The Changing Wealth of Nations

Measuring Sustainable Development in the New Millennium

Kirk Hamilton
Development Research Group
The World Bank
Motivation – Measuring social welfare

- Samuelson (1961) - Current income and consumption provide only an incomplete measure of welfare:
- “the only valid approximation of welfare comes from computing wealth-like magnitudes”
Total or ‘comprehensive’ wealth $W$

$$W_t = \sum_{i=1}^{N} p_{it} K_{it} = PV \ of \ future \ consumption$$

Intangible capital $IC$

$$IC = W - produced \ capital - natural \ capital$$

Net or ‘genuine’ saving $N$

$$N_t = \sum_{i=1}^{N} p_{it} \Delta K_{it} = Change \ in \ social \ welfare$$
Concepts – Intangible capital

Because it is measured as a residual, it includes all intangible assets:

- Human capital
- Institutional quality / governance
- Social capital
- ‘Other TFP’ - knowledge
Intangible capital consists of more than human capital

<table>
<thead>
<tr>
<th></th>
<th>All countries</th>
<th>All countries</th>
<th>Developing countries</th>
<th>OECD countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produced capital</td>
<td>0.398</td>
<td>0.320</td>
<td>0.313</td>
<td>n/s</td>
</tr>
<tr>
<td>Natural capital</td>
<td>n/s</td>
<td>0.068</td>
<td>0.072</td>
<td>n/s</td>
</tr>
<tr>
<td>Human capital index</td>
<td>n/s</td>
<td>n/s</td>
<td>n/s</td>
<td>n/s</td>
</tr>
<tr>
<td>Intangible capital</td>
<td>0.176</td>
<td>0.169</td>
<td>0.502</td>
<td></td>
</tr>
</tbody>
</table>

n/s – not statistically significant
The Wealth of Nations
The SNA balance sheet – what’s missing?

<table>
<thead>
<tr>
<th>National wealth and income in Canada, 2009 ($mn CDN)</th>
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</thead>
<tbody>
<tr>
<td>Net financial assets</td>
</tr>
<tr>
<td>Land assets</td>
</tr>
<tr>
<td>Produced capital K</td>
</tr>
<tr>
<td>Net worth</td>
</tr>
<tr>
<td>GNI</td>
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</table>

Implicit rate of return

| GNI / K                                             | 35.9% |
| GNI / Net worth                                      | 25.4% |

Source: Statistics Canada
Where is the wealth of nations?

Shares of total wealth, 2005

Total wealth / capita:
$9,500 in Ghana

Total wealth / capita:
$663,000 in the UK
Composition of total wealth

*Shares of comprehensive wealth, by income class, 2005*

- Natural capital is most important in low income countries—more than twice as large as produced capital.
- In middle income countries natural capital and produced capital are roughly equal.
- Intangible wealth dominates in all countries, especially in high income countries.
What changed? 1995-2005
How did wealth change from 1995 to 2005? 

Growth in total and per capita wealth by region

Globally, wealth grew 34% in total and 17% per capita
Change in total wealth by type of asset
$ billion, 1995-2005

East Asia & Pacific
Europe & Central Asia
Latin America & Caribbean
Middle East & North Africa
South Asia
Sub-Saharan Africa

Intangible Capital
Produced Capital
Natural Capital
“How we measure development will drive how we do development”
Policy conclusions

- How do governments increase intangible wealth?
  - Invest in human capital
  - Reform institutions and governance
  - Invest in the capacity to generate and use knowledge – innovation policy is key