Session 1 - Policy Evaluation

Introduction to policy evaluation

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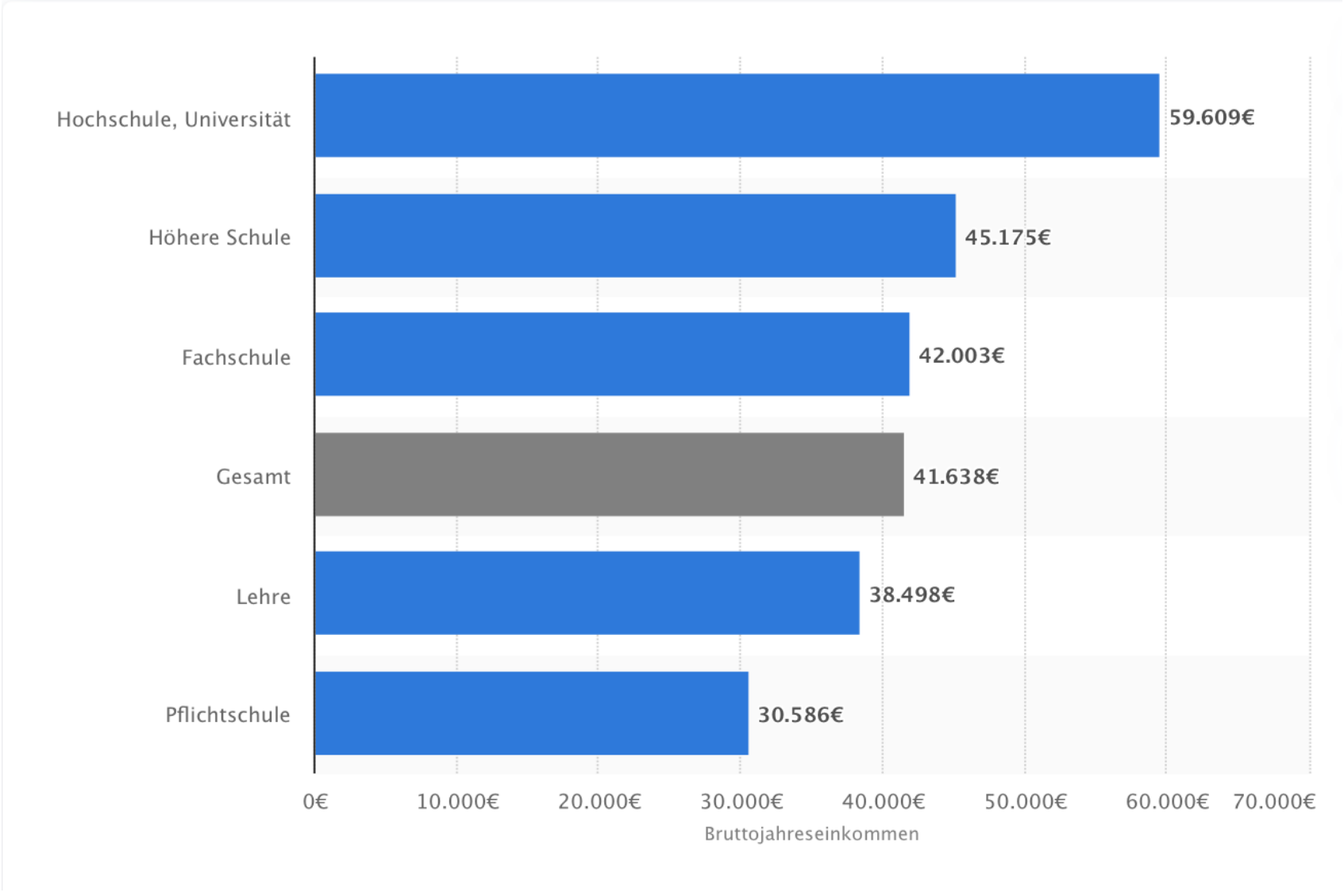
Core reading: Gertler, chapters 1 and 2

Mean annual earnings of full-time workers in Austria 2017



Source: Statistik Austria, Statista 2022

Purpose of this course

- **Understand program evaluation as a *consumer***
  - Synthesize and understand evaluation results
  - Evaluate the quality of policy evaluations or choose between evaluation proposals
  - Make evidence-based decisions
- **Provide skills to design and implement program evaluations**
  - Many economists work on evaluations, not only in academia

Why do we evaluate programs?

- **Policy** and **program** will be used as synonyms
- Lots of money is spent every year to try to change things:
  - Government-provided job training programs
  - Sugar-tax to reduce obesity
  - Subsidies to increase R&D investment in firms
  - Incentive schemes to increase worker productivity
- We want to know:
  - What difference have these programs made?
  - What outcomes have been affected? By how much and for whom?

Broader agenda: Evidence-based policy making

- Policy decisions informed by rigorously established evidence
  - In reality often: *Policy-based evidence making*
- Based on the idea of evidence-based medicine
- Goal: Inform allocation of resources, guide policy decisions, enhance accountability
- Build general knowledge about the effectiveness of policies

Which policies should we evaluate?

- Evaluations are costly, especially data collection
- What are the stakes of this policy?
  - Budget
  - Size of target population
  - *Potential* effect sizes
- Evaluate if the policy is:
  - Innovative: new and promising
  - Replicable: can be scaled up or applied in a different setting
  - Strategically relevant: flagship initiative, requires substantial resources, could have large (side) effects or generate substantial savings
  - Untested: Little is known about the effectiveness of this type of policy
  - Influential: Results will be used to inform key policy decisions

Common errors

- People without knowledge in program evaluation tend to confuse:
  - Monitoring and evaluation
  - Correlation and impacts
- Examples:
  - "The program was successful: 72% of participants find a job after job training"
  - "I feel better today because I took Globuli yesterday"
  - "She has a high income because she studied economics"
  - "Aztecs: Without human sacrifices of children, rain would not come, and crops would not flourish"
- This can be extremely misleading

Simpson's (1951) paradox

- Event C increases the probability of E in the population, whereas it decreases the probability of E in all sub-populations
- Example: Taking a particular pill is helpful for the population but harmful for men and women

Combined	Recovery (E)	Not E	Sum	Recovery Rate
Drug (C)	20	20	40	50%
No drug (not C)	16	24	40	40%

What is impact evaluation?

- **Monitoring** tracks what is happening with a program, looks at the program implementation
  - Is the money indeed spent the way it was supposed to be?
- **Impact evaluations** seek to answer a cause-and-effect question
  - Which changes are directly attributable to a program?
  - What is the effect of obtaining a university degree on earnings?

Prospective versus retrospective evaluation

- **Prospective evaluation**
  - Set up at the same time as policy
  - Built into policy implementation/roll-out
- **Retrospective evaluation**
  - Policy evaluation after implementation
- PE is more likely to produce credible evaluation results
  - (Baseline) data collection on treated and controls
  - Creates focus on policy objectives
  - Easier to construct credible counterfactual

Efficacy studies and effectiveness studies

- **Efficacy studies**
  - Carried out in a specific setting under closely controlled conditions
  - Small-scale pilot/proof of concept
- **Effectiveness studies**
  - Interventions that take place in normal circumstances, using regular implementation channels
  - Aim to produce findings that can be generalized to a large population

Internal versus external validity

- **Internal validity**
  - Evaluation identifies causal effect of program in a given setting
  - Varying degrees of credibility (RCT: Gold Standard)
- **External validity**
  - Generalizability of causal effect to other situations
  - Informative for a larger or different population, different time

Cost-benefit and cost-effectiveness analysis

- **Cost-benefit analysis**
  - Estimates the total expected benefits of a program, compared to its total expected costs.
  - Seeks to quantify all of the costs and benefits of a program in monetary terms and assesses whether benefits outweigh costs.
- **Cost-effectiveness analysis**
  - Compares the relative cost of two or more programs or program alternatives in reaching a common outcome
    Impact evaluation estimates the benefit side, and cost analysis provides the cost information! We focus on **impact evaluation**.

Preparing for an evaluation

- Specify the evaluation question
- Construct a theory of change
- Develop a results chain
- Select indicators to assess performance

Evaluation question

- First step: Formulate a clear study question
  - What is the impact of the policy on an outcome of interest?
  - Which changes are directly attributable to a program?
- Needs to be framed as a **well-defined, testable hypothesis**

Are these good evaluation questions?

- What is the effect of studying economics on later earnings?
- What is the effect of being a woman on the likelihood of becoming a politician?
- What is the effect of reducing the speed limit on highways from 130 to 100 km/h on the number of traffic deaths?

Theory of change

- Describe the causal pathway (sequence of events from policy to final outcomes)
- Formulate necessary assumptions and enabling conditions
- Include all stakeholders
- Consult existing literature

Results chain

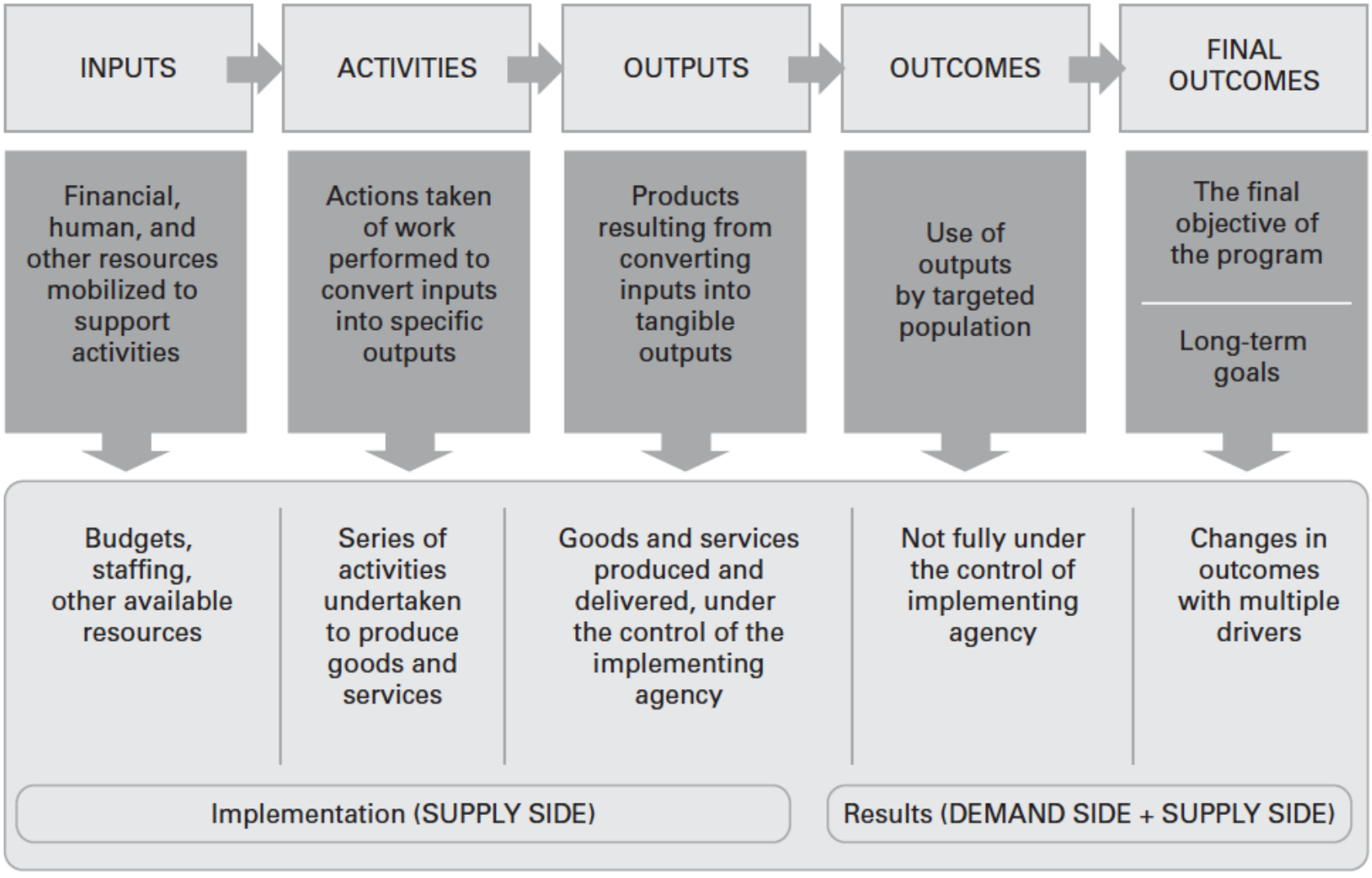


Figure 1: Results chain

Results chain - example

- Government agency provides training about settlement to immigrants
  - **Inputs**: Staff from government agency, trainers, facilities, government budget, contact information of immigrants
  - **Activities**: Design curriculum of training, select and prepare trainers, design, prepare, and distribute written material
  - **Outputs**: Number of immigrants trained, number of written materials provided
  - **Outcomes**: Immigrants behave differently based on information provided
  - **Final outcomes**: Immigrants are (economically) more successful, higher well-being, less welfare spending for immigrants, reduced social tensions

Performance indicators (Outcomes)

- Ideally use indicators along the whole results chain
  - Not only final outcomes
  - Understand mechanisms
  - Especially important if evaluation finds no effect on final outcome
- Selection of indicators should involve stakeholders
- SMART indicators
  - **Specific**: Translates required information into operational measure
  - **Measurable**: Information can be measured and obtained
  - **Attributable**: Indicator is linked to the policy's efforts
  - **Realistic**: Information can be obtained timely, with reasonable frequency, at reasonable cost
  - **Targeted**: To the objective population