```
## Loading required package: nlme

## This is mgcv 1.8-26. For overview type 'help("mgcv-package")'.

## -- Attaching packages --------------------------------- tidyverse 1.2.1 --

## v ggplot2 3.0.0     v purrr   0.2.5
## v tibble  1.4.2     v dplyr   0.7.7
## v tidyr   0.8.1     v stringr 1.3.1
## v readr   1.1.1     v forcats 0.3.0

## -- Conflicts ------------------------------------ tidyverse_conflicts() --
## x dplyr::collapse() masks nlme::collapse()
## x dplyr::filter()   masks stats::filter()
## x dplyr::lag()      masks stats::lag()

## Loading required package: Rcpp

## Loading 'brms' package (version 2.7.0). Useful instructions
## can be found by typing help('brms'). A more detailed introduction
## to the package is available through vignette('brms_overview').
## Run theme_set(theme_default()) to use the default bayesplot theme.

##
## Attaching package: 'brms'

## The following objects are masked from 'package:mgcv':
##
##     s, t2

##
## Attaching package: 'scales'

## The following object is masked from 'package:purrr':
##
##     discard

## The following object is masked from 'package:readr':
##
##     col_factor

##
## Attaching package: 'data.table'

## The following objects are masked from 'package:dplyr':
##
##     between, first, last

## The following object is masked from 'package:purrr':
##
##     transpose

##
## Attaching package: 'directlabels'

## The following object is masked from 'package:nlme':
##
##     gapply
```

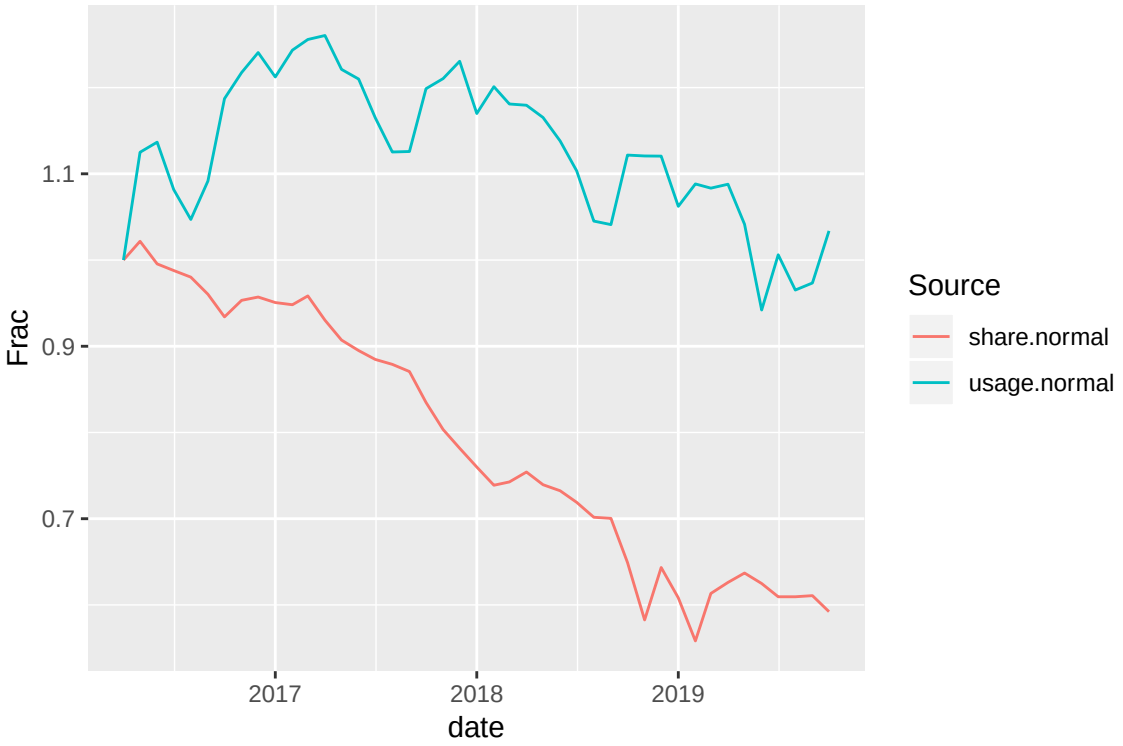
Estimating Desktop Browser Market Size

Desktop Firefox has been losing users for the past few years and we have also been losing market share. We've generally attributed this to a combination of Chrome taking our users and the generally declining state of the desktop market.

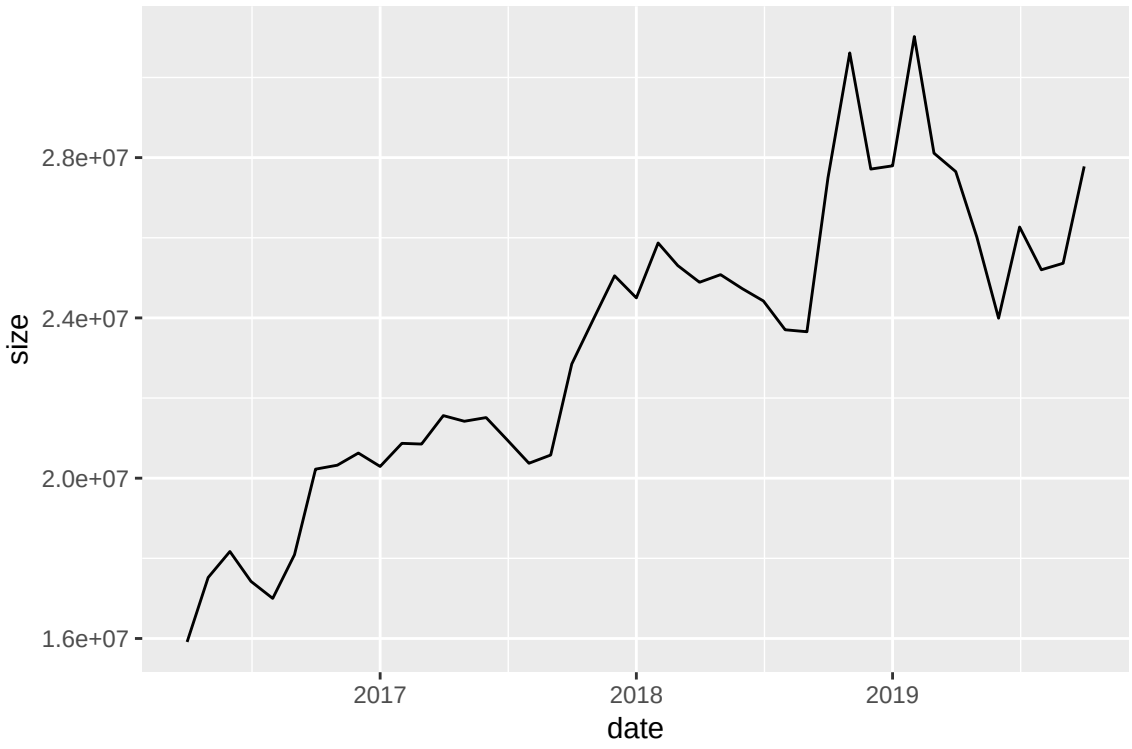
We can use the combination of our user numbers (MAU), which we know, and an external estimate of our market share to estimate the overall size of the market.

Worldwide Market Size

Fhe following figure shows the decline of MAU and market share from the period of 2016-04-01 to 2019-10-01. The MAU data comes from our own telemetry and the market share data comes from StatCounter. Each of these is normalized to the start of the period. Note that market share is declining faster than MAU.

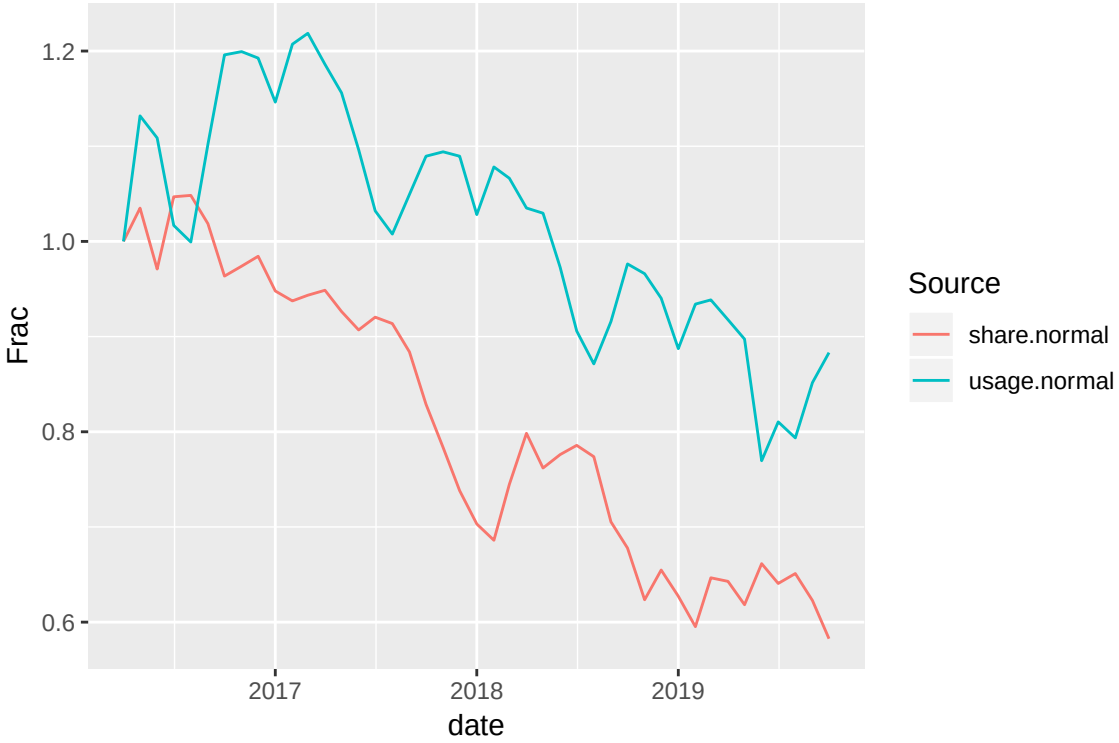


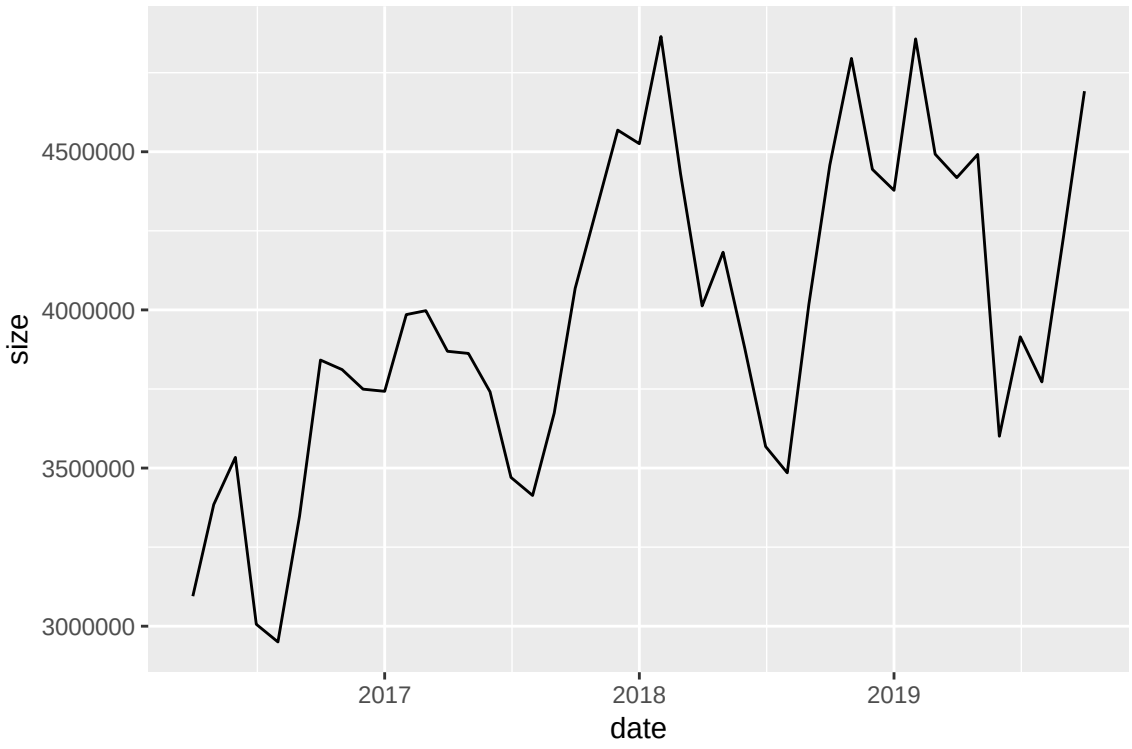
We can get an estimate of the size of the market by dividing MAU by our share of the market, giving us the graph below. Based on this data, desktop market size has actually increased over this period, from about 2 billion to about 3 billion. These numbers do seem fairly high, but it's a straightforward calculation, and we just need to assume that there's no systematic bias in either of these measurements, then it would appear that the market is growing.



US Market Size

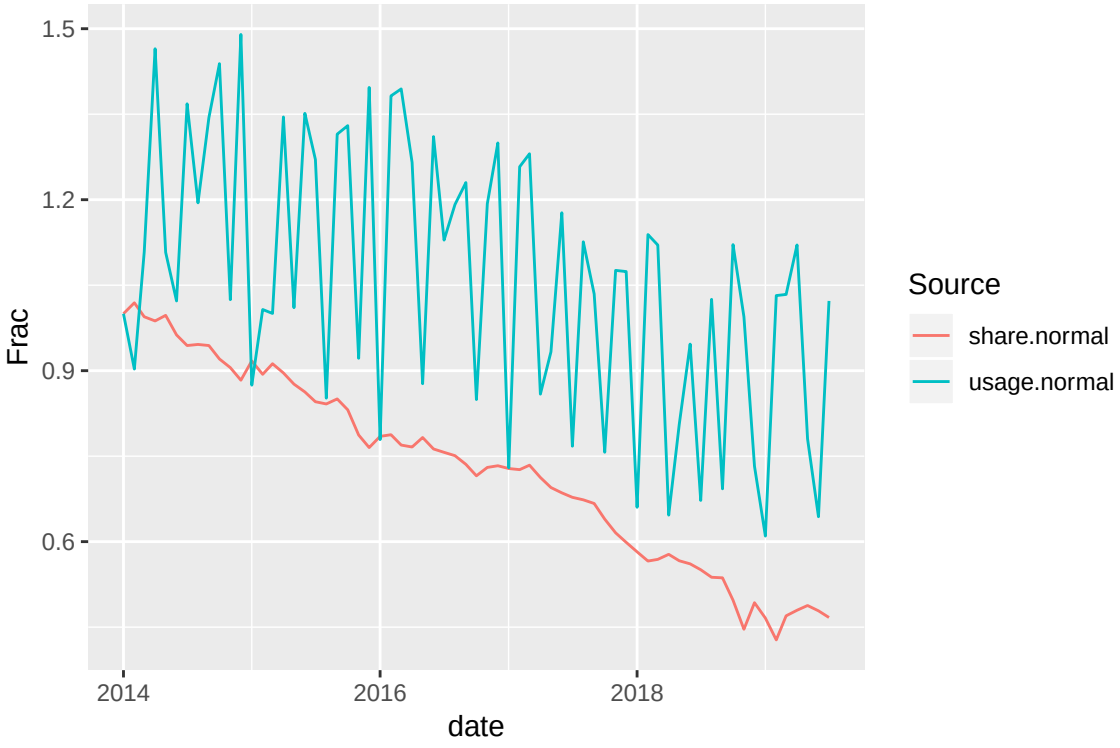
Here is the same treatment for the US, which shows the market size as approximately flat at ~400 million users.

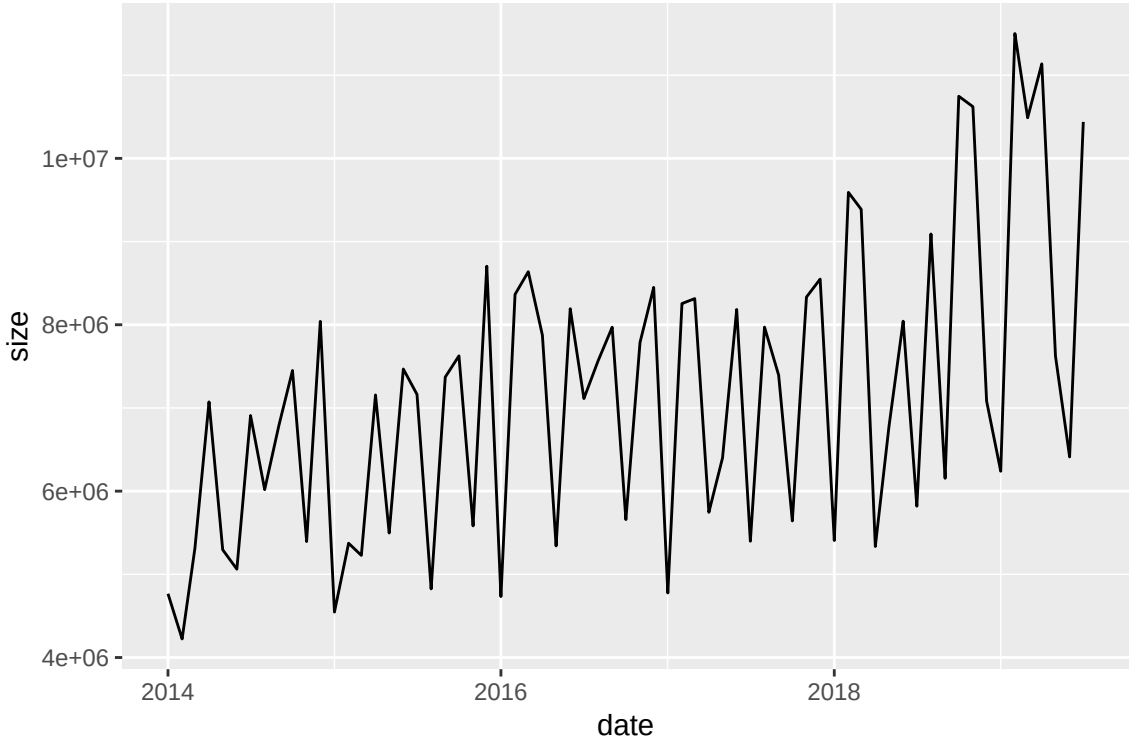




ADI

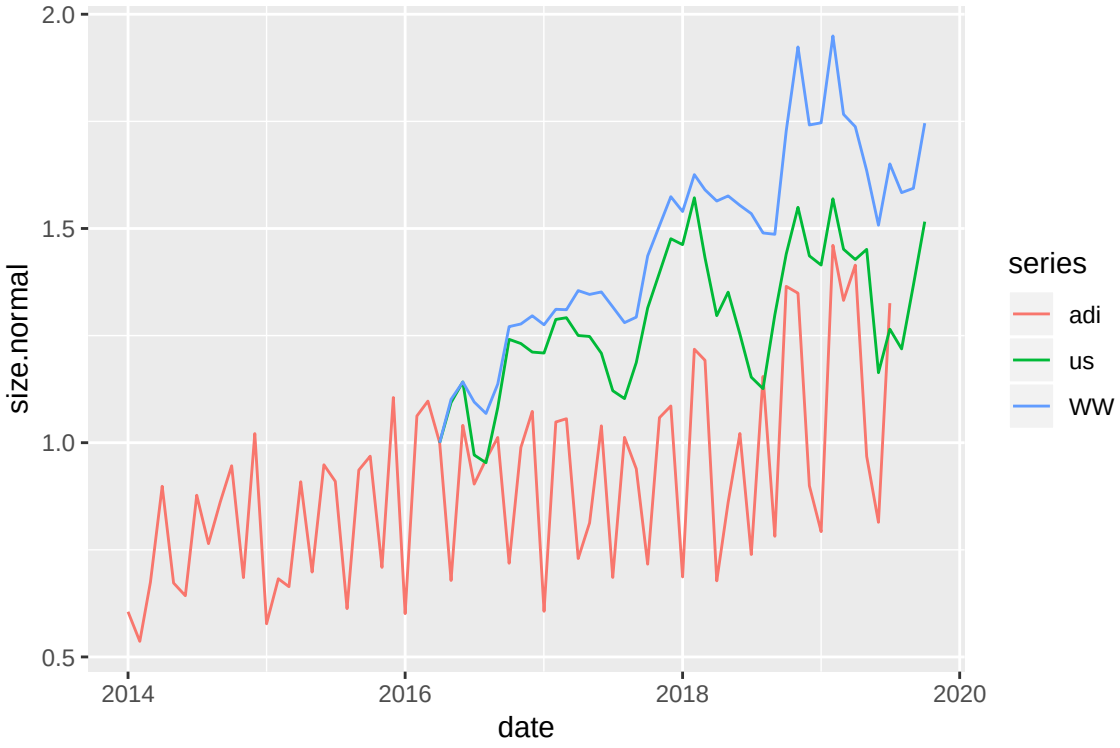
And finally, here's the same treatment for Average Daily Installs (ADI), which is based on the blocklist ping rather than on telemetry data.





Summary

Finally, we can compare the each of these series by normalizing to the value at the beginning of the MAU series (which starts later than ADI)



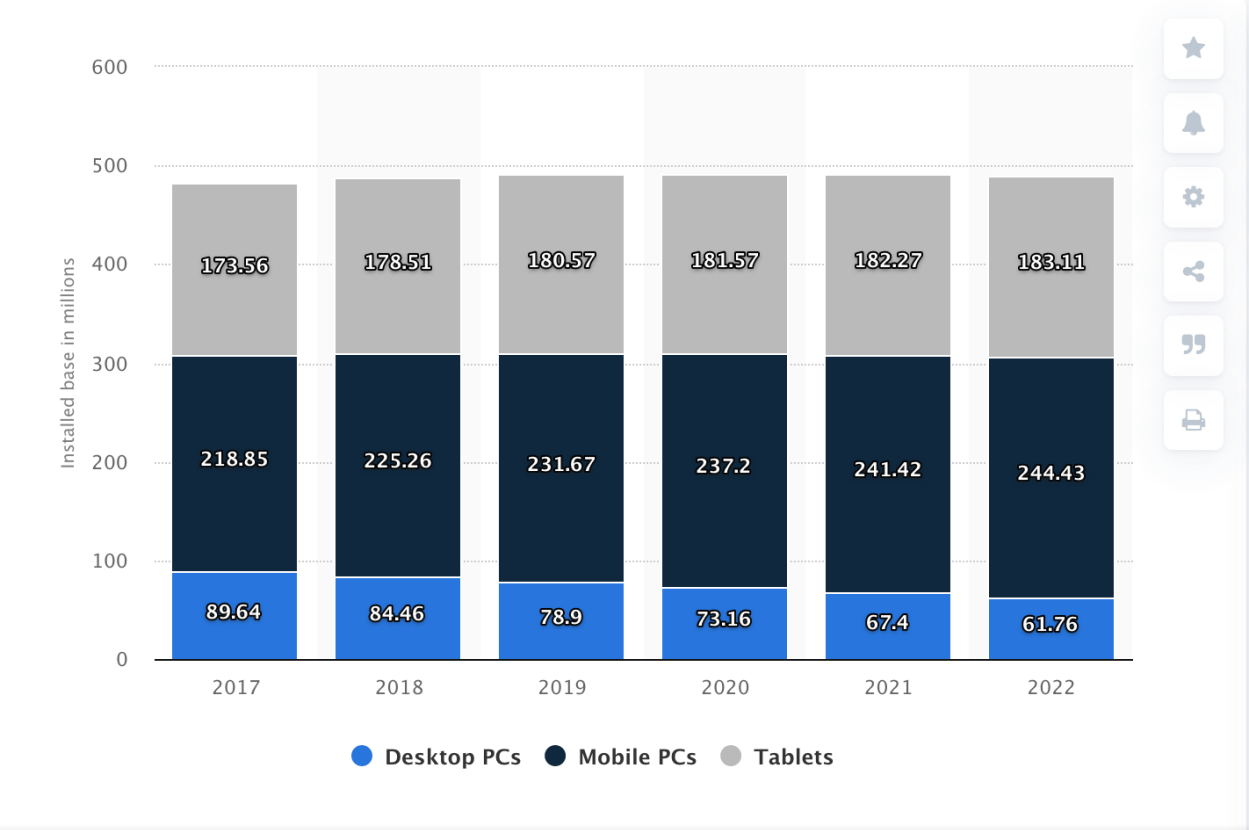


Figure 1: US Desktop and Laptop Market Size (Statista)

Sanity Check

There are a lot of potential sources of noise in this data. As a sanity check, let's compare the US data to an independent source, which is the installed base of desktop and laptops in the US from Statista. [https://www.statista.com/statistics/670172/united-states-installed-base-desktops-laptops-tablets/]. This shows the market as being nearly flat at around 310 million for the past few years, projecting to be 305 million in 2022, so at least we are on the same order of magnitude.