The Comparison of Economic Performance: Criteria and Difficulties

How do we compare economic performance?

1. Output
   a) Output levels: should be adjusted for inflation, population, comparable currencies. A truly accurate measure would measure the net social value of all economic activities, rather than merely the final market value of goods produced.
   b) Growth rates: change over time. But lesser-developed economies have the potential to grow at faster rates (since they start at a lower initial base).
   c) Output composition: civilian or military goods; consumption, investment, or government goods; food vs. housing vs. luxury goods.

The problem of exchange rate comparability and variability

Purchasing Power Parity is not true, at least in the short-run. Relative prices differ. Trade markets are segmented, distorted. Productivity differences may lead to widely different wage rates, cost of services.

PPP method uses "our" prices times another country’s quantities

Gerschenkron Effect - An economy looks better if measured in foreign prices, e.g., the CIA measurements of Soviet GDP were typically overstated.

Gerschenkron Effect Example: China and Japan

Grain (agriculture A) is relatively abundant in China (C), industry (I) is relatively abundant in Japan (J). Let:

\[ Y_C = P^A_C Q^A_C + P^I_C Q^I_C \]
\[ Y_J = P^A_J Q^A_J + P^I_J Q^I_J \]

quantities: \( Q^A_C, Q^A_J, Q^I_C, Q^I_J \)
prices: \( P^A_C, P^A_J, P^I_C, P^I_J \)

We expect that \( Q^A_C / Q^I_C > Q^A_J / Q^I_J \)
and this implies \( P^A_C / P^I_C < P^A_J / P^I_J \)
Suppose \( E = \frac{\text{RMB(Yuan)}}{\text{Yen}} \)

On average,
\[
Y_C / E < (P_{A} Q_{A} + P_{I} Q_{I})
\]
\[
Y_J x E < (P_{A} Q_{A} + P_{C} Q_{C})
\]

It is easy to prove that:
\[
Y_C x Y_J = (P_{A} Q_{A} + P_{C} Q_{C}) x (P_{A} Q_{A} + P_{I} Q_{I})
\]
\[
< (P_{A} Q_{A} + P_{I} Q_{I}) x (P_{A} Q_{A} + P_{C} Q_{C})
\]

An example?

1998 Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (millions)</th>
<th>GDP (USD OER)</th>
<th>Per-Capita (USD PPP)</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
<td>United States</td>
<td>270</td>
<td>$29,340</td>
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<td>1.00</td>
</tr>
<tr>
<td>United Kingdom</td>
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<td>$21,400</td>
<td>$20,640</td>
<td>0.96</td>
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<tr>
<td>Germany</td>
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<td>France</td>
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<tr>
<td>Sweden</td>
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<tr>
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<td>$32,380</td>
<td>$23,180</td>
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<tr>
<td>Russia</td>
<td>147</td>
<td>$2,300</td>
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<tr>
<td>China</td>
<td>1.229</td>
<td>$750</td>
<td>$3,220</td>
<td>4.29</td>
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</tbody>
</table>
2. Efficiency:
a. Static efficiency - Can a reallocation of existing resources increase output? Do prices reflect scarcity values? This includes technical efficiency (using the most productive technology), allocative efficiency (are resources distributed to the right producers, in the right mix?), and consumption efficiency (are consumers consuming the right mix of goods?). We often look at labor productivity, which is an incomplete measure at best.
b. Dynamic efficiency - Savings, investment, technological progress, etc.

3. Economic freedom - To own, buy, or sell what you want, to work and live where you want.

4. Economic security - Full employment, healthcare, pensions, disability, etc.

5. Stability - Prices, employment, or output. Does the economy suffer extremes?

6. Equity - The relative equality of wealth, incomes, or opportunity.

7. Long-term viability - Is the economic system adaptable? Does it maintain or destroy itself? Is it sustainable in its use of the natural environment?

Problems:

1) How do you weight these criteria?
\[ O = \sum a_i o_i \]
where \( o_i \) are different outcome values and \( a_i \) are the weights.
Too many dimensions to the problem, weights are biased and subjective.

2) There are always tradeoffs.
For example, some static inefficiencies may be dynamically efficient. Also, economic freedom may trade off with security, and efficiency may be a trade-off with equity.

3) You should be careful comparing actual to ideal systems.
   • Comparing theoretical capitalism to actual socialism is poor science, and vice versa.
4) Statistics are usually not available, not objective, or not comparable.

- Statistics are measured differently for each country, e.g., unemployment in U.S. vs. China. GNP, GDP, or NMP?
- Should output include black or grey markets? What about nonmonetary goods?
- Inflation is often hidden or repressed.
- Do growth rates accurately adjust for capital accumulation, or natural resource depletion?

5) The Source of Performance Differences may not be Economic System.

Bornstein argues that performance depends on:
1) The level of economic development - capital and technological, size and structure of economy, the degree of centralization.
2) Social and cultural forces - beliefs, values, education, social mobility, and the role of ideology in influencing, rationalizing, and disguising.
3) The Natural Environment - geography, climate, resources, population.

Kennett puts it more simply:
Performance outcome = f(N,K,H), where N= natural resources, K = physical capital assets, and H = human capital assets.

More questions:

- What are the different measures by which we might compare the performance of economic systems?
- What are the fundamental problems we find in the comparison of economic system performance?
- What is the Gerschenkron effect? What does it tell us about the comparison of economic performance?