



**RECON**VERGE®  
*forge belonging*

G2:2019: April 22-25

Predicting the Future  
**Part 1/3: Forecasting**

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# Key Learnings

- **Most all organization perform forecasting by way of extrapolation**

ex·tra·po·la·tion NOUN - the action of estimating or concluding something by assuming that existing trends will continue or a current method will remain applicable

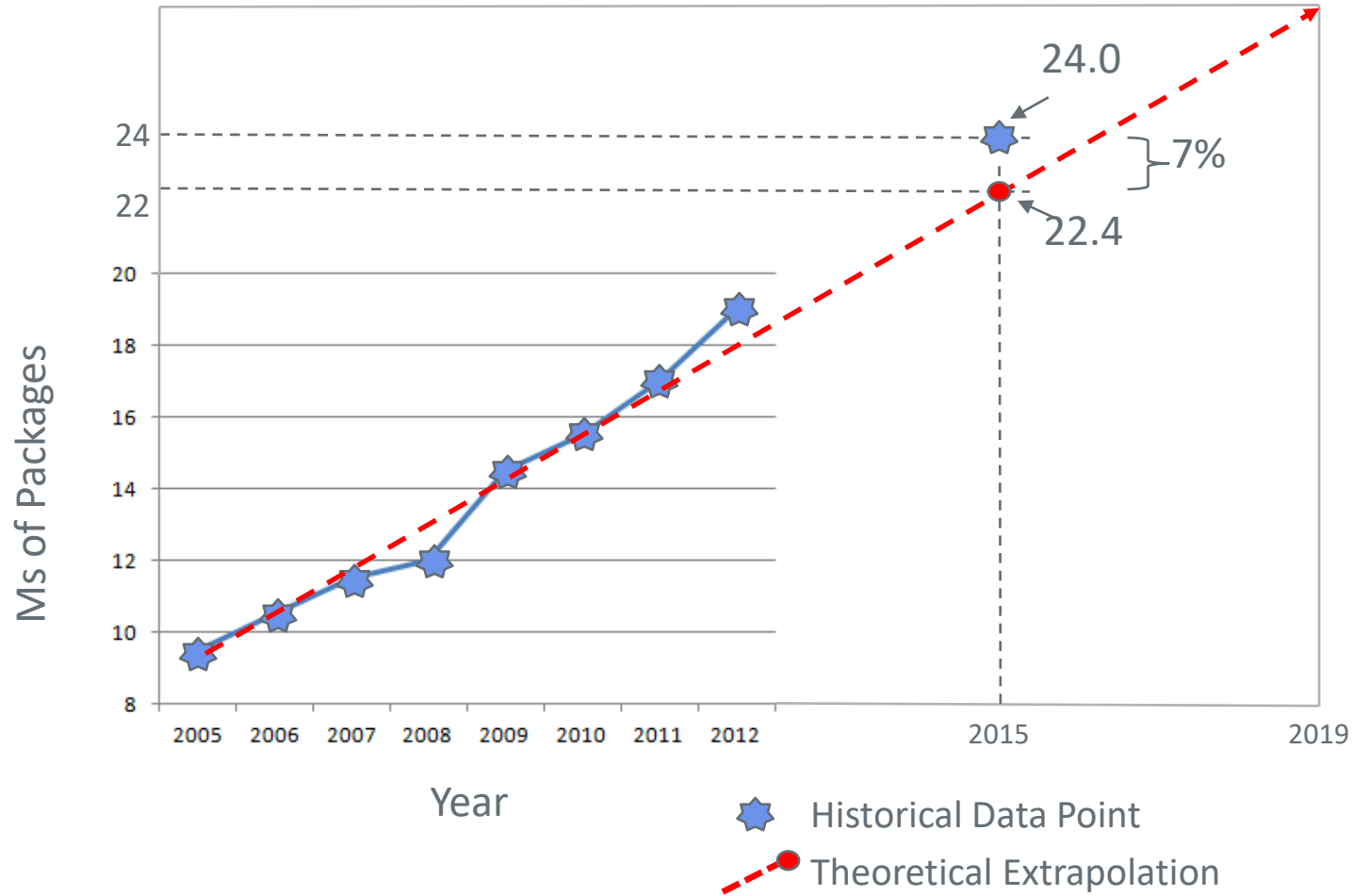
- **Extrapolation produces poor predictions**

- All models are wrong, some models are useful
- Extrapolation equations are built from unique data sets
- Projecting these equations into the future is questionable
- The further into the future, the less accurate

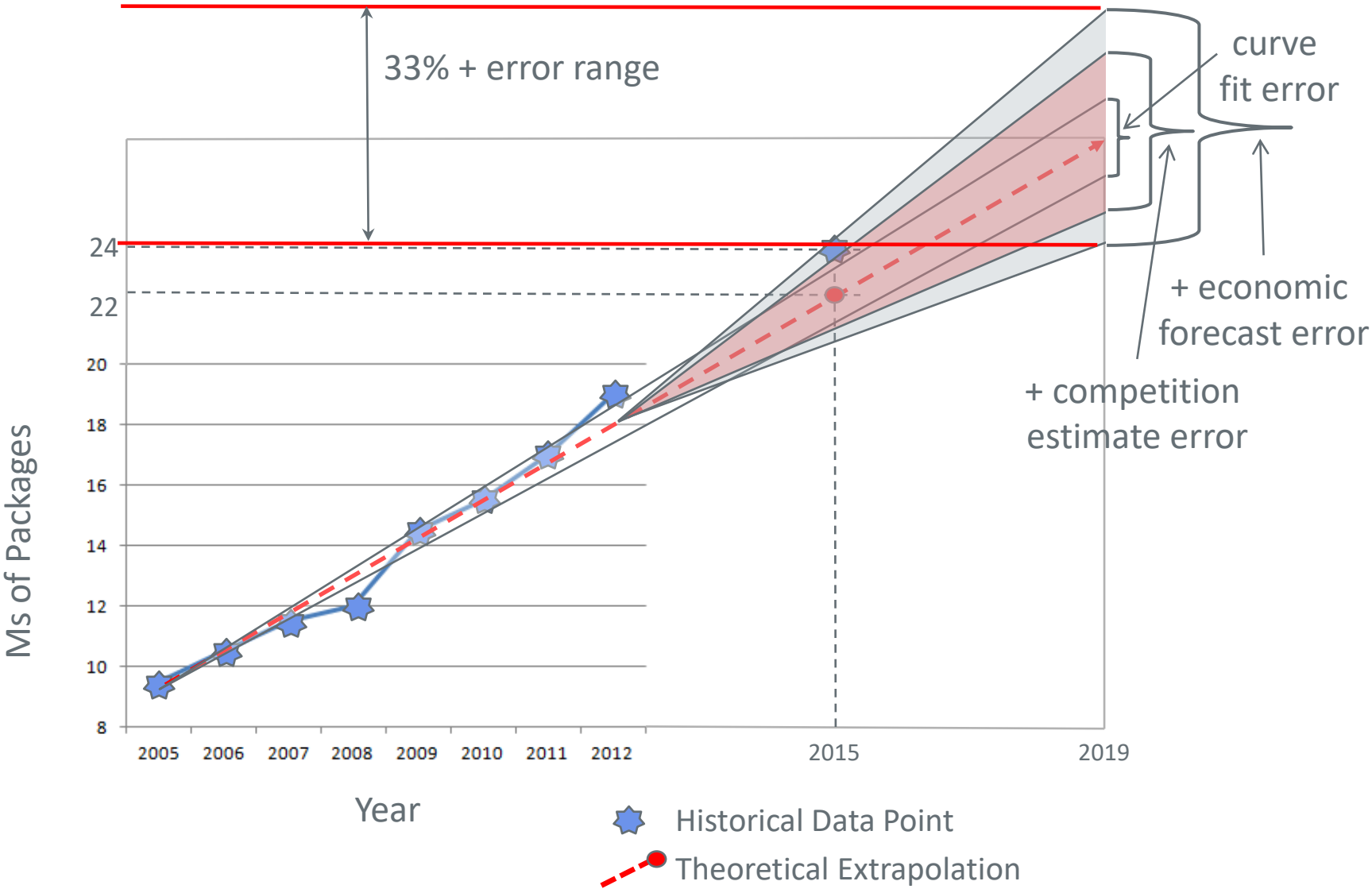
- **To overcome the inaccuracy, many orgs. use complex extrapolation models**

- When future eco-system's parameters are substantially similar to extrapolated eco-systems' parameters, then complex models can be accurate
- When future eco-system's parameters are not similar to extrapolated eco-systems' parameters, then complex models can be very inaccurate

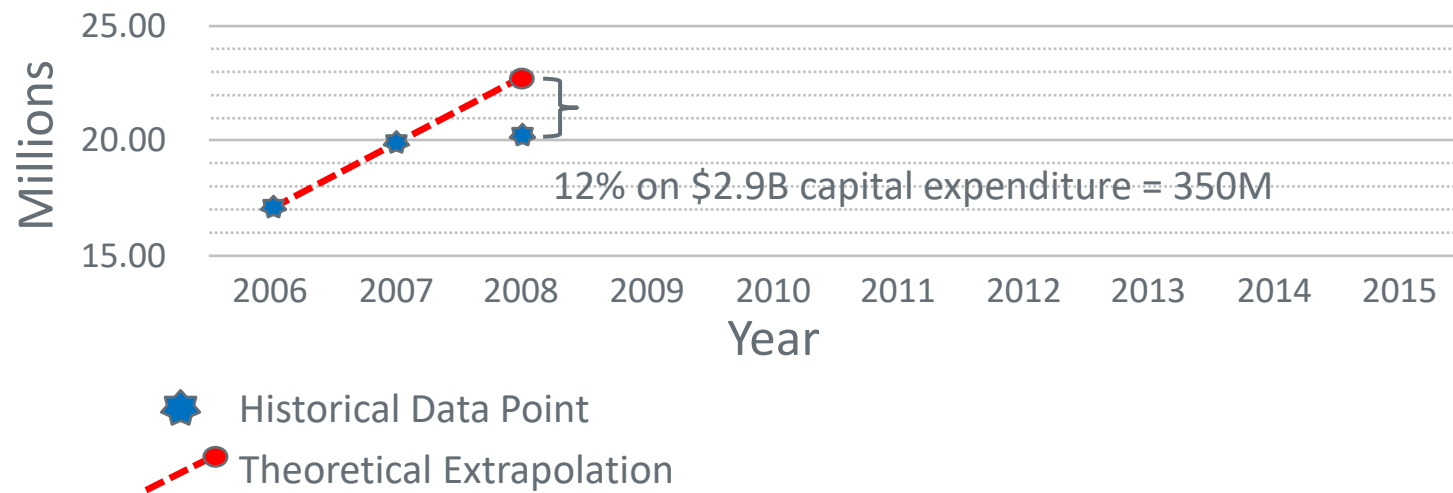
# FedEx - Packages Delivered on Busiest Day



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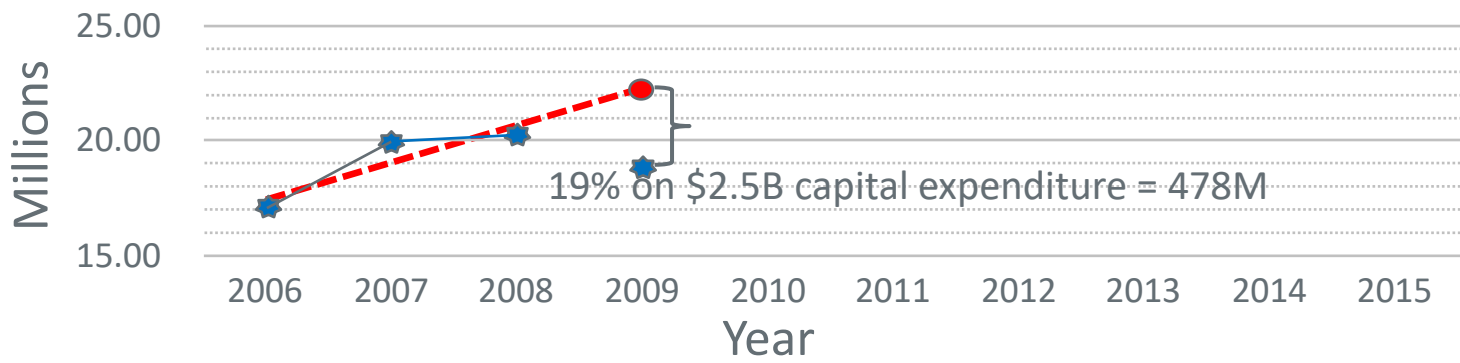


### FedEx - Packages Delivered on Busiest Day



Total cumulative misallocation = \$350M

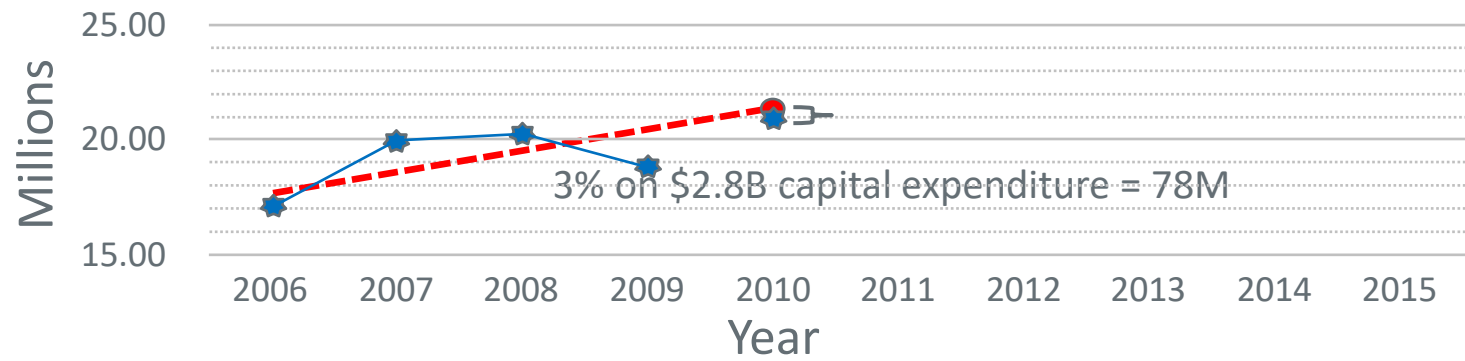
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- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$828M

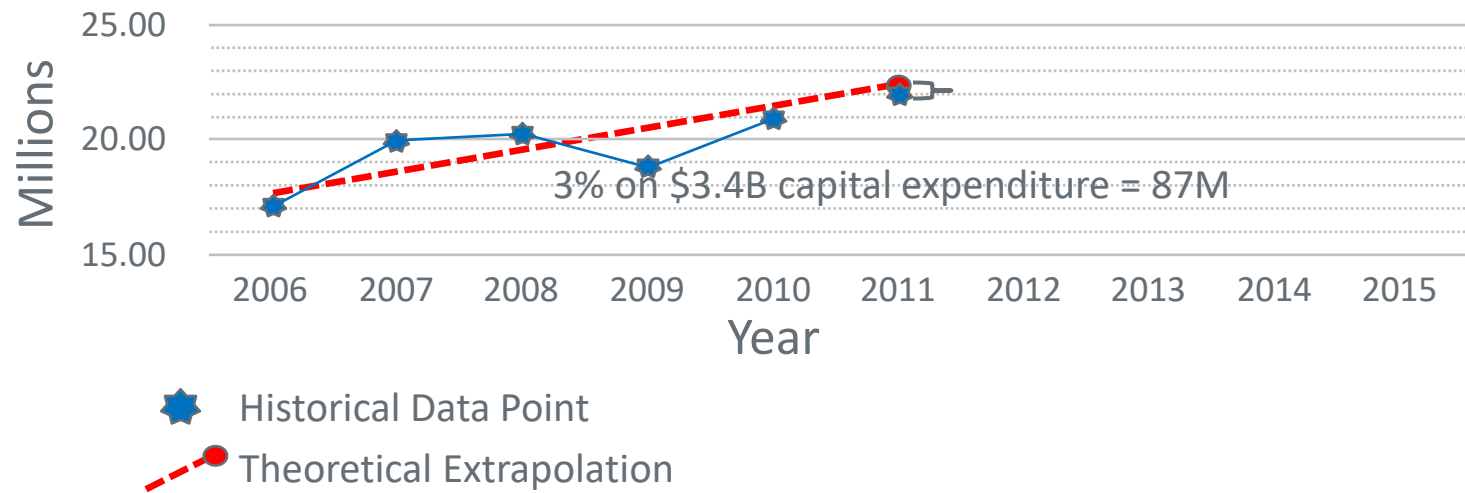
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- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$906M

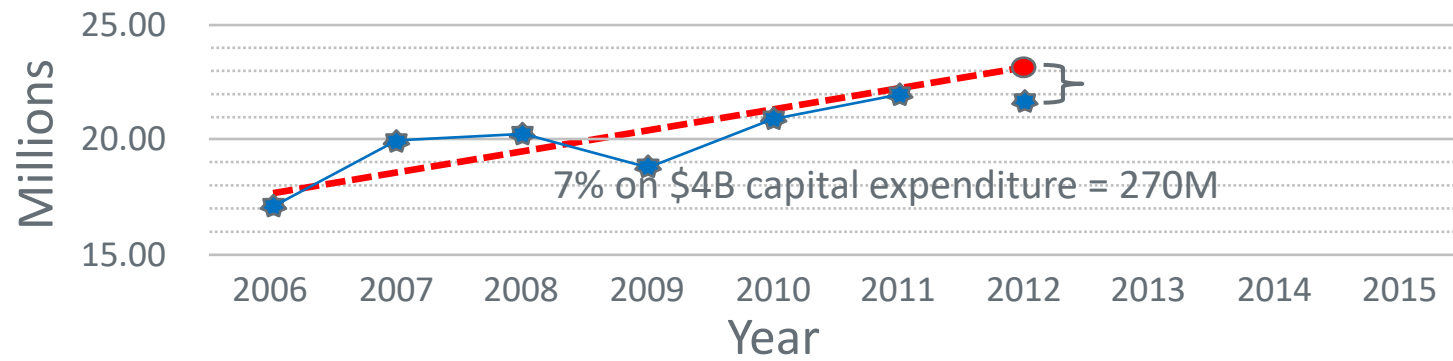
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Total cumulative misallocation = \$993M



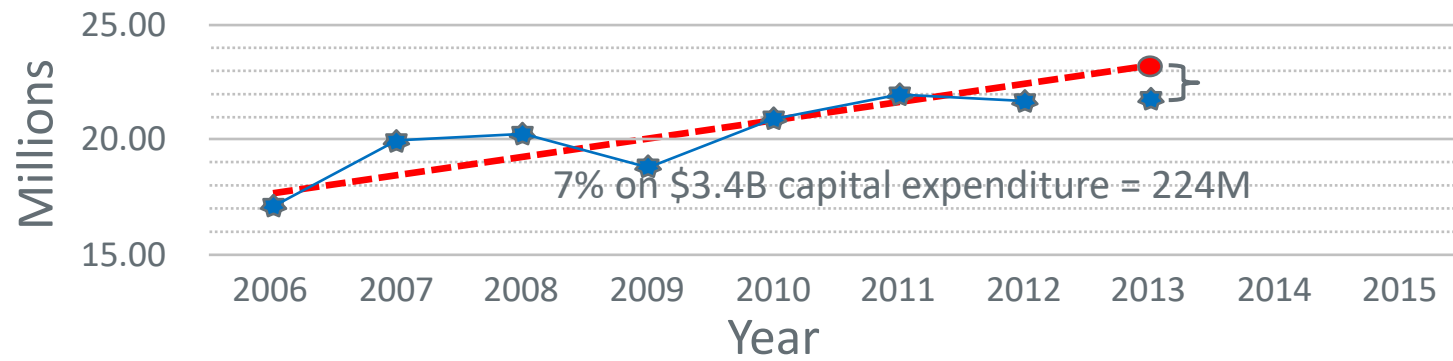
### FedEx - Packages Delivered on Busiest Day



- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$1,263M

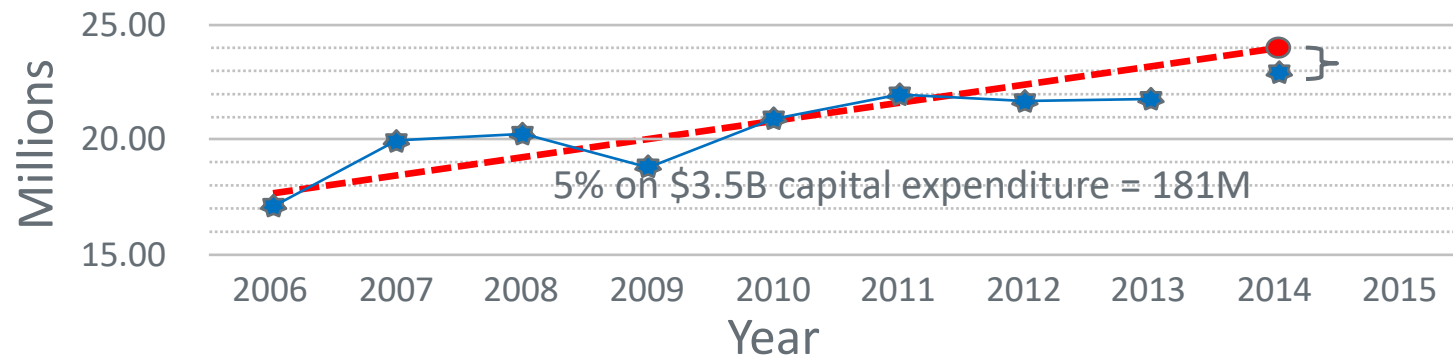
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- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$1,487M

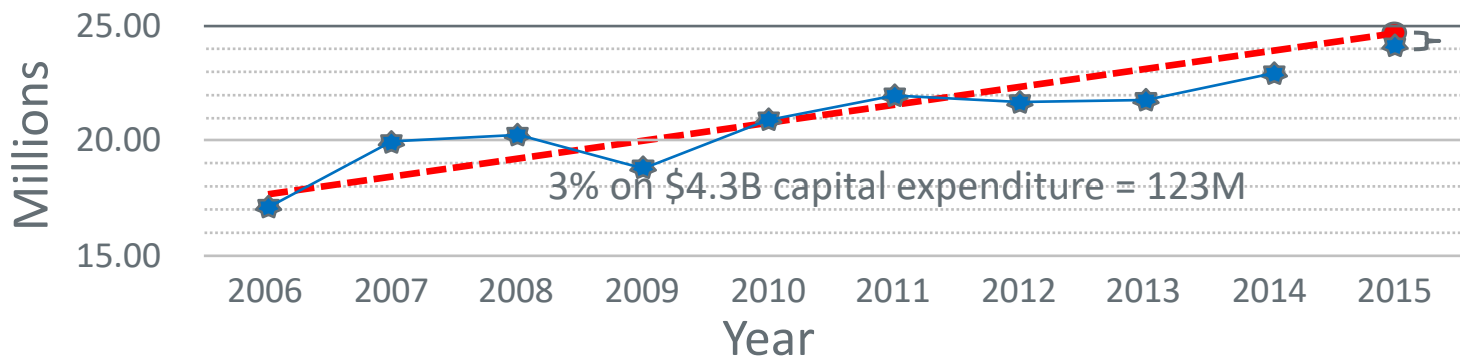
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- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$1,668M

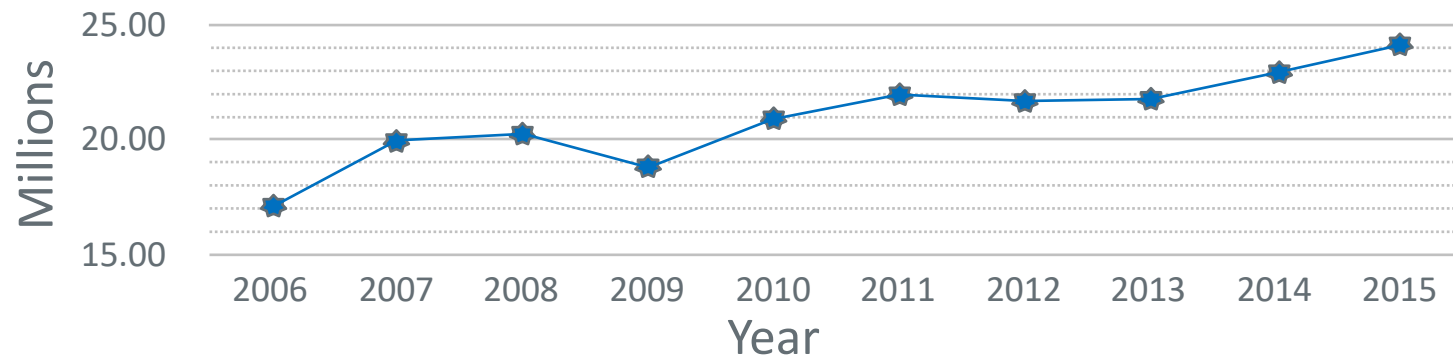
### FedEx - Packages Delivered on Busiest Day



- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$1,791M

### FedEx - Packages Delivered on Busiest Day



- ★ Historical Data Point
- - - ● Theoretical Extrapolation

Total cumulative misallocation = \$1,791M

# Intel Forecasting Improvement Technique – Rev 0

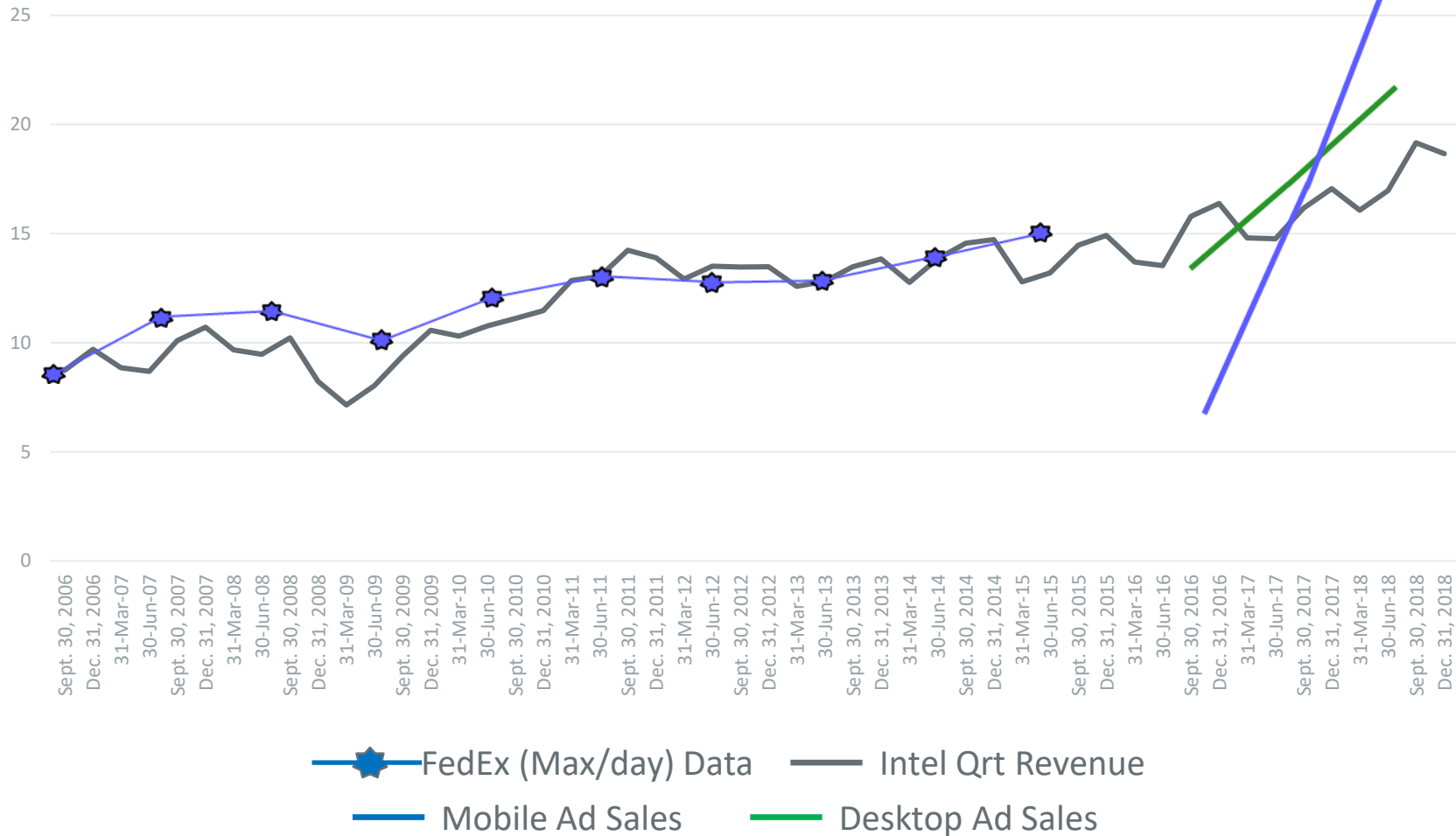
## Simple Forecasting

- Curve fitting based on past performance

## Forecasting Improvement:

- Intuition Rewards – average multiple weighted forecasting sources and “reward” the previous cycle’s most accurate with highest weighting

Intel Corp's Quarterly Revenue (Billions)



# Intel Forecasting Improvement Technique – Rev 1

## Simple Forecasting

- Curve fitting based on past performance

## Accelerated Forecasting Improvement:

- Correlation matching – finding other indicators that have correlated well with past performance and use as augmentation to homogenous data forecasting
- Intuition Rewards – average multiple weighted forecasting sources and “reward” the previous cycle’s most accurate with highest weighting
- Utilize AI to: 1.) ID correlation targets and 2.) study simulated intuition rewards “of the past” to build forward looking engine



# Forecasting Exercise

- Write a list of at least three potential sources of heterogeneous correlation data for forecasting requirements within your company or industry
- Do not hesitate to think outside the box (e.g., could sales of fire alarms be inversely proportional to sales of fire proof building materials?)
- Short Discussion / Sharing