

**Energy and Economic  
Development**  
(November 7 Session)

**Professor Karen R. Polenske**

# ENERGY OVER TIME

- What are the disparate trends of energy intensity and productivity growth during the period studied (1920-1980) by Jorgenson?
- How did the fall and then rise in the real prices of energy from 1920-1980 lead to decreased energy efficiency but increased productivity growth?

# ELECTRICITY and PRODUCTIVITY GROWTH

- What does the concept of electricity-using productivity growth mean?
- Use it to explain to following table.

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To view the table, go to page 16 of  
“Energy and Economic Development:  
An Assessment of the State of Knowledge”  
by Michael Toman with Barbora Jemelkova.

<http://ageconsearch.umn.edu/bitstream/10685/1/dp030013.pdf>

# ENERGY AND POVERTY

- What contributes to the problem of energy deficits in Africa?
- What are the solutions suggested by the report?
- Do you agree with the solutions?

# ENERGY OUTLOOK ABROAD

- **Kauffmann (2005): Energy and Poverty in Africa**
- How does the report conceptualize the role of energy?
- The graph illustrates the relationships between access to energy and economic, social and political development.
- Provide some examples that fit into this framework.
- What cases does the framework not capture?

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To view the graph, go to page 4 of  
“Energy and Poverty in Africa”  
by Celine Kauffmann.

<http://www.oecd.org/dataoecd/39/54/34961237.pdf>

# ENERGY AND ECONOMIC DEVELOPMENT

- Toman and Jemelkova (2002): Energy and Economic Development
- Through what channels could increased energy availability disproportionately affect economic development?
- The link between energy and economic development can differ for economies at different stages of development. How does the article say it works in industrialized countries? And in developing countries. For which type of countries is the link between energy and economic development especially crucial?
- How does increased energy service reliability contribute to productivity growth?

# CROSS-CUTTING ISSUES

- What are the differences and similarities across the readings in terms of framing the contribution of energy to economic growth?
- Have the readings made a convincing case for the contribution of energy to economic development? Why is it relatively hard to prove this connection? What data would be needed? What other relations need to be tested?
- Do you have other comments on these readings and today's topic?

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