MANAGERIAL ECONOMICS

LECTURE 1

Rudolf Winter-Ebmer
Winter 2021

Objectives of this course

■ How to make good (managerial) decisions

■ How to use formal models to analyze the effects of (managerial) decisions

Preliminaries

- Slides available on my website hyperlinks in orange.

- Discussion forum: I will occasionally post "interesting stuff"

- You should read text before class

- My personal office hours: K150D, come by alone or with a friend anytime (If I am not here or superbusy, I will arrange a meeting) or write an email rudolf.winterebmer@jku.at
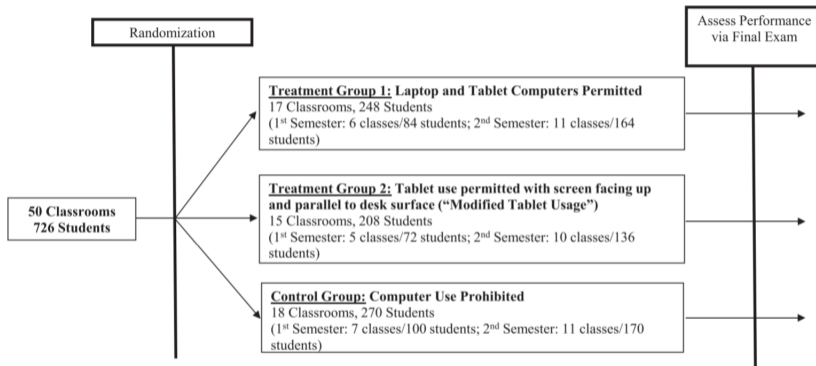
Consider this experiment

Fig. 1. Experimental design.

Notes: Figure 1 in Carter, Susan Payne, Kyle Greenberg, Michael S. Walker, 2017, Economics of Education Review, 56, p121.

Comparing the groups

Summary statistics and covariate balance.

	Control	Treatment 1 (laptops/tablets)	Treatment 2 (tablets, face up)
	(1)	(2)	(3)
A. Baseline characteristics			
Female	0.17	0.20	0.19
White	0.64	0.67	0.66
Black	0.11	0.10	0.11
Hispanic	0.13	0.13	0.09
Age	20.12	20.15	20.15
	[1.06]	[1.00]	[0.96]
Prior military service	0.19	0.19	0.16
Division I athlete	0.29	0.40	0.35
GPA at baseline	2.87	2.82	2.89
	[0.52]	[0.54]	[0.51]
Composite ACT	28.78	28.30	28.30
	[3.21]	[3.46]	[3.27]
P-Val (Joint χ^2 Test)			
B. Observed computer (laptop or tablet) use			
any computer use	0.00	0.81	0.39
Average computer use	0.00	0.57	0.22
Observations	270	248	208

Notes: Mean characteristics of student in the control group (classrooms where laptops and tablets are prohibited), treatment group 1 (laptops and tablets permitted without restriction), and treatment group 2 (tablets are permitted if they are face up). Standard deviations are reported in brackets. Table 2 in Carter, Susan Payne, Kyle Greenberg, Michael S. Walker. 2017. Economics of Education Review, 56, p123.

Grades?

Laptop and modified-tablet classrooms vs. non-computer classrooms.

	(1)	(2)	(3)	(4)
A. Dependent variable: Final exam multiple choice and short answer score				
Laptop/tablet class	−0.21***	−0.20***	−0.19***	−0.18***
	(0.08)	(0.07)	(0.06)	(0.06)
GPA at start of course			1.13***	1.00***
			(0.06)	(0.06)
Composite ACT				0.06***
				(0.01)
Demographic controls		X	X	X
R^2	0.05	0.24	0.52	0.54
Robust SE P-Val	0.010	0.005	0.001	0.002
Wild Bootstrap P-Val	0.000	0.000	0.000	0.000

Notes: estimates from a regression of exam scores on an indicator for being assigned to a classroom that permits either laptops or tablets. All estimates are from a sample of 711 students who took the final exam. All scores are standardized to have a mean of 0 and a standard deviation of 1 for each semester. All estimates include (instructor) x (semester) fixed effects and (class hour) x (semester) fixed effects. Demographic controls include indicators for female, white, black, hispanic, prior military service, athlete, and a linear term for age at the start of the course. The reported p-values are from the null hypothesis that the effect of being assigned to a classroom that permits laptops or tablets equals zero. Wild bootstrap p-values with classroom-level clusters are constructed from the procedure describe in Cameron et al. (2008). Robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level. Table 3 in Carter, Susan Payne, Kyle Greenberg, Michael S. Walker, 2017, Economics of Education Review, 56, p125.

Grades!

- Regular:
  - □ End-term exam: saturday, dec 4
- Re-sit exam: probably 2 weeks later

You need more than 48 (out of 96) points for a positive grade.

NB: If you decide to re-sit the exam, you will automatically lose all points you may have obtained from the regular exam!

Exams

The exams will have a mix of questions:

- Single choice questions: Choose the correct answer from n available options.
- True/false questions: Indicate if a statement is true, false or ambiguous.
- Open questions: solve a problem algebraically or answer a question with a written paragraph.

The Book

MANAGERIAL ECONOMICS (8th edt.)

THEORY, APPLICATIONS, AND CASES

W. Bruce Allen | Keith Weigelt | Neil Doherty | Edwin Mansfield

Older editions of the book (6th or 7th edition) are also OK

Who should study Managerial Economics?

- Managers or persons in middle management
- Owners
- Regulation authorities and relevant governmental bodies (Ministries et cet.)
- Politicians who want to understand how businesses react to policies
- Worker representatives and trade unionist
- Students who want to pursue a scientific career in this area

MANAGERIAL ECONOMICS

- **differs from microeconomics**
  - ☐ Microeconomics focuses on description.
  - ☐ Managerial economics is prescriptive.

- **is an integrative course**
  - ☐ Combines different aspects of businesses in a single analytical framework

- **has economies of scope:**
  - ☐ Insights from other disciplines (psychology, sociology, history)
  - ☐ Reinforces and enhances understanding

Why do managers exist?

Hierarchies Versus Markets

No wonder economists have long celebrated the ability of markets to coordinate human activity with little or no top-down control. Markets have limits, though. As economists like Ronald Coase and Oliver Williamson have noted, markets work well when the needs of each party are simple, stable, and easy to specify, but they're less effective when interactions are complex. It's hard to imagine, for instance, how a market could precisely coordinate the kaleidoscopic array of activities at the heart of a large, process-intensive manufacturing operation.

That's why we need corporations and managers. Managers do what markets cannot; they amalgamate thousands of disparate contributions into a single product or service. They constitute what business historian Alfred D. Chandler Jr. called the visible hand. The downside, though, is that the visible hand is inefficient and often ham-fisted.

Wouldn't it be great if we could achieve high levels of coordination without a supervisory superstructure? Wouldn't it be terrific if we could get the freedom and flexibility of an open market with the control and coordination of a tightly knit hierarchy? If only we could manage without managers.

Gary Hamel, Harvard Business Review, 12/2011.

What do managers manage?

■ Make choices that increase the value of the firm.

■ The value of the firm is defined as the present value of future profits.

■ Present value of expected future profits =

$$\frac{\pi_1}{1+i} + \frac{\pi_2}{(1+i)^2} + \ldots + \frac{\pi_n}{(1+i)^n} = \sum_{t=1}^{n} \frac{\pi_t}{(1+i)^t}$$

How so?

■ Managers influence:
  ☐ revenue by managing demand
  ☐ cost by managing production
  ☐ financial risk by managing finances

■ Managers face constraints:
  ☐ Available technologies
  ☐ Scarce resources
  ☐ Legal or contractual limits

What is profit?

■ Two *different* concepts:

   ☐ Accounting
- Historical costs
- Legal compliance
- Reporting requirements

   ☐ Economic Profit
- Market value (i.e., also future uncertain revenues and expenses)
- Opportunity, or implicit, cost
- The measure for managerial decisions!

The concept of economic profits

- Profit the owner makes over and above what their labor and capital employed in the business *could earn elsewhere*!
  - □ labor and capital employed in the firm has to be rewarded as in the outside world
  - □ we use typical wage and interest rate
- In competitive industries economic profits are zero, the costs of operating in the market are contained in the prices
- Economic profits of zero are better than no profits! (Operating a business and recovering the costs, including your wage, is better than no job.)

- What are competitive industries?
  - □ Standardized products, no risk involved, et cet.
  - □ But: Pharmaceutical industry, car industry, aircraft building industry, oil producing industry, ... ?

Where do profits come from?

- ■ Innovation
  - □ New or better products in terms of functionality, technology or style
- ■ Risk-taking
  - □ Future outcomes and their likelihoods are unknown, as are the reactions of rivals
- ■ Exploiting Market Inefficiencies
  - □ Building barriers to entry, employing sophisticated pricing strategies, diversifying, and making good strategic production decisions
- ■ Learn from the past and your competitors!

Study demand

- Understand the many factors that influence demand
- The role of managers in controlling and predicting market demand: price, advertising, product quality, and distribution
- Scientific approaches:
  - ☐ Theory
  - ☐ Experiments
  - ☐ Observational data and estimates

Learn about market structure

Different competitive environments require different strategies:

- prices
- output
- other strategies

Learn Methods

'Game Theory' is used to study

- decision making
- strategic managerial decisions — managers must consider the responses of their rivals or customers
- auctions: a powerful way of selling
- strategic decisions when faced with incomplete or imperfect information

Conflicts of interest

The interests of owners and of managers may differ

- The owners ('principals') want managers to maximize the value of the firm
- The managers ('agents') want more compensation and less accountability.
- The divergence in goals is the principal-agent problem.

The interests of managers and workers are probably different as well.

People react to incentives

- **Moral hazard**: when people behave differently when they are not subject to the risks associated with their behavior.
- Managers who do not maximize the value of the firm may do so because they do not suffer as a result of their behavior.

Advice

If you find the material too difficult or have questions:

1. Read the book.
2. Consult your microeconomics textbook (e.g., Varian or Pindyck and Rubinfeld).
3. Use the discussion forum in KUSSS.
4. Talk to Felix.
5. See me.

Have fun — economics is about maximizing utility!