Mathematical Modeling

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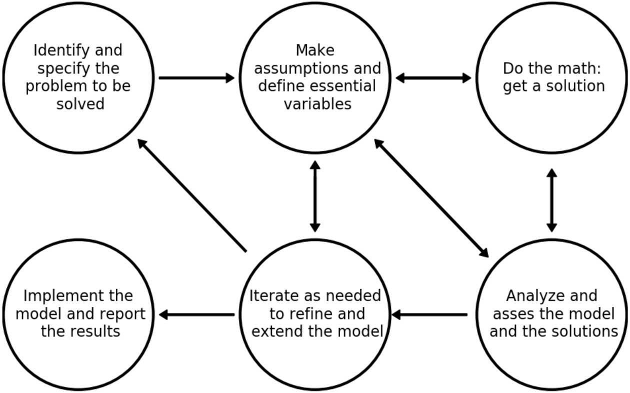
All models are wrong, but some are useful.

- Box (1987)

Economic models facilitate experiential learning.

- What question are they designed to address?
- What are the underlying economic mechanisms?
- How robust are the conclusions?
- What is missing?
- ...

Figure: Modeling process



Famous examples

- **Lemons model (Akerlof, 1970)**, market unraveling in presence of asymmetric information
- **Roy model (Roy, 1951)**, static model of self-selection and comparative advantage
- **Career decisions model (Keane & Wolpin, 1997)**, dynamic model human capital investment with schooling and on-the-job training
- ...

Appendix

References

Akerlof, G. A. (1970). The market for "lemons”: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, *84*(3), 488–500.

Keane, M. P., & Wolpin, K. I. (1997). The career decisions of young men. *Journal of Political Economy*, *105*(3), 473–522.

Roy, A. D. (1951). Some thoughts on the distribution of earnings. *Oxford Economic Papers*, *3*(2), 135–146.