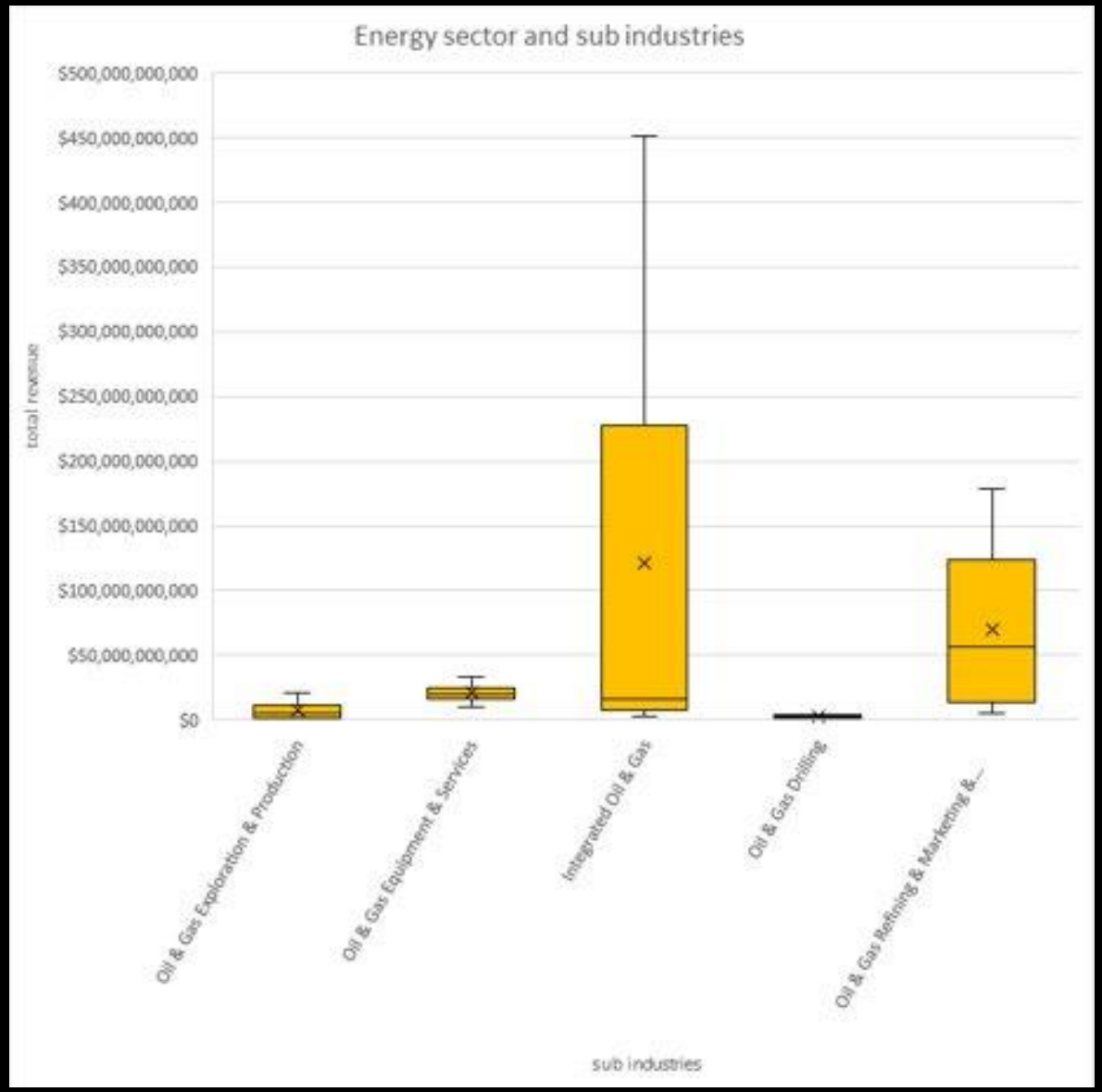
- What is the biggest subsector of the Energy sector from the revenues aspect? Could you describe some of its statistical properties ?


Energy sector and sub industries
$500,000,000,000
$450,000,000,000
$400,000,000,000
$350,000,000,000
$300,000,000,000
$250,000,000,000
$200,000,000,000
$150,000,000,000
$100,000,000,000
$50,000,000,000
$0
total revenue
Oil & Gas Exploration & Production
Oil & Gas Equipment & Services
Integrated Oil & Gas
Oil & Gas Drilling
Oil & Gas Refining & Marketing &...
sub industries

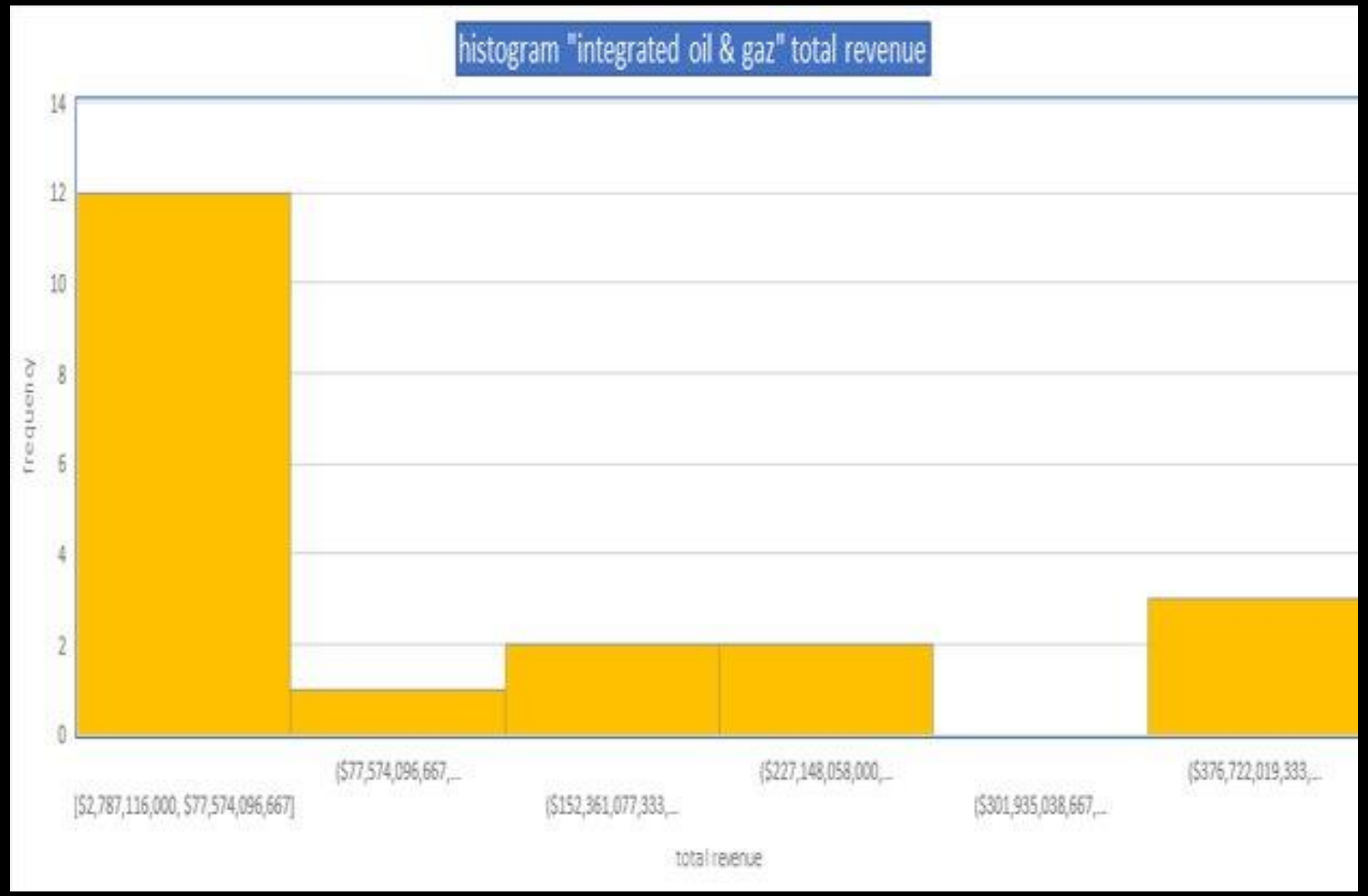
- Here we see box plots of the sub industries of the Energy sector.
- We could see very clearly that the most revenues are of the "integrated oil and gas" sub industry.

- (What Is an Integrated Oil and Gas Company?

An integrated oil and gas company is a business entity that engages in the exploration, production, refinement, and distribution of oil and gas, as opposed to companies that specialize in just one segment. Given the high entry costs relating to many oil and gas industry operations, many of the world's largest oil and gas companies, like Chevron and Exxon, are integrated.

From: https://www.investopedia.com/terms/i/integrated-oil-gas-company.asp)

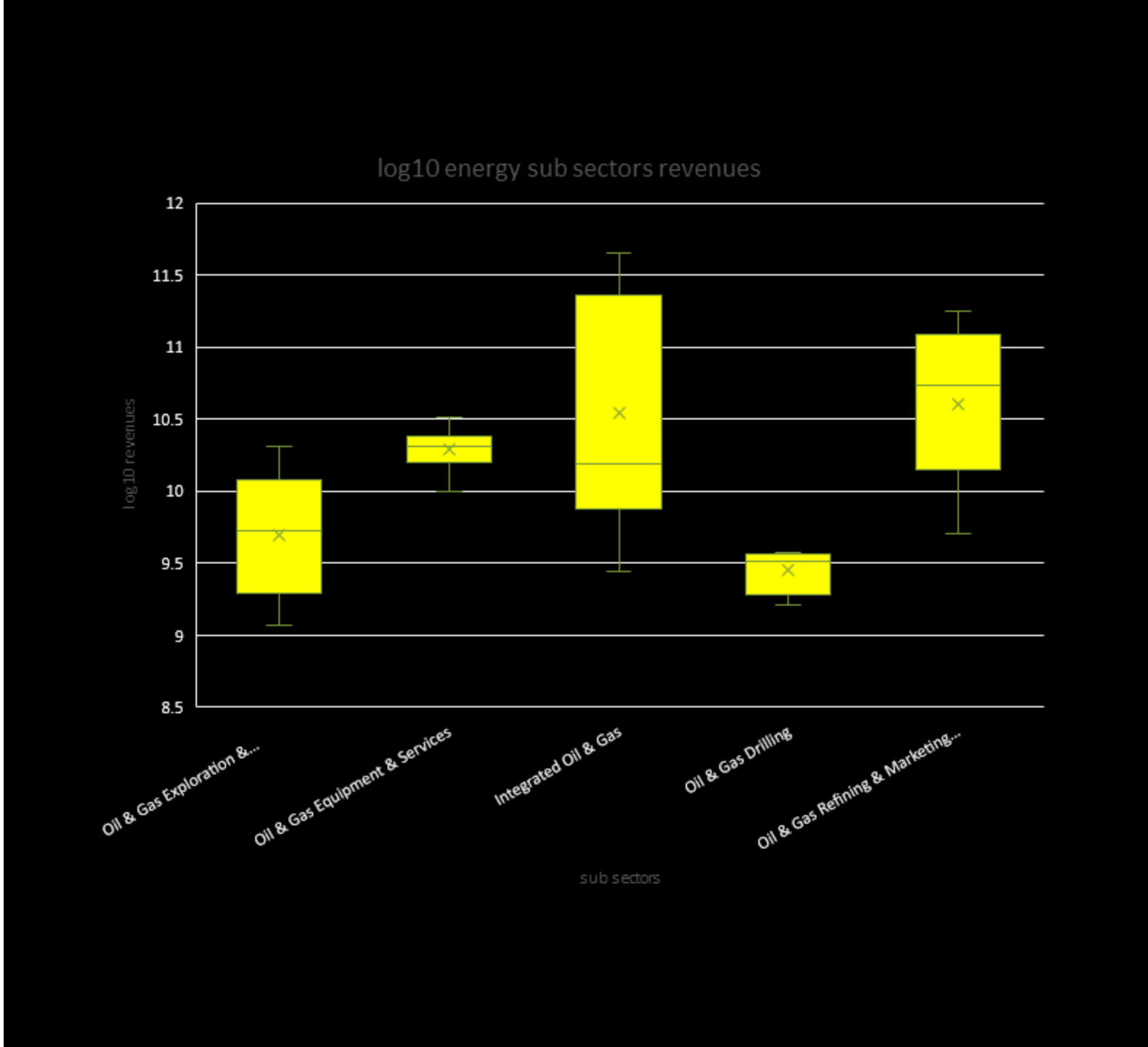
- We could see that the range is huge in this sub industry!
- From the box plot we know that the histogram of the "Integrated Oil and Gas" companies revenues is right-skewed because the huge area above the median, the place of the mean relatively to the median, the size of the third quarter, the size of the IQR and the upper whisker.
- The median of "integrated oil & gaz" is 15,922,000,000$ and the std is 156,925,892,616$ which is a vast number, more than 10 times the median ! Which says that the variance between companies in this area are huge !
- The min and max values tells us a same story – the min value is 2,787,116,000$ and the max value is 451,509,000,000$ more than 200 times , the statistical range is huge.

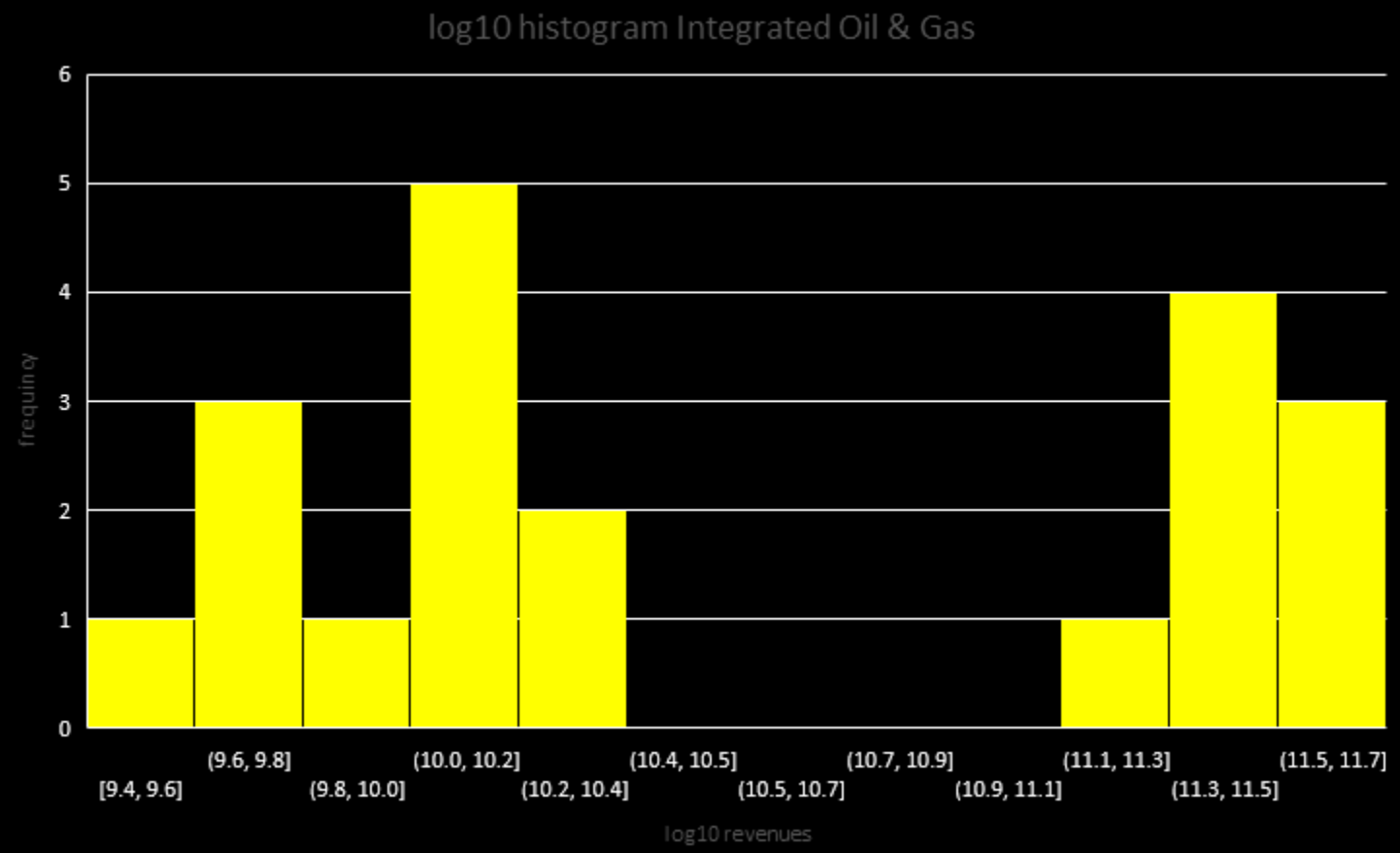

histogram "integrated oil & gaz" total revenue
14
12
10
8
6
4
2
0
Frequency
[$2,787,116,000, $77,574,096,667]
($77,574,096,667,...
($152,361,077,333,...
($227,148,058,000,...
($301,935,038,667,...
($376,722,019,333,...
total revenue

Some data about the "Integrated Oil and Gas" Companies from the "Revenues" aspect:

- MIN REVENUE $2,787,116,000
- MAX REVENUE $451,509,000,000
- AVERAGE REVENUE $121,695,414,900
- STD 1.56926E+11
- (For Company in NYSE data, Per Year)

Logarithmic transformation of the former box plot.
(The base is 10, and y axis begins on 8.5)





Logarithmic transformation of the former histogram.

(It makes the histogram bi modal)