



XV: Ecology, Politics and Economics

Economic Philosophy


- **Adam Smith (1723-90)** - argued that markets induce people to behave in the common interest as if they were guided by a higher authority ("invisible hand")
- **Thomas Malthus (1766-1834)** - argued that food supplies increase arithmetically while animal populations expand geometrically; populations will suffer periods of expansion followed by collapse.

Economic Philosophy (*continued*)

- **David Ricardo (1772-1823) -**
 - extensive margin: the cost of extra labor to grow crops on less productive land.
 - intensive margin: higher food prices push extension into less fertile lands requiring additional inputs of labor or energy on the better lands.
- **John Stuart Mill (1806-1873) -** envisioned economies becoming mature and reaching a steady-state. Steady state economies have the following characteristics:


Economic Philosophy (*continued*)

- Human economies are open subsystems of a larger closed system (the earth).**
- Economic growth must have an upper limit since it is part of a "closed" system.**
- Sustainable economies work by increasing efficiencies not by increasing growth. This would be termed "sustainable development".**
- Economic systems are not independent of the natural world; they are fully dependent on ecosystems for the goods/services they provide.**

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- **Karl Marx (1818-1883) - the distribution of ownership of resources greatly effects resource allocation, land use, the types of products produced and consumption patterns.**
 - environmental justice
 - distribution of resources

(continued)

- **A.C. Pigou (1877-1959) - introduced the concept of "externalities", costs that are not included in market prices.**
 - **example: biodiversity lost by pesticide use**
 - **The value of biodiversity is not included in the market signals effecting economic decisions.**

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- **3 Goals Identified as Important in Managing Economic Systems to be sustainable:**
 - **Ensure that human activities are ecologically sustainable.**
 - **Distributing resources and property rights fairly within the current generation of humans (and earth's living organisms?)**
 - **Efficiently allocating resources (market and nonmarket), especially ecosystem services.**

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- **Value systems associated with the valuing of ecosystem services:**
 - **Efficiency (Homo economicus) - "willingness to pay"; individual preferences**
 - **Fairness (Homo communicus) - Community preferences, "Veil of ignorance"; everyone votes as if they were operating with no knowledge of their own individual status in the current or future society**
 - **Sustainability (Homo naturalis) - "modeling with precaution"; whole system preferences**

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- **Hardin's Tragedy of the Commons**
 - resources used by multiple users without rules governing their use will be overexploited.

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- **Harold Hotelling (1895-1973) - If the value of a biological resource is not increasing as fast as the rate of interest, owners of the resource and society are economically better off exploiting the resource faster and putting returns in the bank; biological resources are simply a form of natural capital. Lower interest rates favor conservation.**
 - **World Bank forestry policies**
 - **option value**



- **Intergenerational Equity**

- Economic models do not consider this principle. The focus is on profits and transforming nonmarket goods into "dollars" will not insure sustainable use of the resources.

- **Ecological Economics**