



SOCALRUG DATA SCIENCE HACKATHON

HACKATHON FINAL PRESENTATION

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Job Market Analysis

1. Predict job creation and job destruction
2. Predict establishment entry and establishment exit





Data

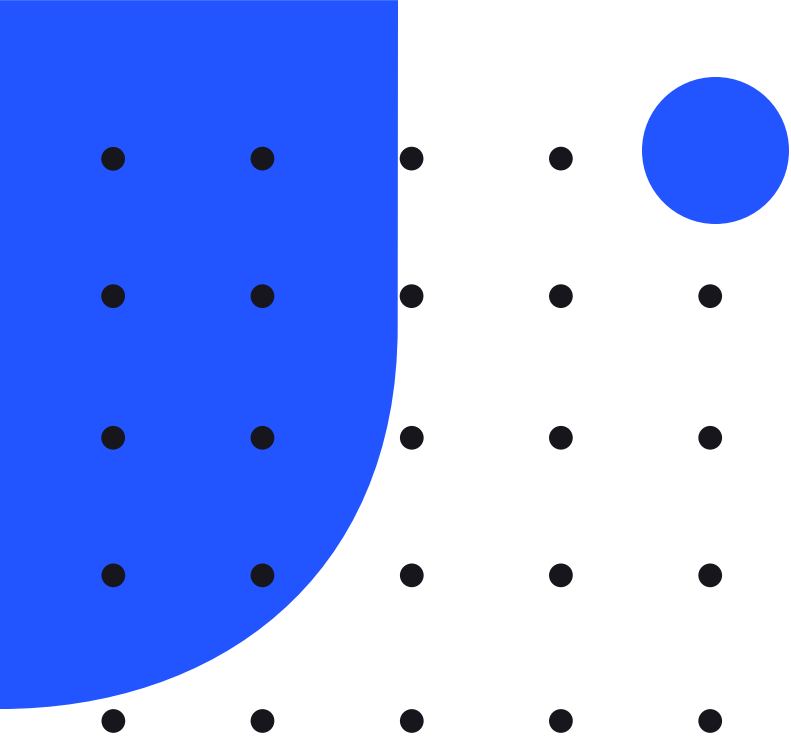


Census :

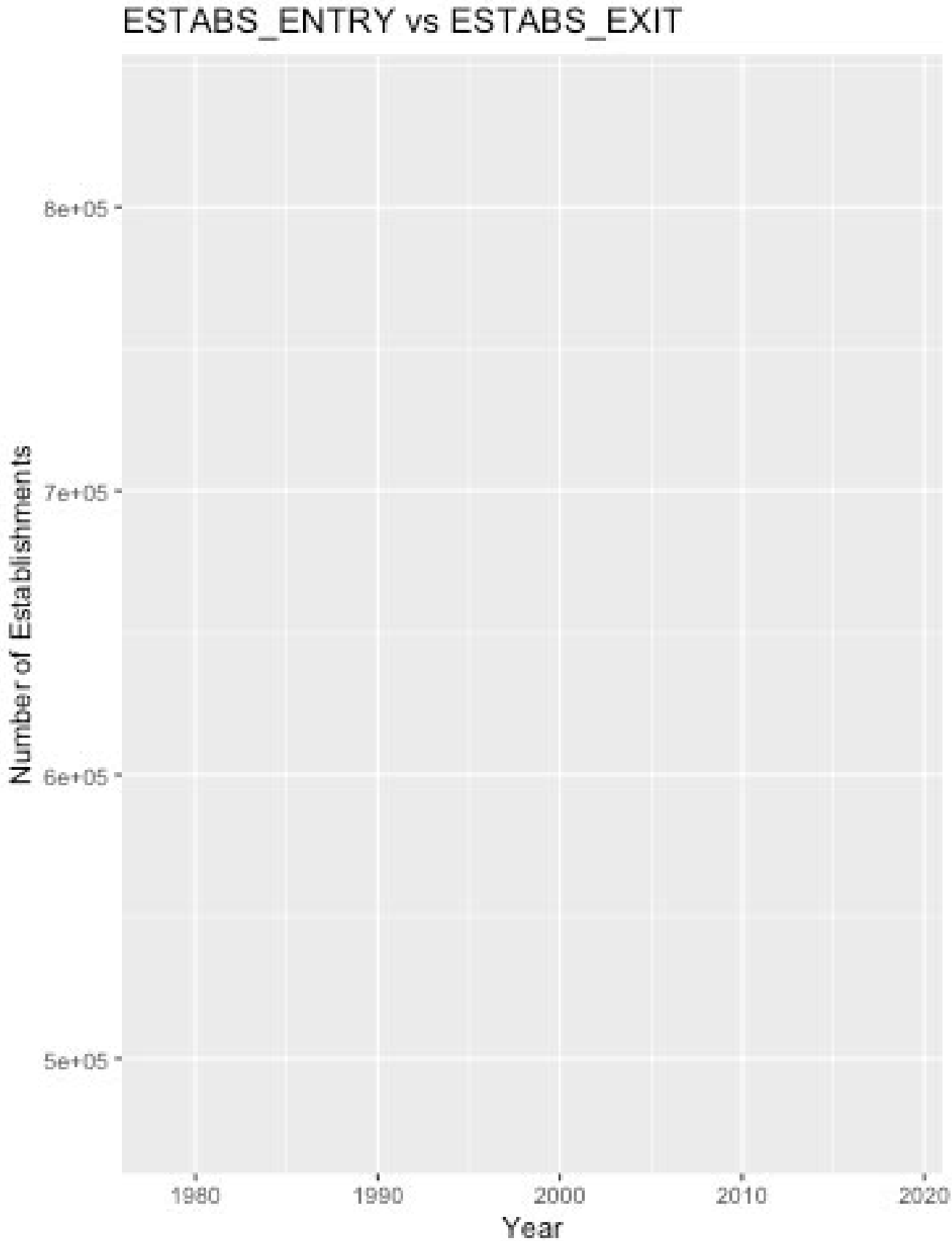
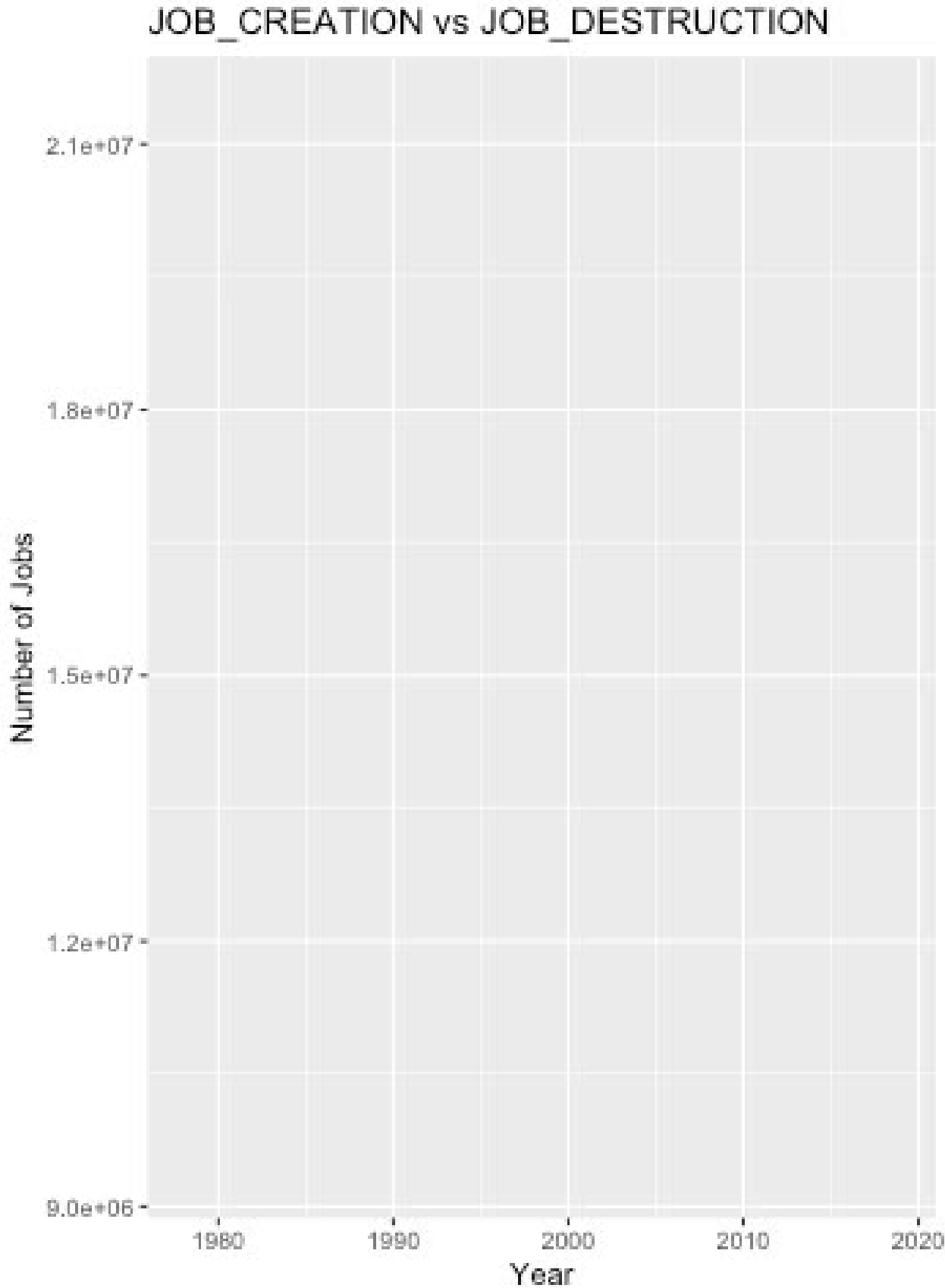
Business Dynamics Statistics 1978-2019

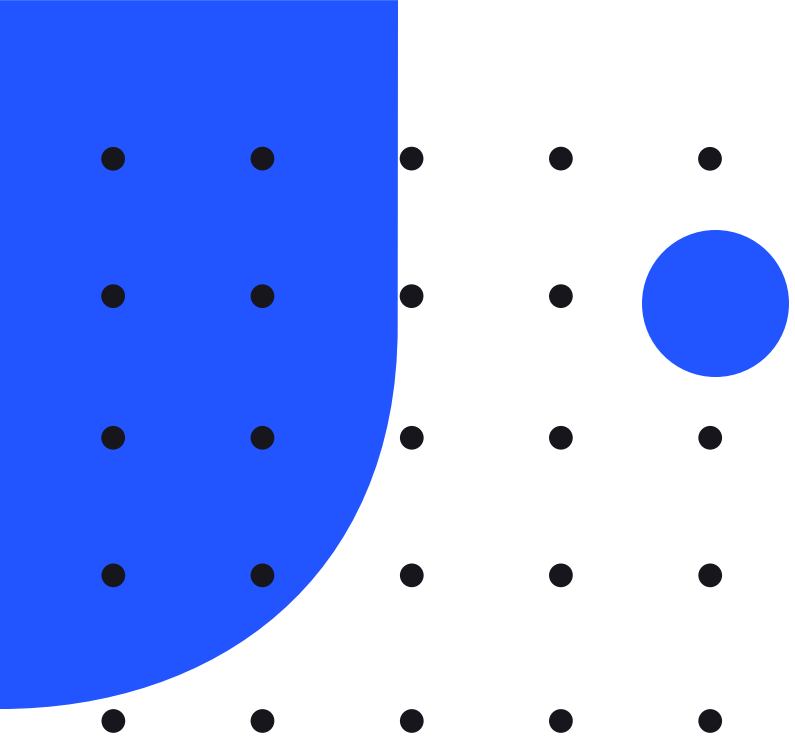
1. Descriptive Analytics

2. Time Series Analysis

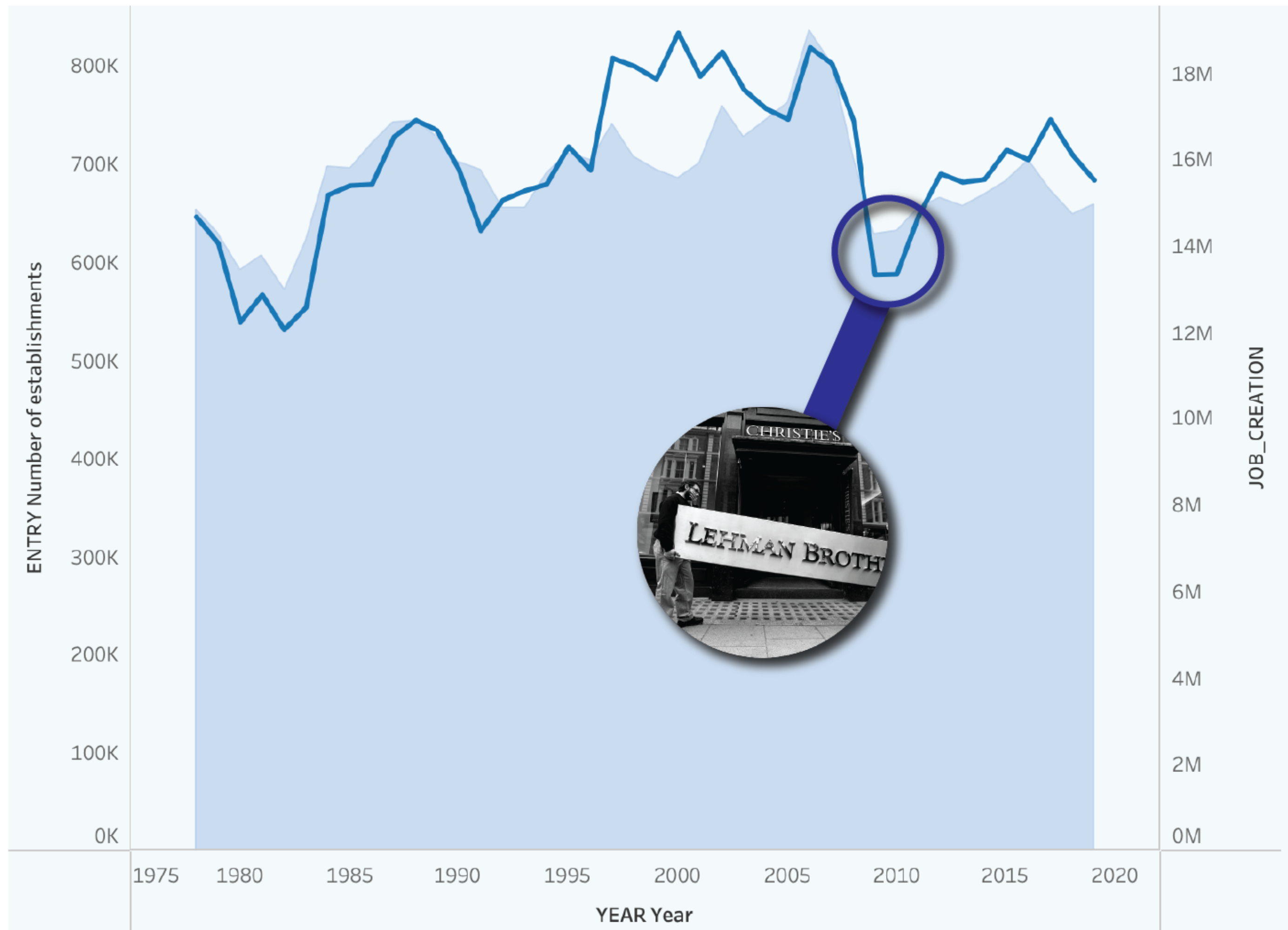


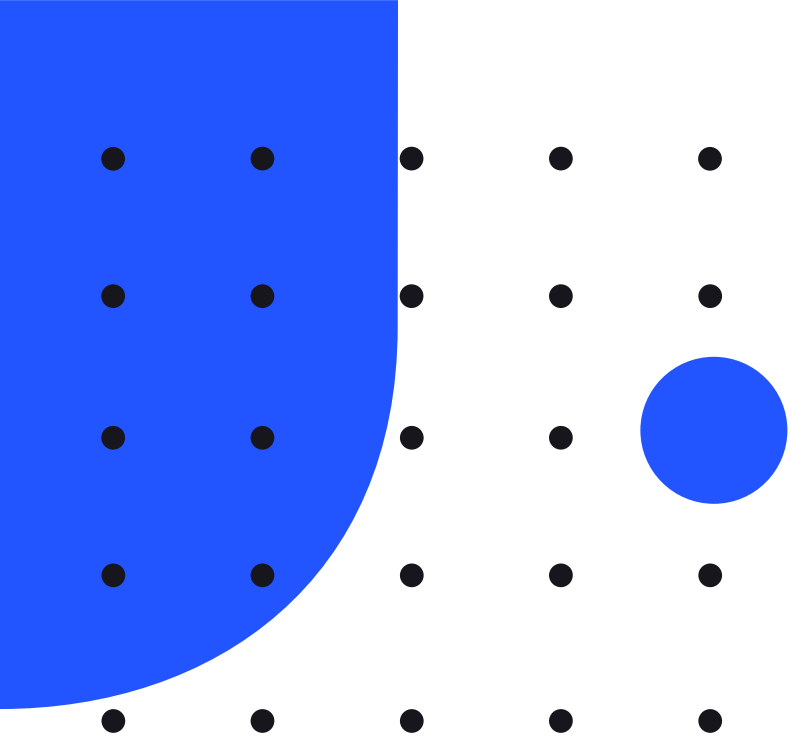
Trend



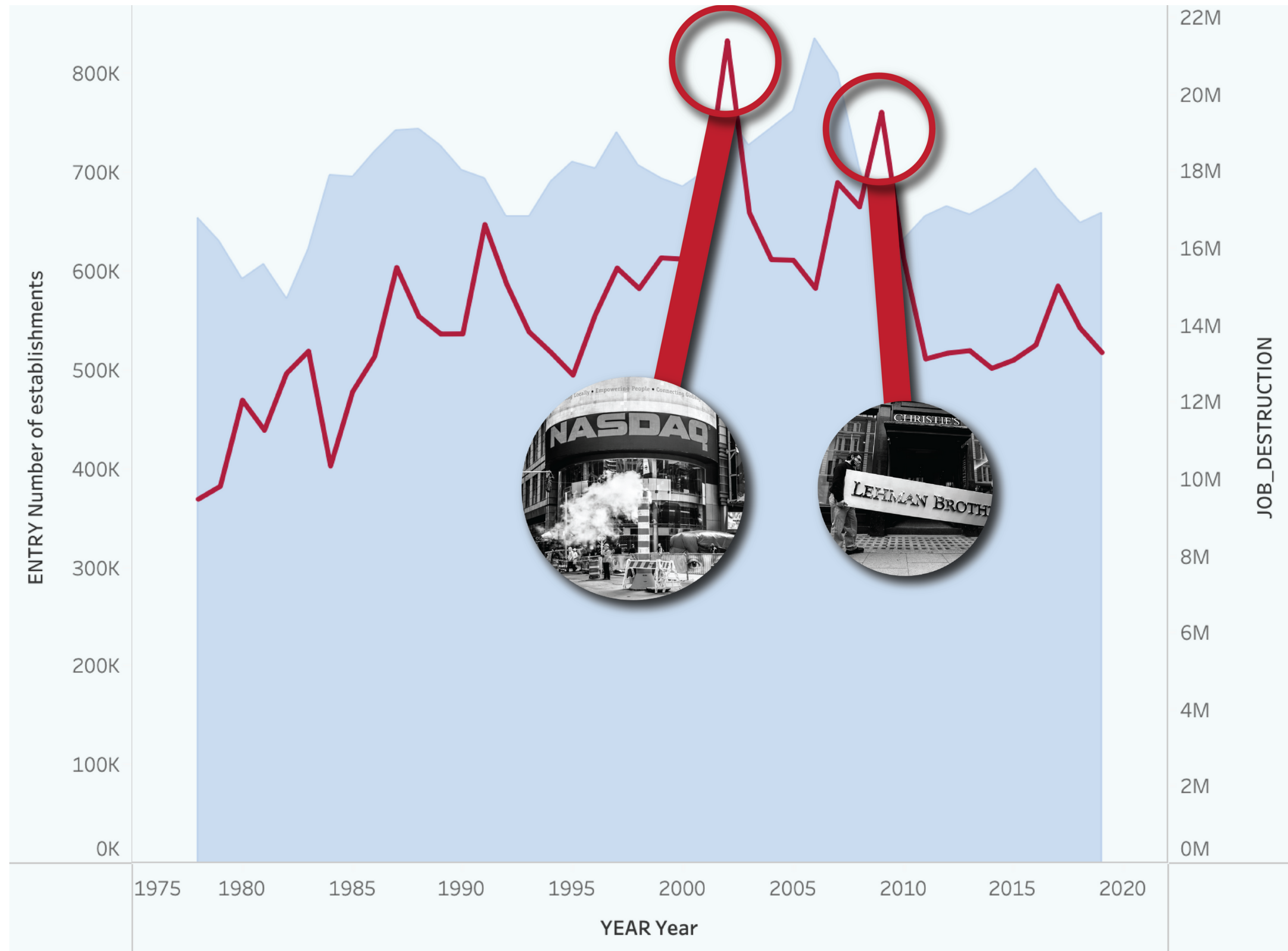


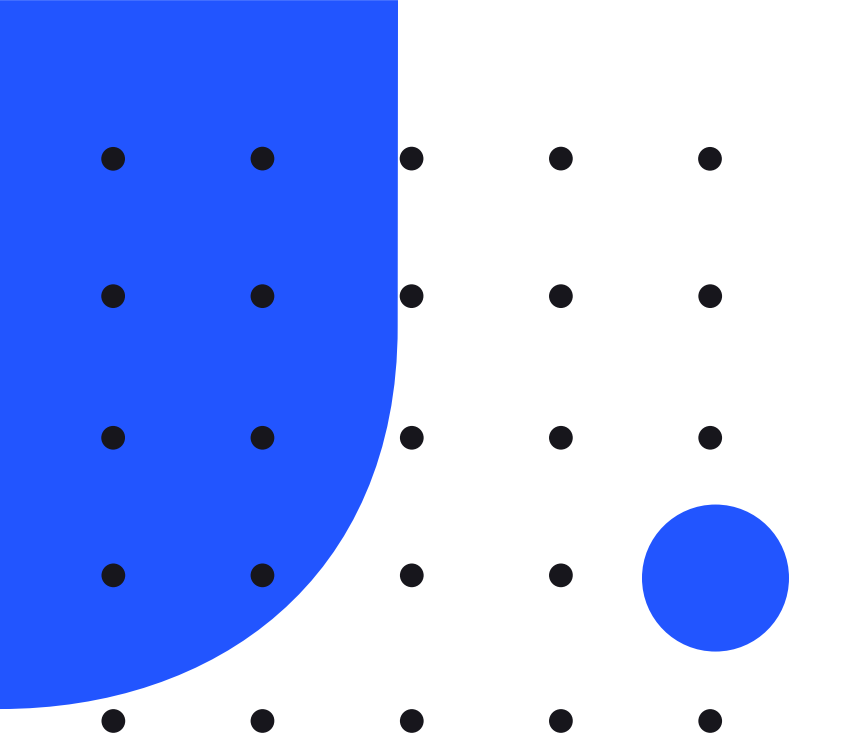
Job Creation



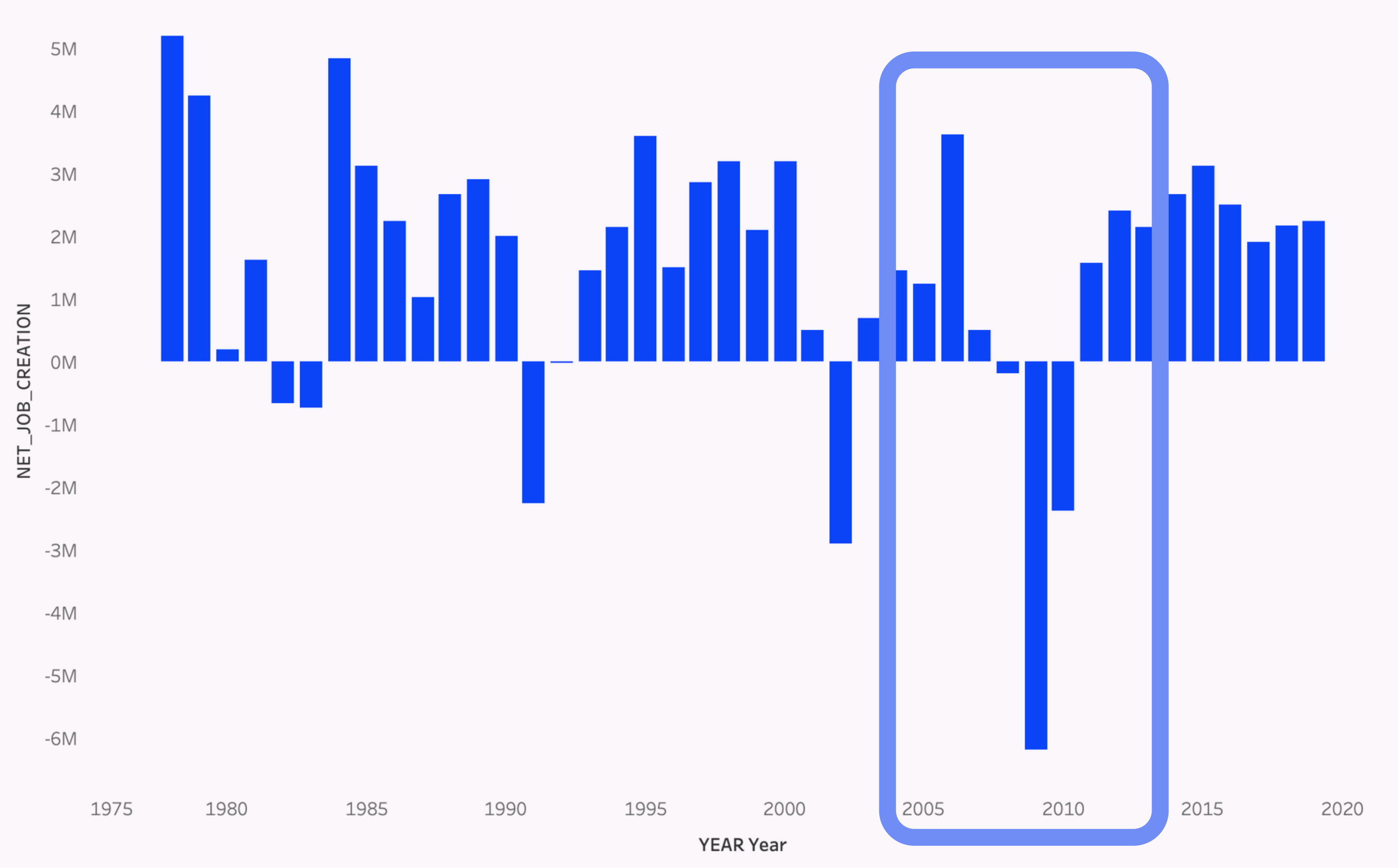


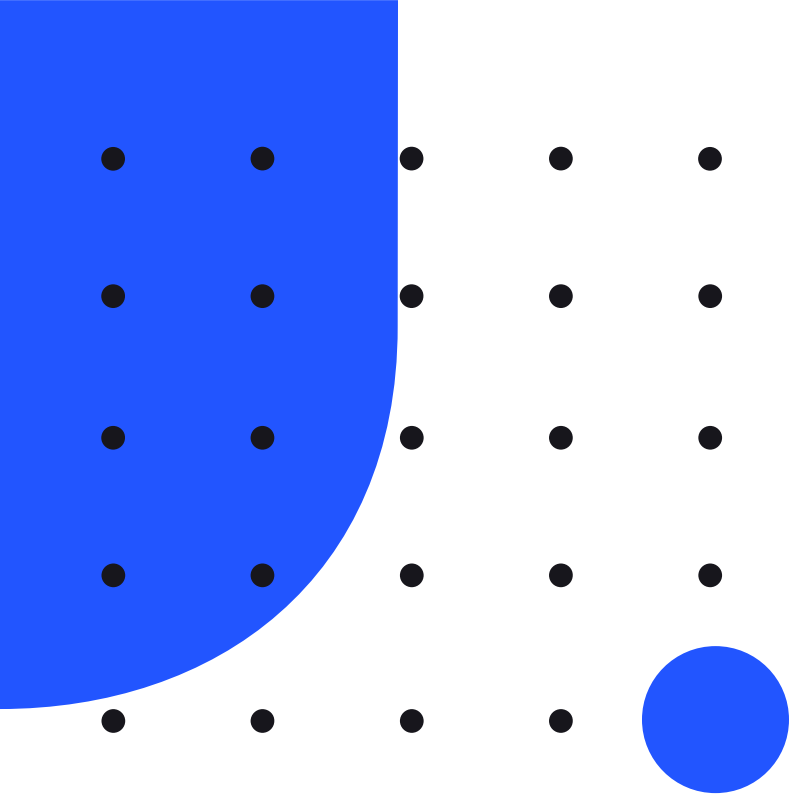
Job Losses





Net Job Creation





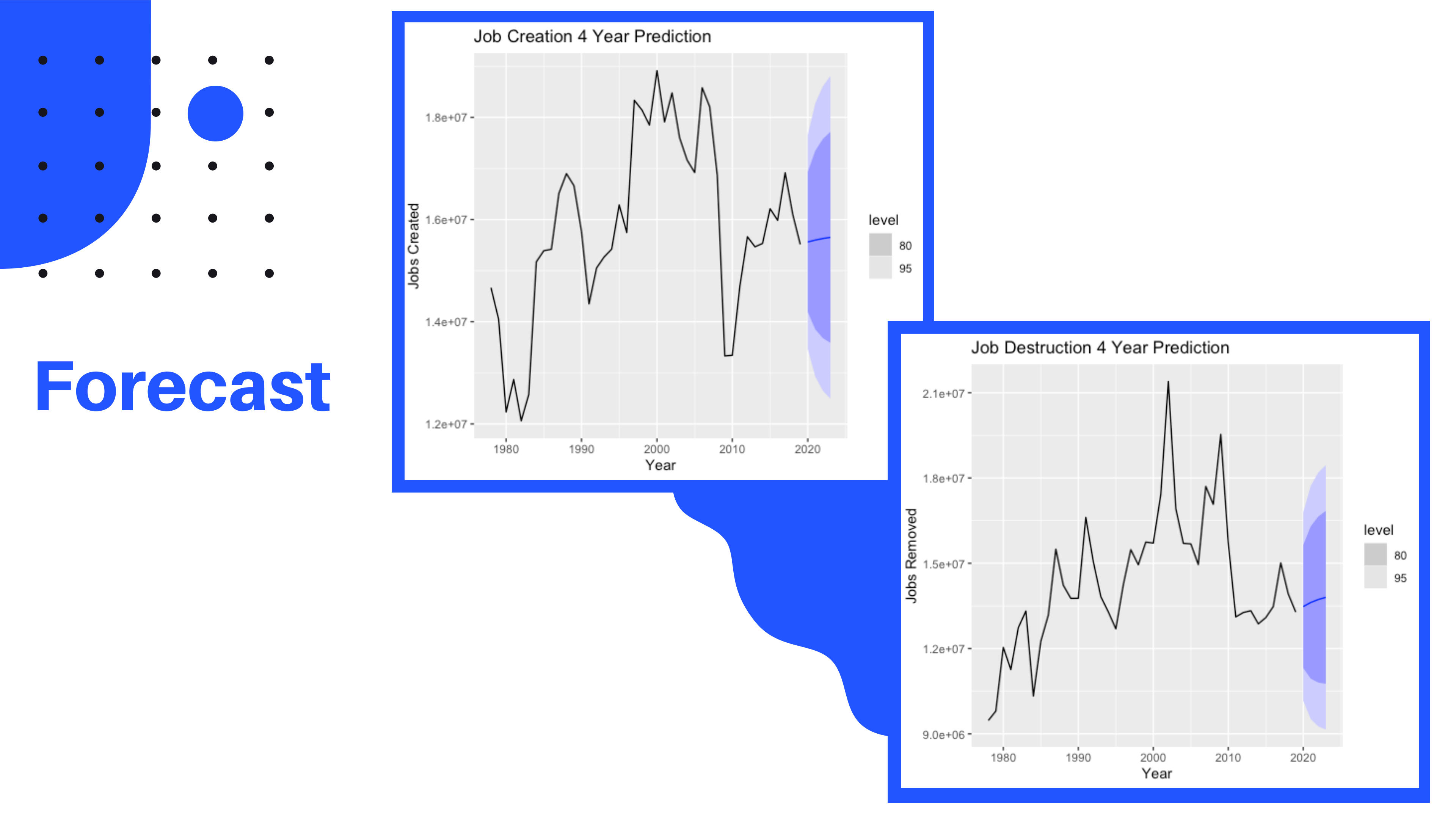
New Entry Establishment



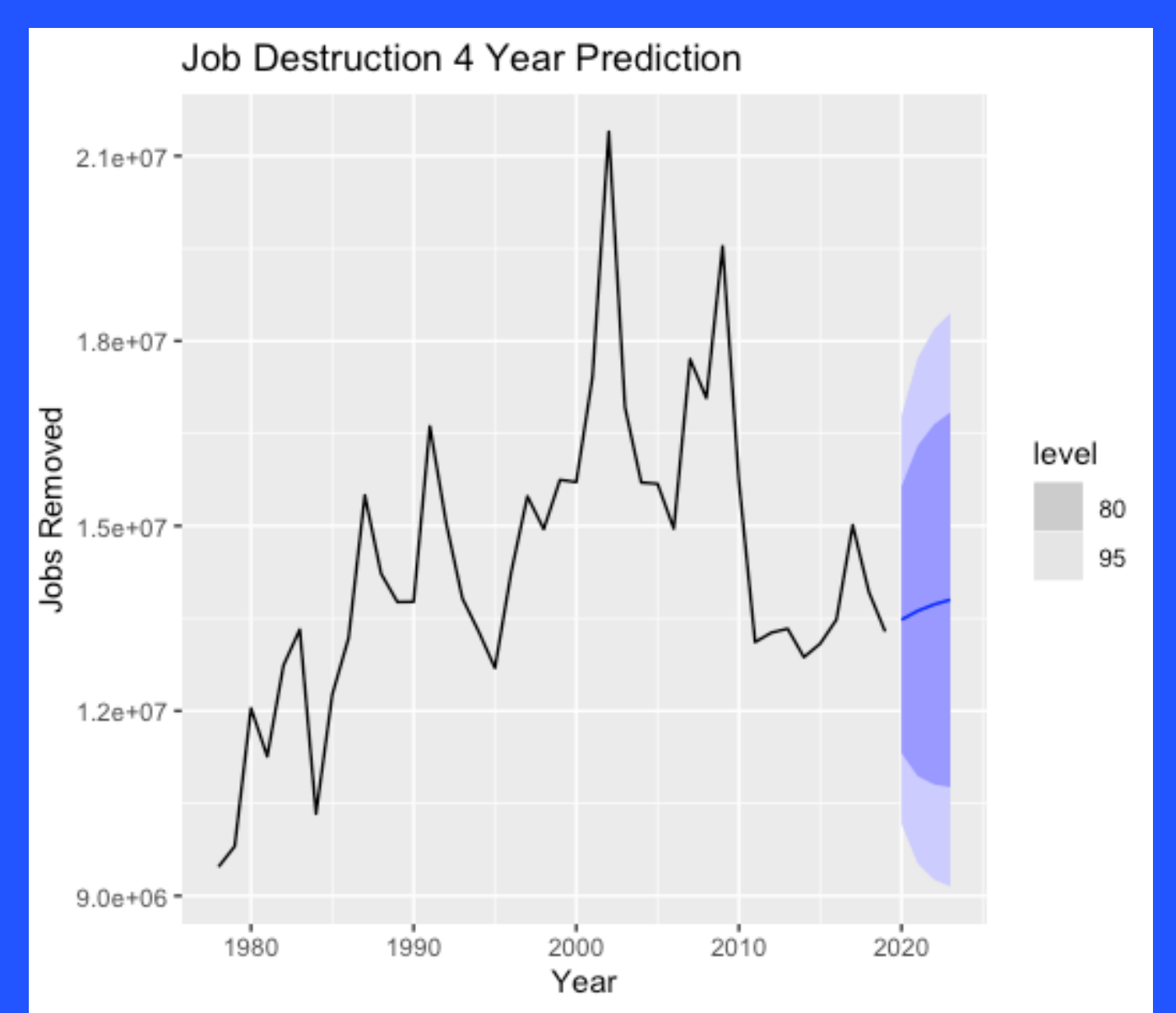
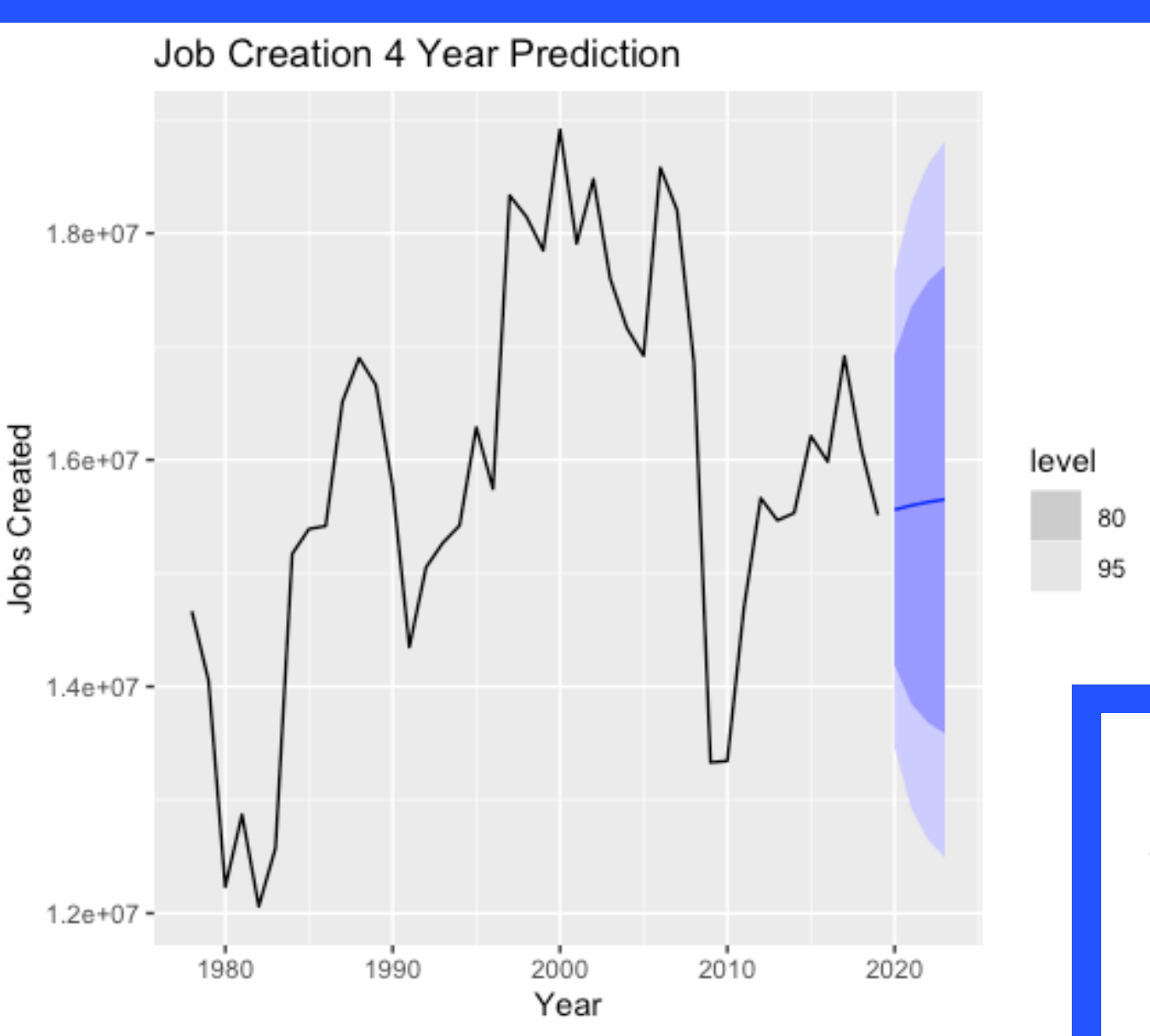


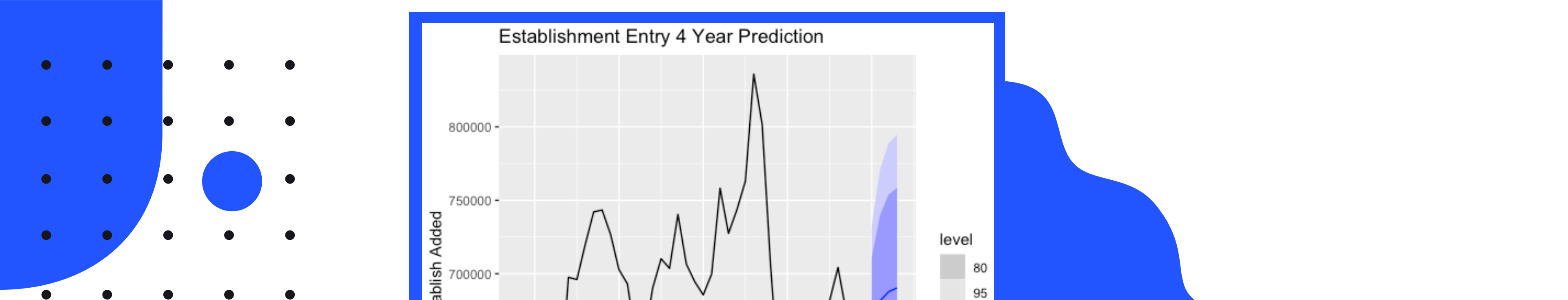
ARIMA

```
fit_1 <- model(dat1_ts, ARIMA(ESTABS_ENTRY))
report(fit_1)
augment(fit_1)
aug_1 <- augment(fit_1)
aug_1$.resid
forc_1 <- forecast(fit_1, h = '4 years' )
autoplot(forc_1, dat1_ts) +
  labs(x = "Year", y = "Establish Added", title = "Establishment Entry 4 Year Prediction")
```

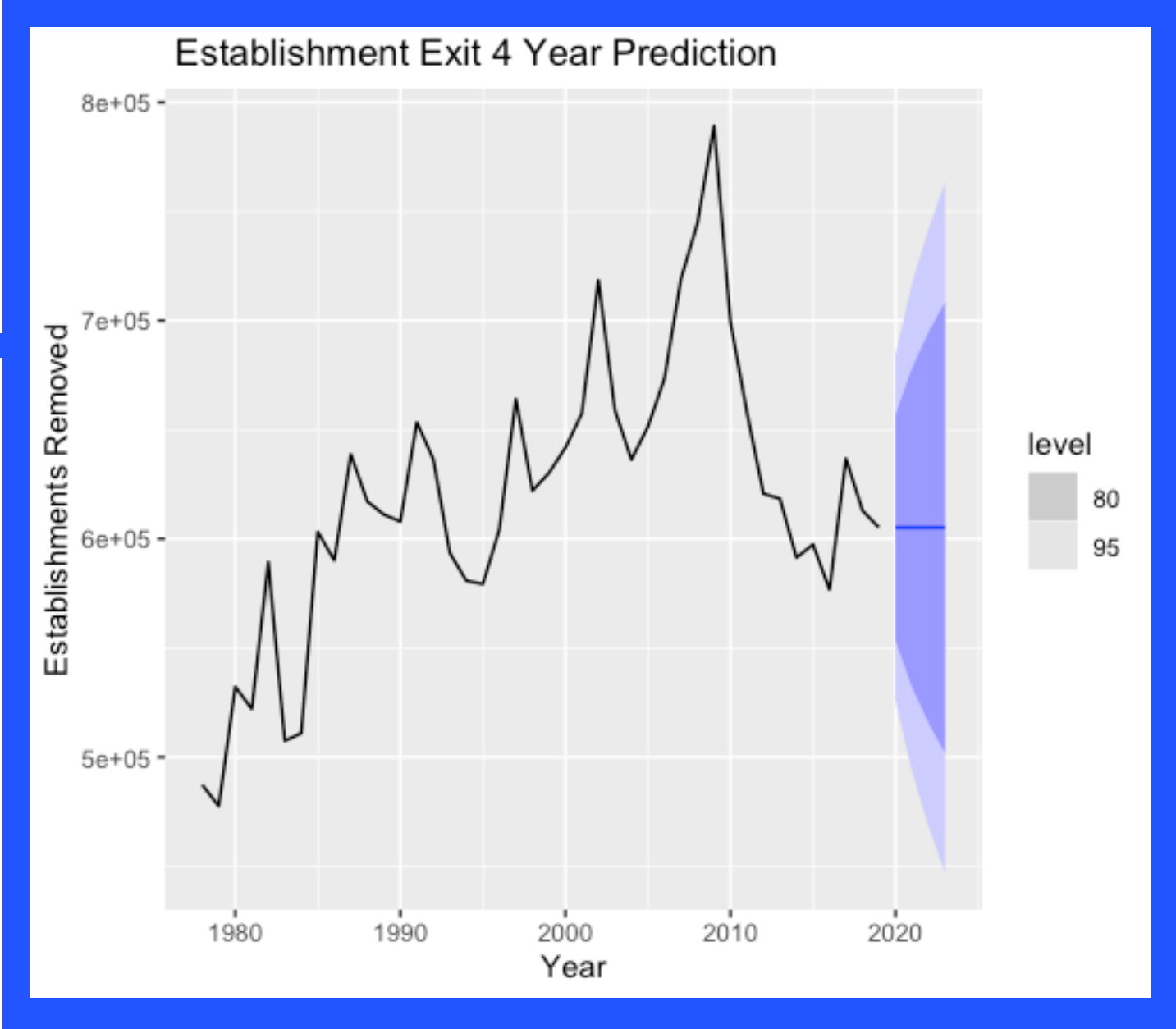
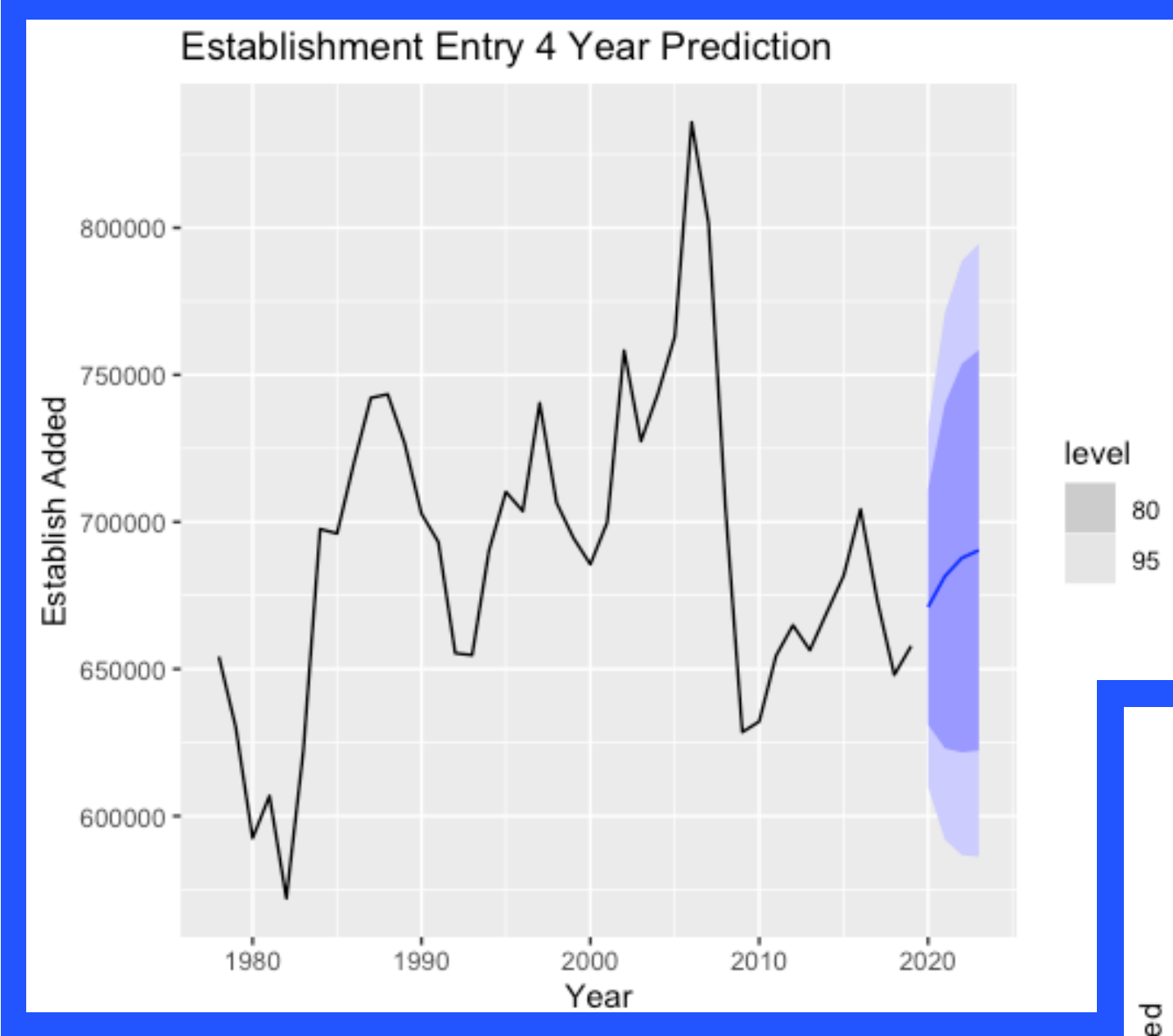


Forecast





Forecast

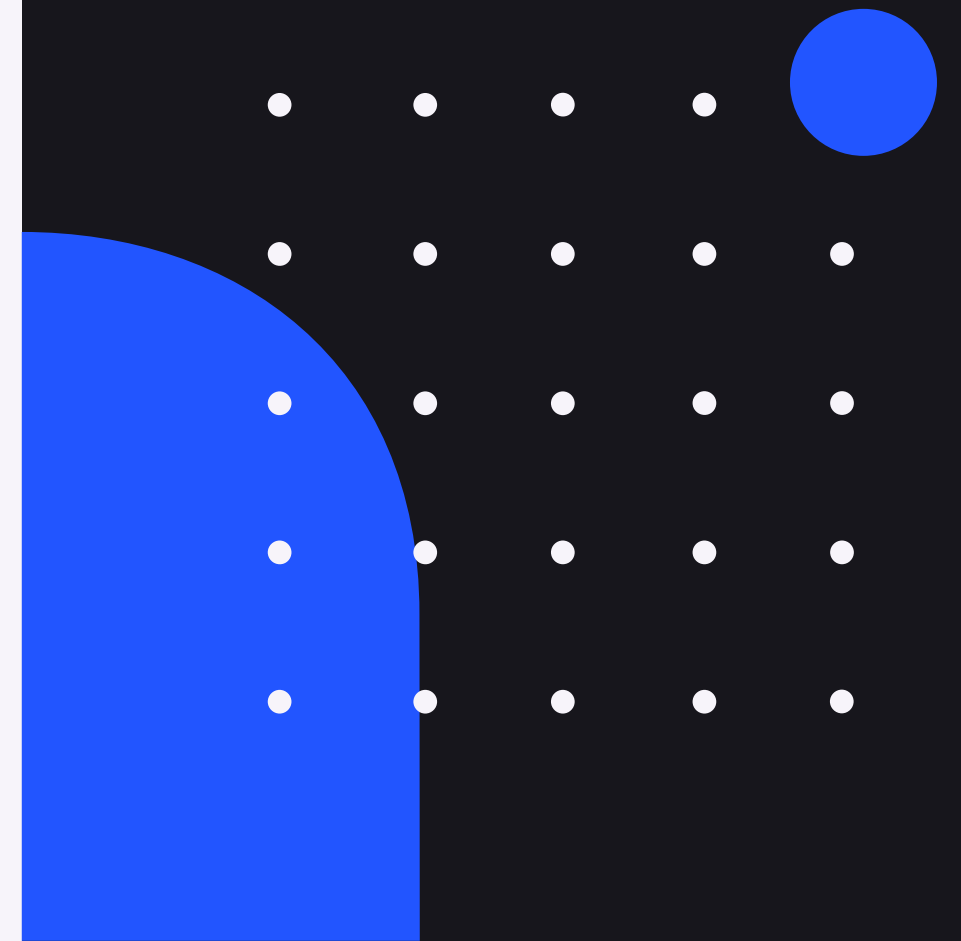


Conclusion

Job market is **difficult** to **predict**

Usually **steady**, but heavily influenced
by **irregular** events

Improve prediction with **more data**



THANK
YOU

