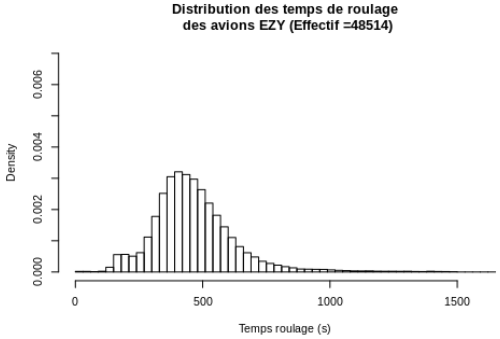
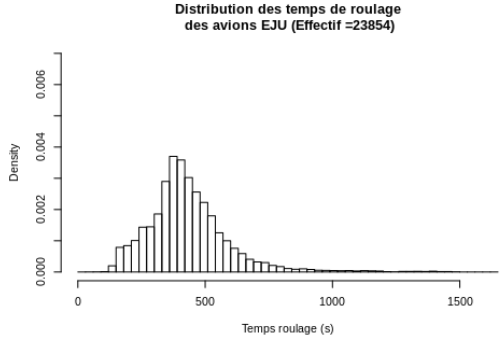
# Progresses in data analysis an ABM

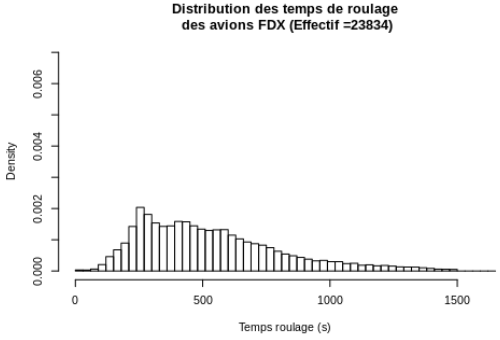
31/03/20

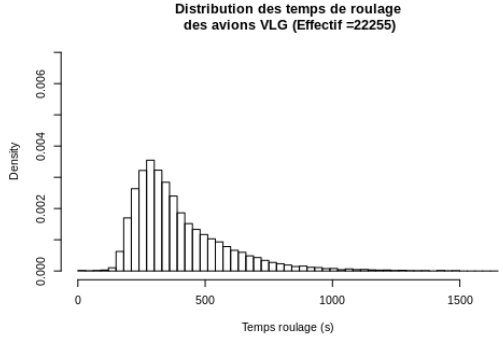
# Data Analysis

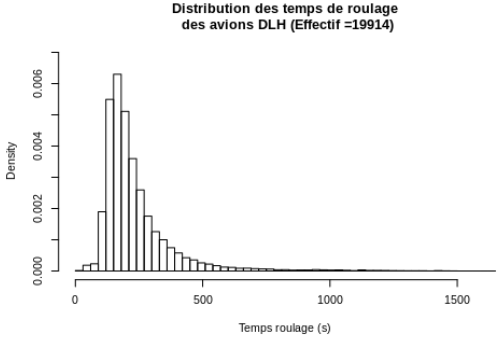
- The Taxi Time distributions for different companies are different.

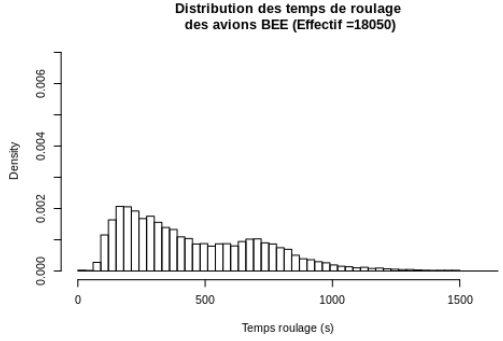



| Company | Avarage Taxi Time |
|---|---|
| AFR | 433 s |
| EZY | 460 s |
| FDX | 548 s |

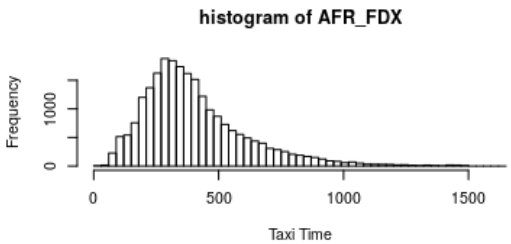
# Data Analysis

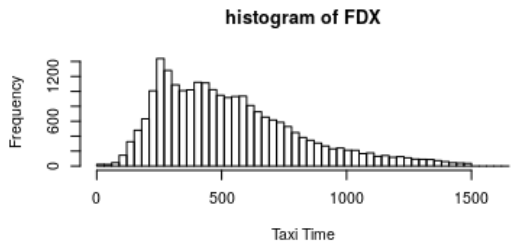
Is taxi time dependant on the company or only on the hour of take off and landing?

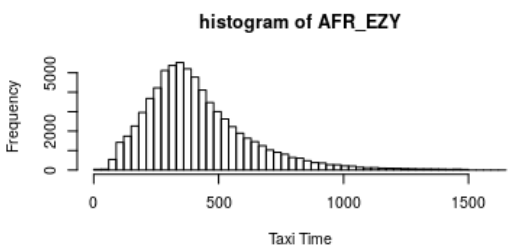
- We sampled Air France flights (48,3% of total flights) based on the time distribution of movements for other companies, i.e. Easy Jet (6,52%) and FedEx (2,25%).

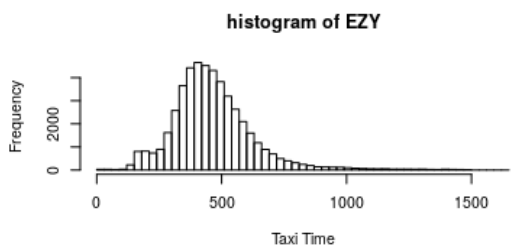
# Results

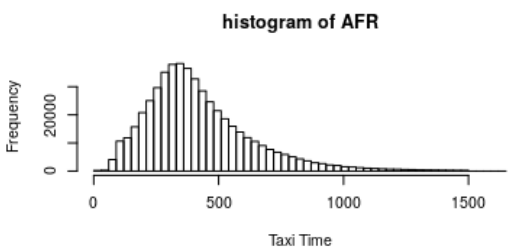
- The different movement's time distribution don't explain the variation in taxi time.

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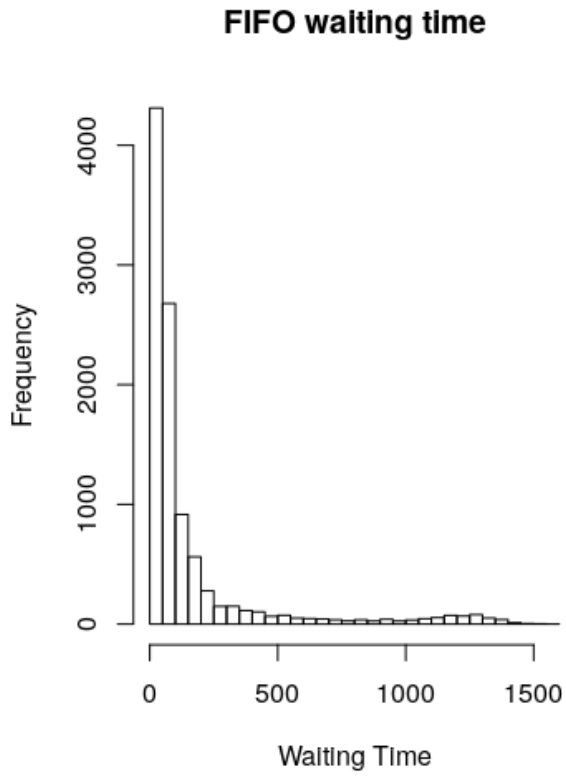
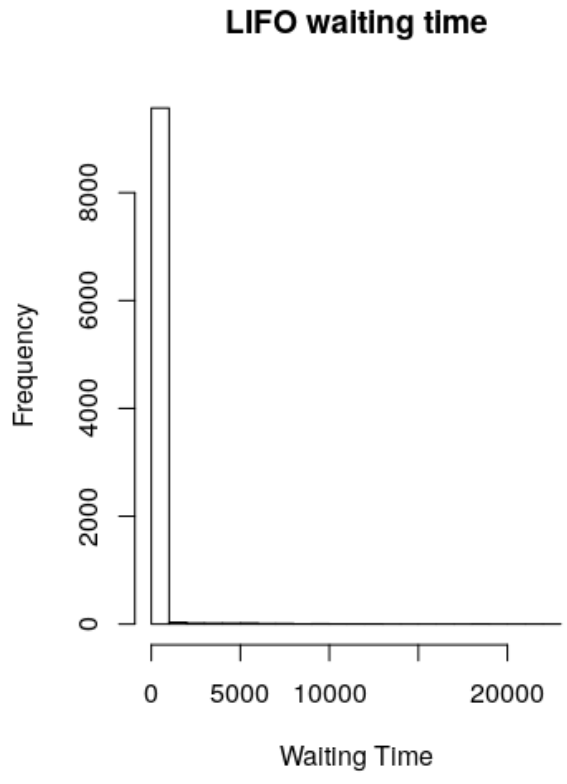
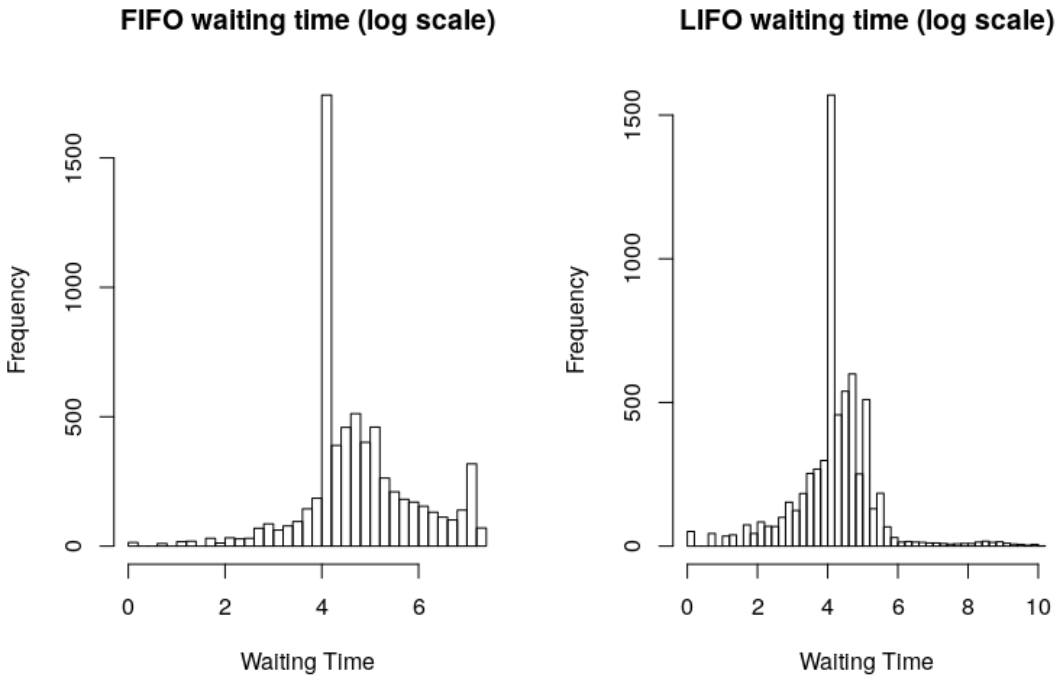
# ABM Model: LIFO vs FIFO policy

We asked ourselves about how different policies in the outgoing traffic could change the waiting time at the runway. We experimented the first-in-first-out and last-in-first-out policies to see how the waiting time distribution changed.



# ABM Model: LIFO vs FIFO policy




| Policy | Avarage Waiting Time |
|---|---|
| FIFO | 149 s |
| LIFO | 147 s |

We see a peak in correspondance to the waiting time = 60 because in the simulation, when the plane arrives at the runway, it has a certain probability to have to stop and wait 60 seconds for another plane to land.