

Event Study



TABLE OF CONTENTS:

01

INTRODUCTION

02

DATA OVERVIEW

03

METHODS

04

RESULTS

05

EXPERIENCE

Introduction:

Definition:

- An event study examines an event's impact on a company's financial performance.
- This can be analyzed by comparing, for example, the company's stock price before and after a specific event.

Research Question:

How do stock prices respond to M&A in the tech industry?

The motivation behind the project:

- Data encounter in Industrial Organization course.
- Bridge the gap between theoretical knowledge and real-world applications.
- Use of RStudio.

DATA OVERVIEW



Collection:

- **Period:** 1995 – 2014
- **Variables:** Announcement date, Adjusted closing price
- **Sources:** Kaggle and Yahoo Finance
- **Included Entities:** 12 companies, and S&P 500

Cleaning:

- **Period variable** in relationship to the event day
- **Estimation window** of 40 days before the event
- **Event window** of 7 days before and 7 days after the event

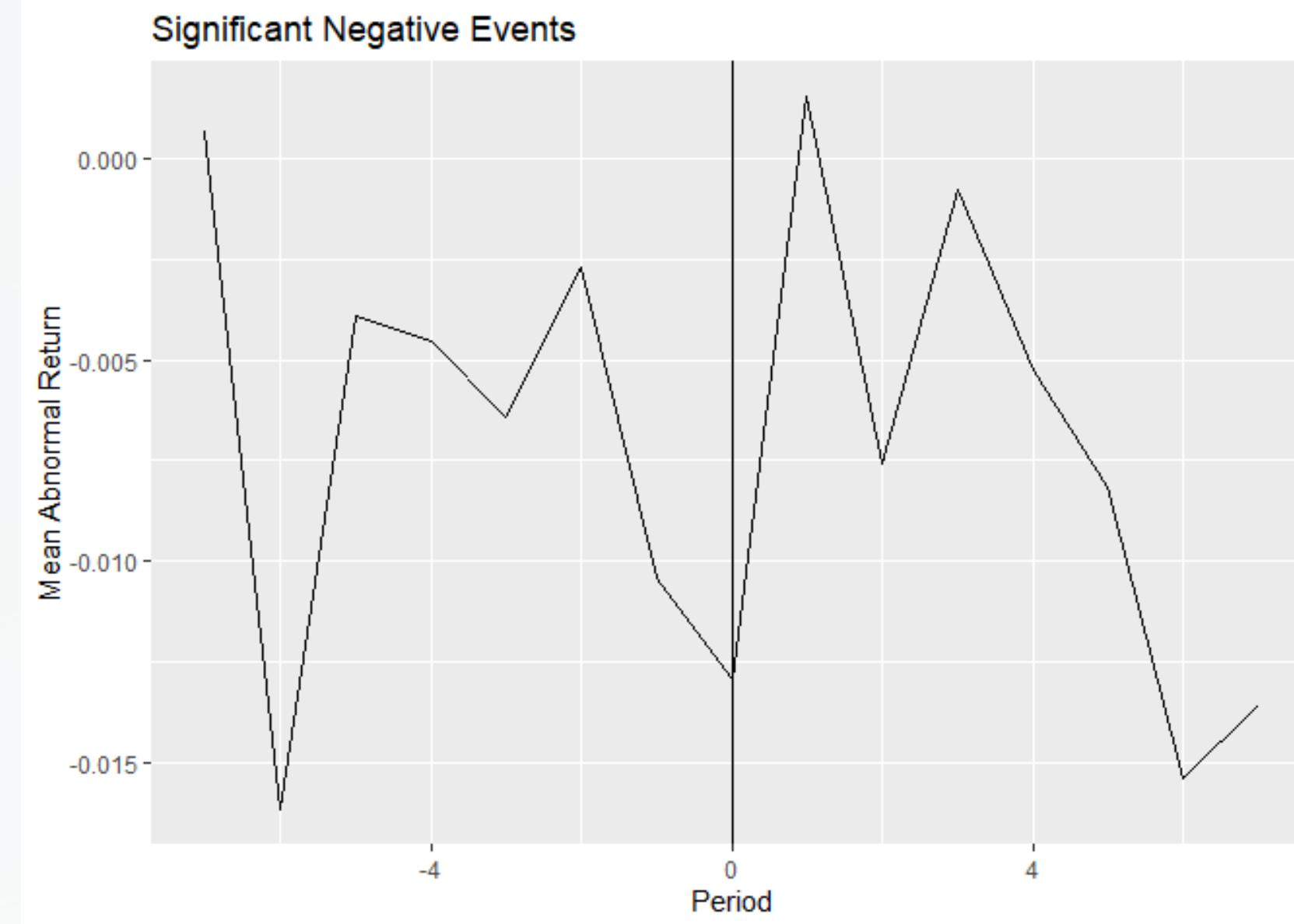
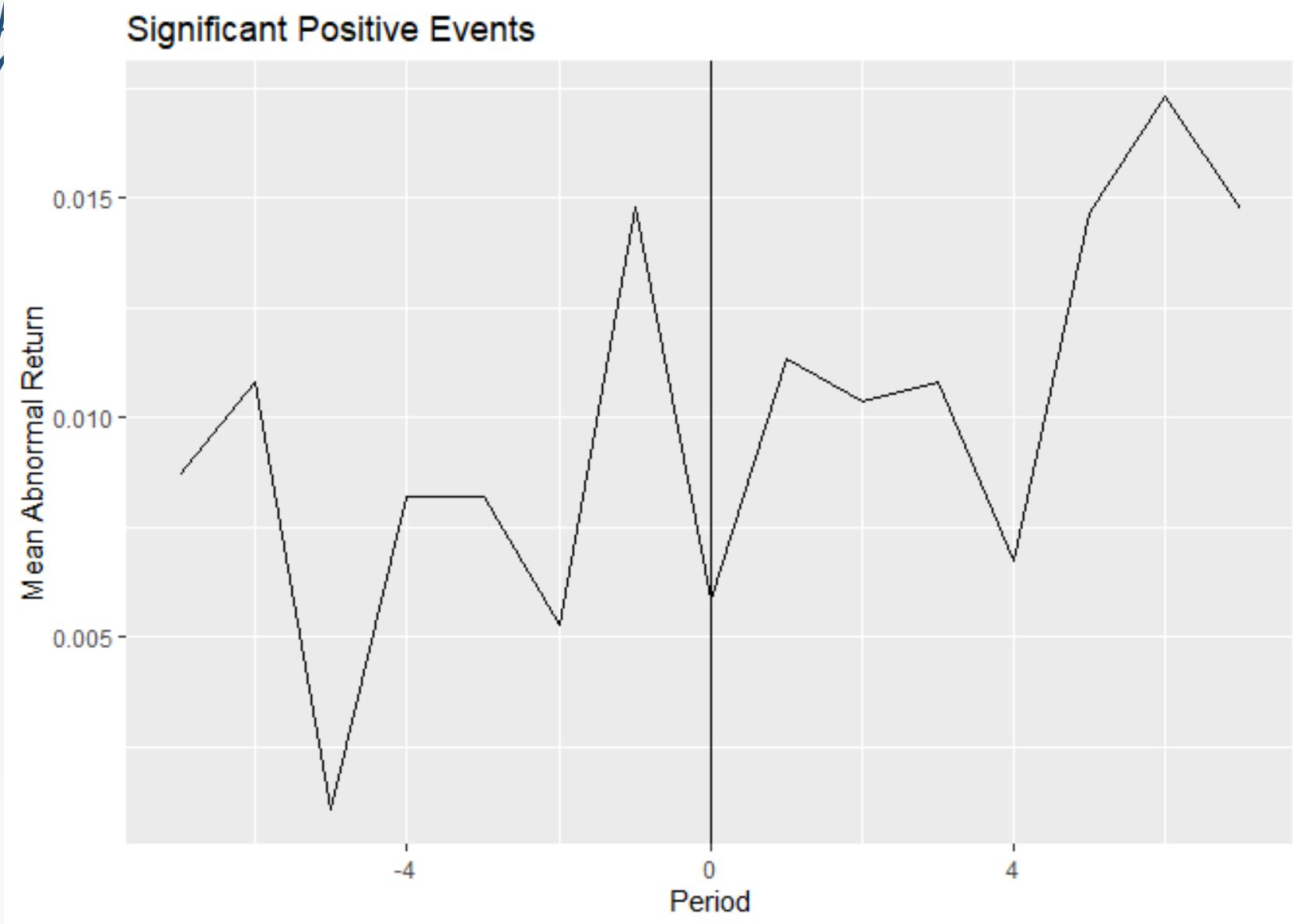
METHODS:

- Step 1:** Fit OLS model of returns onto market returns in the estimation window
- Step 2:** normal returns = alpha + beta * market_return for the event window
- Step 3:** abnormal returns = returns - normal returns in the event window
- Step 4:** Perform a t-test to test the significance of abnormal returns

$$test = \frac{\text{cumulative returns}/n}{\text{standard deviation}/\sqrt{n}}$$

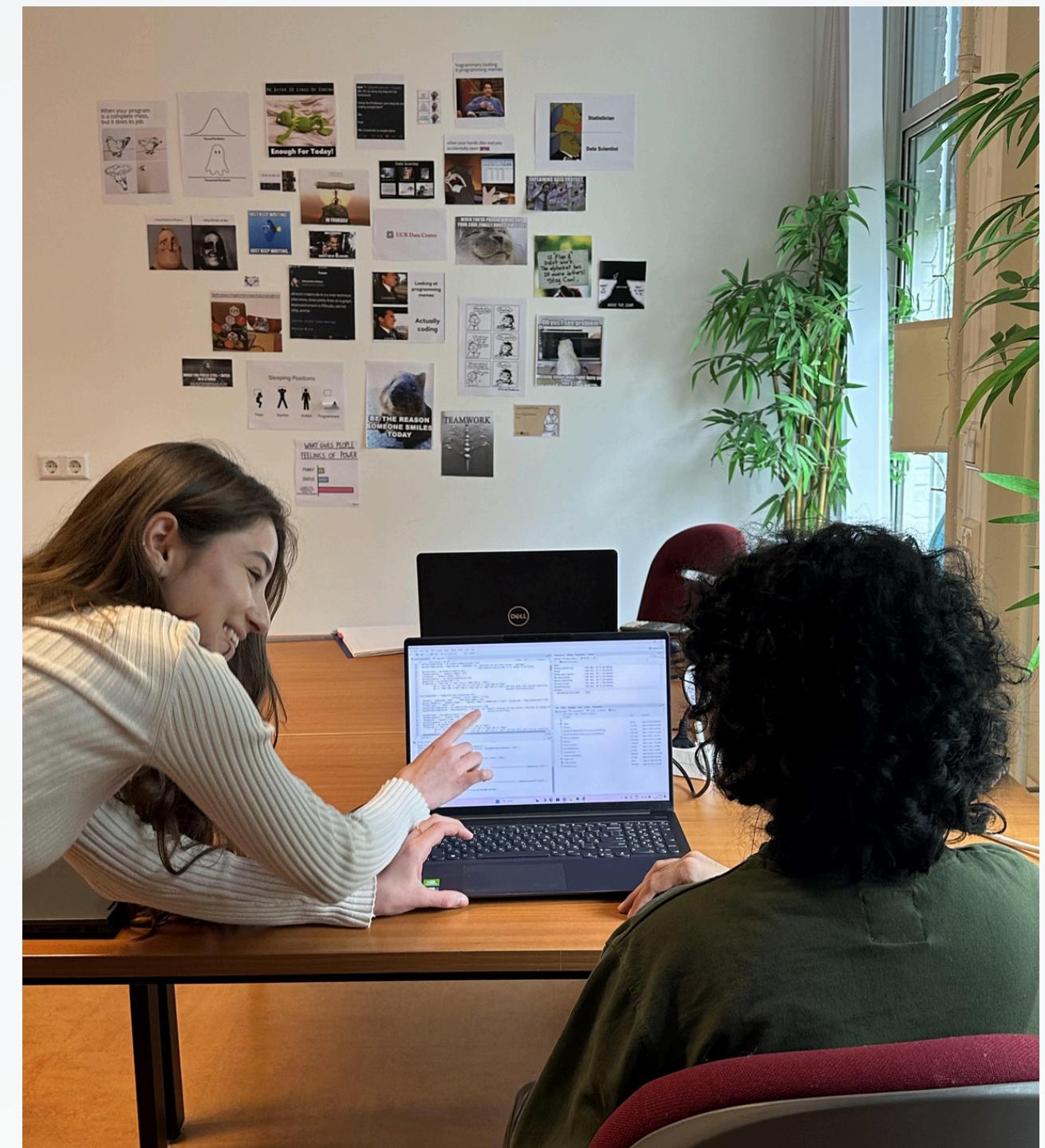
RESULTS:

- 22 significant events
- Overall not significant p-value = 0.74



OVERALL EXPERIENCE:

- Skill improvements
 - New methodology learned
 - Coding
- Meetings
- Workshop and office hours



THANK YOU!

