Economics

MS3001D Engineering Economics

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- A woman hears from her doctor that she has only half a year to live.
- The doctor advises her to marry an economist and move to South Dakota.
- WOMAN: “Will this cure my illness?”
- DOCTOR: “No, but the half year will seem pretty long.”

- The world is a sufficiently complicated and uncertain place
- Most valuable thing economists have to share is
  - often not their conclusion,
- but the path they took to reach it—
  - the facts they knew,
  - the way they interpreted those facts,
  - the deductive steps they took,
  - the remaining sources of their uncertainty.

- economists are not scientists in the sense physicists are
  - very little absolute certainty to share.

- Remember '*The Big Bang Theory*'

- Physicists look down on engineers.
- Physicists think deep thoughts
- Engineers muck around with materials and try to give shape to those thoughts;

If there were ever a TV series that made fun of economists?

- we suspect we would be several rungs below engineers,
- or at least the kind of engineers who build rockets.
- Unlike engineers (or at least those on *The Big Bang Theory*),
- we cannot rely on some physicist to tell us exactly what it would take for a rocket to escape the earth's gravitational pull.

Economists are more like plumbers

- we solve problems
  - with a combination of intuition grounded in science,
  - some guesswork aided by experience, and
  - a bunch of pure trial and error.

This means economists often get things wrong

- ❖Not just about the growth rate
- ❖how much carbon taxes will help with climate change,
- ❖ how CEOs’ pay might be affected if taxes were to be raised a lot, or
- ❖what universal basic income would do to the structure of employment.

- Everyone gets things wrong.
- What is dangerous is not making mistakes, but to be so enamoured of one’s point of view that one does not let facts get in the way.
- To make progress, we have to constantly go back to the facts, acknowledge our errors, and move on.

- Imagine for a moment that you are the manager of a day-care center.
- You have a clearly stated policy that children are supposed to be picked up by 4 p.m. But very often parents are late.

- The result: at day’s end, you have some anxious children and at least one teacher who must wait around for the parents to arrive. What to do?

- A pair of economists who heard of this dilemma—it turned out to be a rather common one—offered a solution: fine the tardy parents.
- Why, after all, should the day-care center take care of these kids for free?.

- The economists decided to test their solution by conducting a study of ten day-care centers in Haifa, Israel.
- The study lasted twenty weeks, but the fine was not introduced immediately.

- For the first four weeks, the economists simply kept track of the number of parents who came late;
- there were, on average, eight late pickups per week per day-care center. In the fifth week, the fine was enacted.
- It was announced that any parent arriving more than ten minutes late. would pay $3 per child for each incident.
- The fee would be added to the parents' monthly bill, which was roughly $380

- After the fine was enacted, the number of late pickups promptly went . . . up. Before long there were twenty late pickups per week, more than double the original average. The incentive had plainly backfired.

- Steven D. Levitt and Stephen J. Dubner, *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything,* 2005. New York, NY: Harper Collins