1. Planned Socialism

What is the difference between capitalism and socialism? Under capitalism man exploits man, but under socialism it is just the opposite.
- old Soviet joke

What is socialism? It is the longest road from capitalism to capitalism
- later Soviet joke

Socialism
- An economic system characterized by state or ____________ ownership of the means of production, land, and capital.
- Emergence
  - criticism of
  - religious calling for more ________________
  - secular theory by ________________
History of socialist ideology

- Ideas of collectivism appeared in writings of Greek philosophers (Aristotle, Plato) and the early Christian church
- Early critics of capitalism
  - Jean Jacques Rousseau (1712-1778) – “The earth belongs to no one, and that the fruits are for all!”
  - François “Gracchus” Babeuf – in 1796 led the revolt by the “Conspiracy of the Equals” – revolutionary socialist

Utopian socialists

Saint-Simon (1760-1825) – emphasis on merit – transfer power from hereditary aristocracy to productive class. Proposed a national system of planning to organize public works and use technology efficiently.

Charles Fourier (1772-1837) – creation of small communities called phalansteries (@1600 people) – sharing of all things

Robert Owen (1771-1858) – Believed the poor are product of environment. Instituted universal education, shorter work hours, decent housing, etc. at his factories.

Marxism

- Utopian socialist too weak for Marx’s liking – scientific socialism
- Marx (1818-1898) and Engels strived toward communism, but saw socialism as a necessary step between capitalism and communism

Socialism:
  - Revolutionary tactics and establishment of a “dictatorship of the proletariat”
  - To each according to his work

Communism:
  - Classless and stateless society, common ownership of the means of production
  - To each according to his need
Marx’s Model of Capitalism

• Labor Theory of Value
  • only labor contributes to value
  • capital and land do not contribute to value

\[ W = c + v + s \]

Organic composition of capital:
\[ q = \frac{c}{c + v} \]

The rate of exploitation:
\[ e = \frac{s}{v} \]

The rate of profit:
\[ \pi = \frac{s}{c + v} \]

\[ \pi = e^* (1 - q) \]

Breakdown of Capitalism

\[ \pi = e^* (1 - q) \]

- capitalists compete with each other and increase _____ \( \rightarrow \) with \( v \) and \( s \) constant this leads to _____ \( \rightarrow \) ___. To \( \uparrow \pi \), capitalists ___ by either ____ wages or ___________ labor hours.
- capitalists accrue physical capital more and more to lower production costs, but this further ___ \( q \).
- consequences:
  * some firms ________________________
  * capital ____________________________
  * __________________________ against the owners of production
Objectives of CPEs

Objectives
- rapid growth
- industrialization

Means
- centralization of decision-making
- state ownership

Characteristics of CPEs

- command economies
- pressure economies
- priority economies
- relying on extensive growth
- closed economies
- shortage economies
- depend on a totalitarian, repressive state

Theoretical Framework of Socialism

Socialist view of resource allocation
- __________ are not bound to the market
- central planning board (CPB) could establish relative valuations among commodities
- models relating inputs and outputs to the ratios of equivalence
- CPB needs to know
  - individual demand schedules
  - firm production functions
  - existing stock of consumer and producer goods

Is this realistic?
Critique of the Socialist Model

- Recall Hayek’s article the Use of Knowledge
  - impossible to separate the allocation function from the workings of the market
- The profit motive and private property
  - individuals motivated by __________
  - efficient production to increase __________
  - drive for achievement cannot be __________
  - if state owns resources, profits accrue to the state and individuals do not have a motive to use resources in the most __________ way
- The debate:
  - viability and efficiency of socialism

Organization

- the economy is guided by ______
  - plans are designed by the Central Committee (or the Politburo)
  - “the plan is the law”
  - decrees and orders are very specific
- vertical structure
  - orders are handed from top down
    - Central Committee → Council of Ministers → industrial ministries → enterprises
  - horizontal transactions are not allowed

Planning

- a plan must have:
  1. specific goals and objectives to be achieved and the means to achieve those goals in a given time frame
  2. organizational mechanism for achieving the plan
  3. means to evaluate the outcome of the plan
- most planned economic systems have used the __________ approach
  - input-output analysis was used to achieve the balance between inputs and outputs
Material Balances
- Major objective to achieve consistency between planned supplies and planned uses of each commodity
  - Supplies (inputs):
  - Uses (demand):
- Thousands of material balances constructed
- Balance for each item and aggregate balance of demand and supply.
- In practice, used only for the most important inputs and outputs

For example, the material balance for steel (millions of metric tons)

<table>
<thead>
<tr>
<th>Sources</th>
<th>Uses</th>
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<tbody>
<tr>
<td>Current production</td>
<td>Intermediate inputs</td>
</tr>
<tr>
<td>Imports</td>
<td>Final domestic uses</td>
</tr>
<tr>
<td>Beginning stocks</td>
<td>Exports</td>
</tr>
<tr>
<td></td>
<td>Ending stocks</td>
</tr>
<tr>
<td>Total available</td>
<td>Total required</td>
</tr>
</tbody>
</table>

Input-Output Analysis
- Provides a mathematical mechanism to create the plan
- Consists of two broad sectors: producers of output and users of output
  - Sum of good and services produced (GDP) equals the sum of total factor incomes (gross domestic income)
- Table:
  - Column: inputs (source and amount)
  - Row: distribution of output
Input-Output table

<table>
<thead>
<tr>
<th>USING SECTOR</th>
<th>Total inputs</th>
<th>Intermediate use</th>
<th>Final use</th>
<th>QUADRANT I</th>
<th>QUADRANT II</th>
<th>QUADRANT III</th>
<th>QUADRANT IV</th>
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<tbody>
<tr>
<td>Steel</td>
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</tbody>
</table>

Input-Output Analysis

- Quadrant I gives us technical coefficients
  - how much of each input \((i)\) is needed to produce one unit of a particular output \((j)\) as a fraction of total production of that output
- If there are \(i\) rows and \(j\) columns, each cell is \(a_{ij}\):
  \[
a_{ij} = \frac{x_{ij}}{X_j}
\]
  where
  - \(x_{ij}\) = the amount of input \(i\) used in industry \(j\)
  - \(X_j\) = the total output of industry \(j\)

Input-Output Analysis

- Input availabilities must be sufficient to produce desired output
  \[
  \sum_{j=1}^{n} x_{ij} + Y_i = X_i
  \]
  since
  \[
x_{ij} = a_{ij}X_j
  \]
  this becomes
  \[
  \sum_{j=1}^{n} a_{ij}X_j + Y_i = X_i
  \]
  or
  \[
  Y_i = X_i - \sum_{j=1}^{n} a_{ij}X_j
  \]
Input-Output Analysis
- if the matrix of technical coefficients is known to the planner, feasibility of the plan can be determined
- input-output table effectively gives \[ \text{prices} \]
- Critique:
  - aggregation does not give us a clear picture at the firm level
  - coefficients are assumed \[ \text{__________} \]
  - assumption of \[ \text{______________} \]
- What happens when there are errors?

Efficiency of Material Balance Planning
- material balance planning aims at achieving the consistency of the plan and not achieving optimal balance (the most efficient use of resources)
- Optimality hard to achieve in central planning:
  - how is optimality defined by a central planner?

Performance of Planned Socialism
- Hypotheses:
  - Income distribution
  - Efficiency
  - Economic growth
  - (macroeconomic) Stability