vs. C4Q21

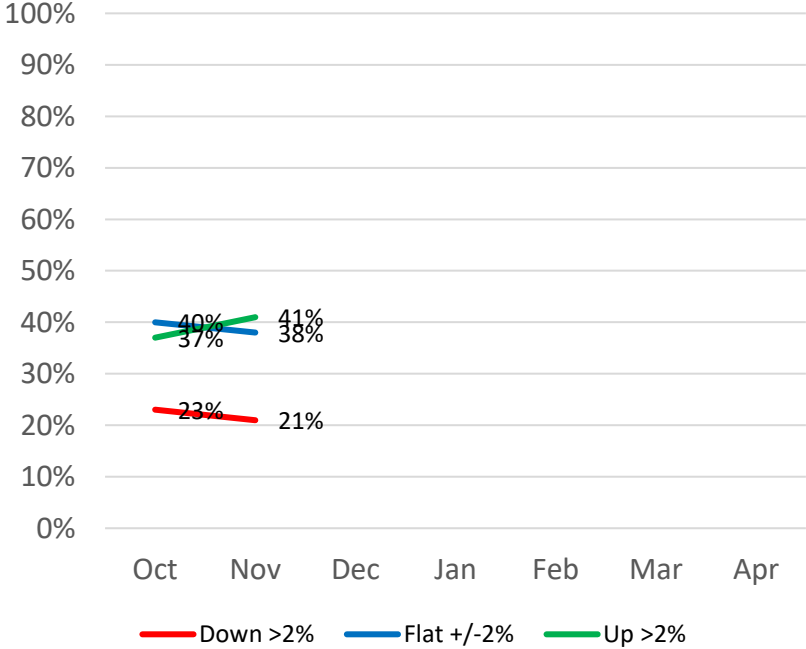


# Q/Q Pricing Trends

### C4Q21 Pricing vs. C3Q21



### C1Q22 Pricing vs. C4Q21



# Vertical Outlook

*The outlook for Communications continues to be above previous years while Auto continues to erode*

