Chapter 9: The Role of Energy

Energy is such an essential part of economic growth that it is worthy of special mention. Energy is required for everything we do. And I mean *everything*. Even reading and thinking about these words requires energy that was provided to your body in the form of food, which required energy to grow, harvest, process, transport to market, and sell.

Everything we have learned about basic economics can be applied to our energy supply. If energy becomes more expensive, then everything becomes more expensive, and our prosperity is reduced.

There is currently a strong push for the replacement of fossil fuels like coal, petroleum, and natural gas, with renewable energy sources like wind and solar. And it would be fantastic if such sources could meet our energy needs.

But they can't.

The demand for energy on a global basis is so large, and growing every year, that fossil fuels will necessarily provide most of that energy for many decades to come. The main problem with technologies such as wind, solar, and biofuels is that, even if they could be made 100% efficient, the amount of energy they produce (say, per acre of land needed) is very small. Wind and solar are diffuse energy sources, whereas coal and petroleum are very concentrated. As a consequence, the renewable energy sources are considerably more expensive per kilowatt hour of electricity or per gallon of fuel.

When federal or state governments mandate that some percentage of all generated electricity should come from renewable sources, they are bypassing market forces and making energy more expensive. While this does not present too much of a problem for more prosperous citizens, it can be devastating for the poor.