




The Index of Economic Well-Being - 1984 - 2006

Lars Osberg

Department of Economics,
Dalhousie University
Halifax, Nova Scotia

Conference: "Les Indicateurs Locaux de
Progrès Sociétal"

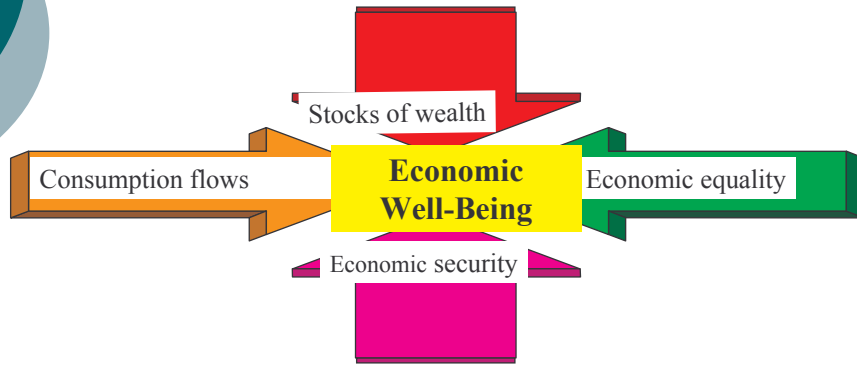
Rennes, France, November 17, 2006.



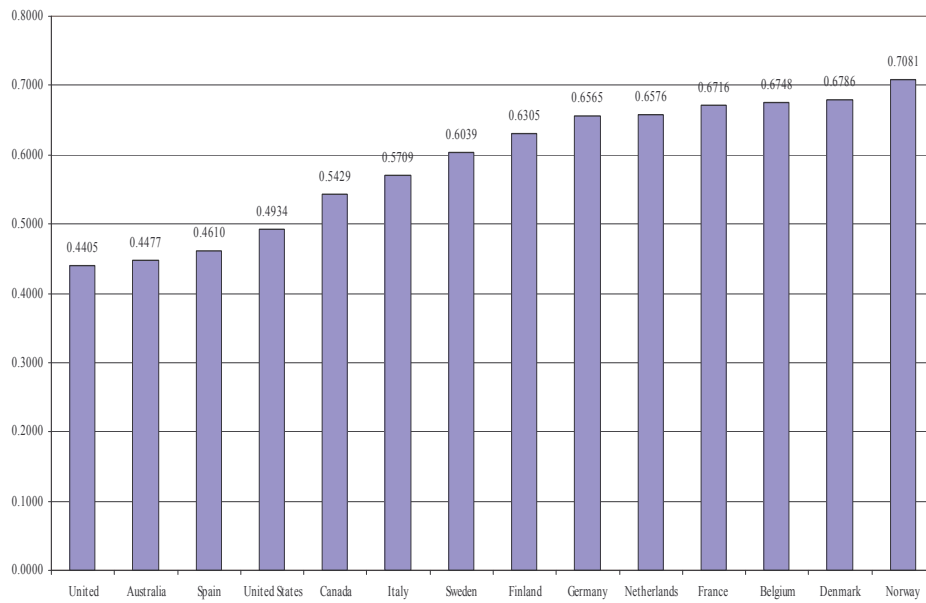
Origin – a seemingly simple question: *"Are you better off today than you were four years ago?"*

- **1980 Ronald Reagan**
 - *1976-80 actual increase in per capita disposable income in USA = 8.8%*
 - *Audiences answered "NO!" – WHY ?*
- **1984 - Osberg Paper for MacDonald Commission emphasized:**
 - *Widespread dissatisfaction with GDP as a measure of Economic Well-Being and:*
 - *Alternative aggregate measures also sum to a single index, burying value judgments*

Components of: Index of Economic Well-Being (IEWB)



Index of Economic Well-being, Equal Weighting, OECD, 2004



Source: Table 1

2006: 'Are "you" better off ?'

- *Who is "you" ?*
 - *Individual or Citizen ?*
 - *Personal well-being – no statistics needed*
- *Statistics on 'well-being' are only needed if the issue is social decision-making*
 - *"Well-being" as "citizen" requires information on collectivity*
 - *"Indicateurs Locaux de Progres Societal"*

2006: *Real Issue in Social Indicators* *'Is the community "better off" ?'*

- As voters or bureaucrats, individuals make decisions re: collectivity
 - Voting example: I will vote for policy X if
$$I_x = \alpha_1 (\text{own utility}_x) + \alpha_2 (\text{society's well-being}_x)$$
 - > other alternatives
 - Indicators of "Society's Well-being"
 - Needed for individual policy & voting decisions
 - Statistics = feedback loop of public policy
- Economic Well-Being - multi-dimensional
 - Index should respect heterogeneity
 - Values / Preferences
 - Life Circumstances

What is the point of Index construction?

- Policy choices must be made
 - With multiple outcomes of differing dimensionality
 - Affecting many dissimilar individuals
- Objective of index construction:
 - To assist democratic discourse by disentangling
 - When values differ
 - When factual judgments differ
 - To enable individuals to make better summative subjective judgments on social choices

Dimensions of Economic Well Being

Concept	Present
Representative Agent / "Typical Citizen"	Average Flow of Current Income
	Per Capita GDP or "Adjusted" Average Income Flow
	<i>Issues: Market transactions only, heterogeneity, stocks</i>

Dimensions of Economic Well Being

Concept	Present	
Representative Agent / "Typical Citizen"	Average Flow of Current Income	
Diversity of Population Experiences	Distribution of Current Income - Poverty and Inequality	<i>Social Welfare Function literature</i> $SWF = f (\dots)$

Dimensions of Economic Well Being

Concept	Present	Future
Representative Agent / "Typical Citizen"	Average Flow of <i>Effective</i> Current Consumption	Aggregate Accumulation of Productive Stocks (broadly defined)
<i>Issues:</i>	<i>Average Income does not reveal savings rate</i> - assets include environment, Human Capital, R&D, etc.	<i>Aggregate Savings</i> - not automatically optimal, sustainable - preferences for social saving differ among individuals

Dimensions of Economic Well Being

Concept	Present	Future
Representative Agent/ "Typical Citizen"	Average Flow of Effective Current Consumption	Aggregate Accumulation of Productive Stocks
Diversity of Population Experiences	Distribution of Current Income: - Poverty and Inequality	Insecurity of Future Income

Heterogeneity in Values

- ECONOMIC WELL-BEING=
 - α_1 CONSUMPTION
 - + α_2 SUSTAINABILITY / INTERGENERATIONAL BEQUEST
 - + α_3 INCOME DISTRIBUTION / POVERTY
 - + α_4 SECURITY
- DIFFERENT VALUES WILL IMPLY DIFFERENT WEIGHTS
 - Useful to know whether (& how much) perceived trend in aggregate well-being depends on weighting
- $\alpha = 0$ is a (strong) value choice
 - GDP per capita
 - sets $\alpha_3 = \alpha_4 = 0$
 - assumes α_1 AND α_2 optimal always

What is Well-Being ?

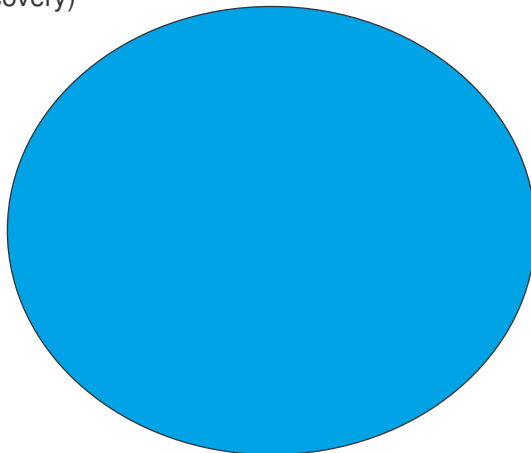
What is *Economic* Well-Being?

- Economic Well-Being < Well-Being
- Economic Well-Being > GDP
- Economic output > Marketed \$ output
 - GDP omits many sources utility
 - value household labor
 - value of leisure
 - length of life, etc.
 - GDP includes “regrettable expenditures”
 - Costs of pollution, crime, commuting, etc

Human Well-being

- includes well-being from much more than economics

(e.g. personal freedoms, relationships, spiritual & intellectual discovery)



Economic Well-being < Well-being
 - but some aspects of well-being depend on tradeoffs in scarce resources – ‘economic’

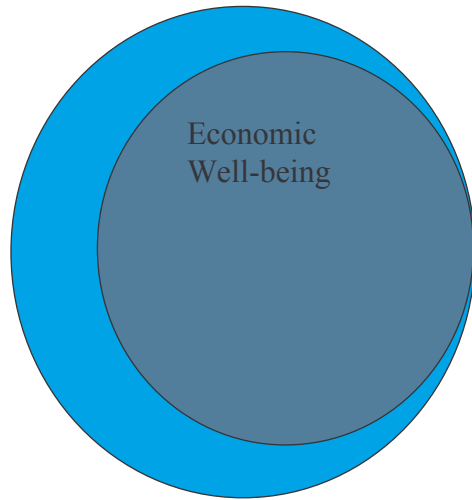
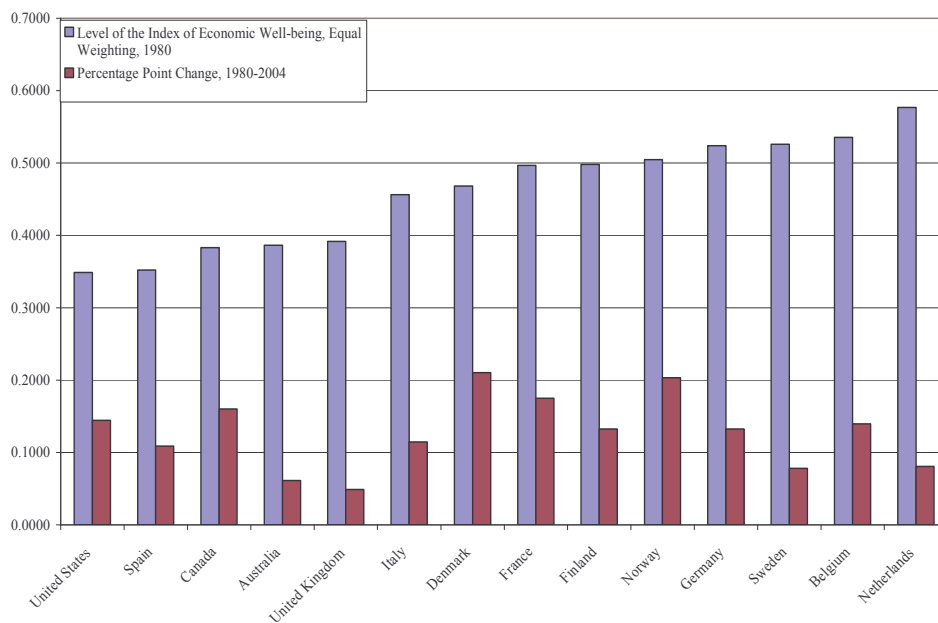
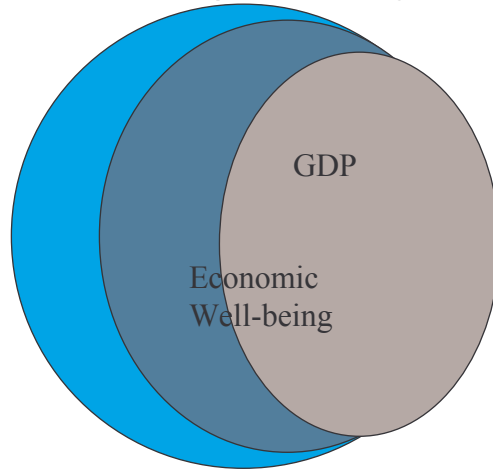


Chart 2: Growth in the Index of Economic Well-being, OECD, 1980-2004 (percentage points)



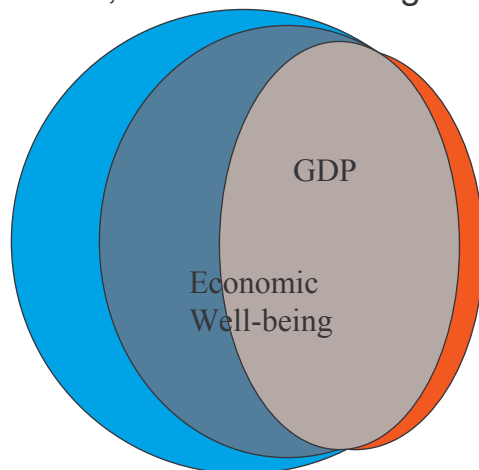
Economic Well-being and GDP

marketed \$ output < total goods & services



“Social regrettables”

– part of GDP, but not well-being



“Social
regrettables”

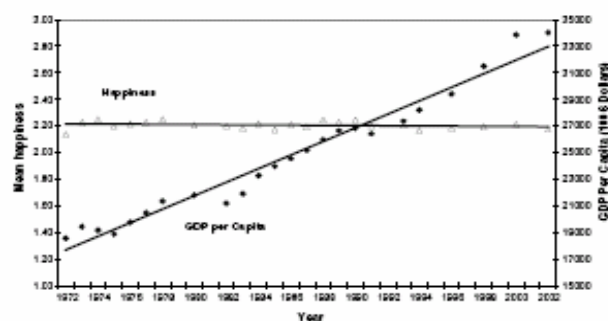
- Costs of crime,
pollution, commuting

GDP per capita

- GDP rigorously standardized across countries (SNA) – the clear point of comparison
 - Can one do better? Does it make any difference ?
- **But - Strong** Implicit assumptions when used as measure of economic well-being
 - aggregate share of income devoted to accumulation (including value of unpriced environmental assets) automatically optimal
 - poverty, inequality & economic insecurity do not matter
 - changes in leisure time, length of life, family size, costs of commuting, pollution & crime - all irrelevant
- + poor match to popular perceptions of trends in economic well-being

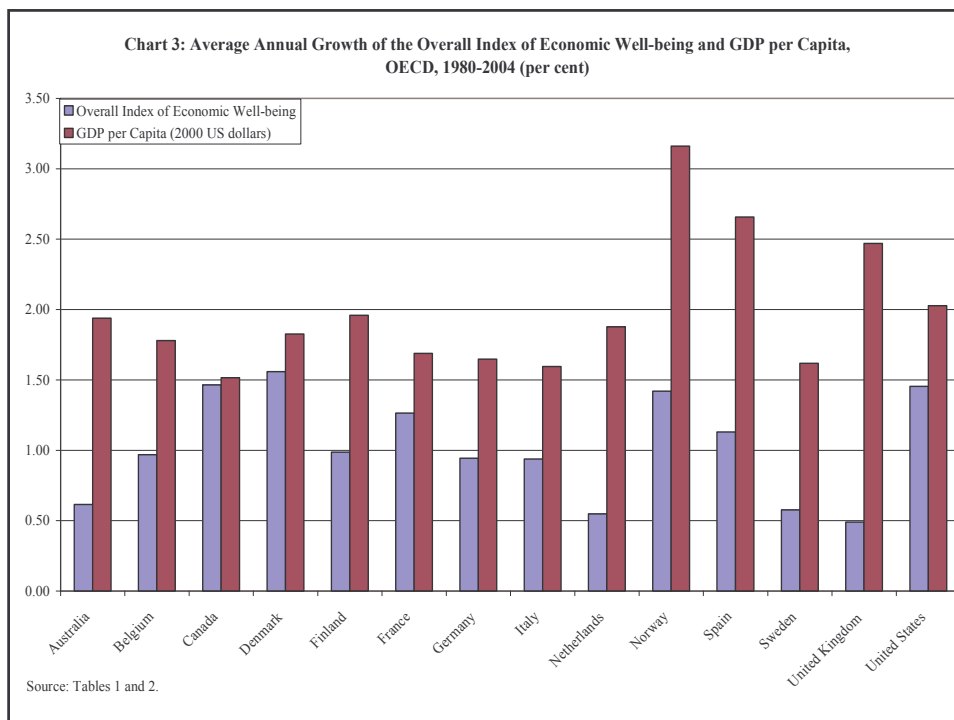
Payoff to per capita GDP growth in self-reported happiness \approx nil

FEEDING THE ILLUSION OF GROWTH AND HAPPINESS



Source : Davis and Smith, 2002; U.S. Bureau of the Census, 2003.

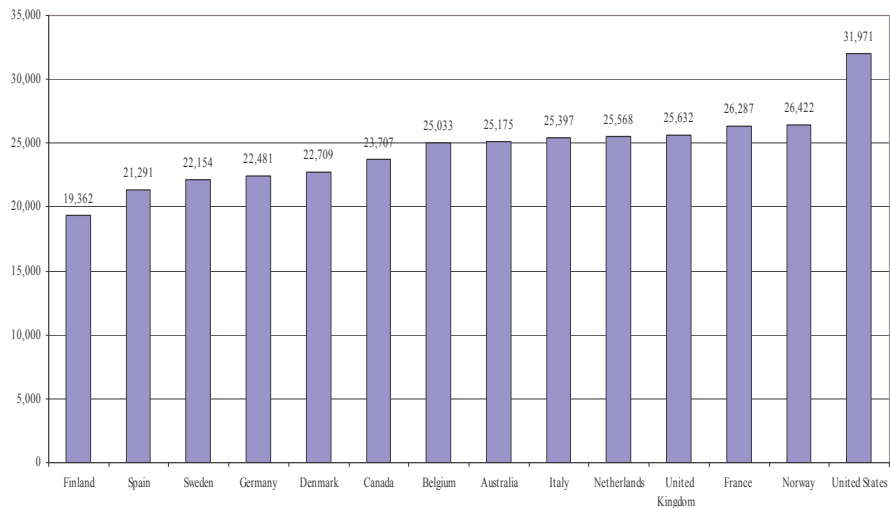
Figure 1. Happiness and Real GDP per Capita, United States, 1972–2002.



Average Consumption Flows \$

- Marketed real consumption per capita
 - Adjustments
 - value of increased longevity of life
 - reduced economies of scale in household consumption
 - changes in working hours – leisure
- Government services
 - provision of non-marketed or heavily subsidized services
 - includes defense and capital consumption allowances
 - excludes debt service charges and transfer payments

**Chart 4: Total Consumption Flows per Capita, OECD, 2004
(2000 constant US dollars)**

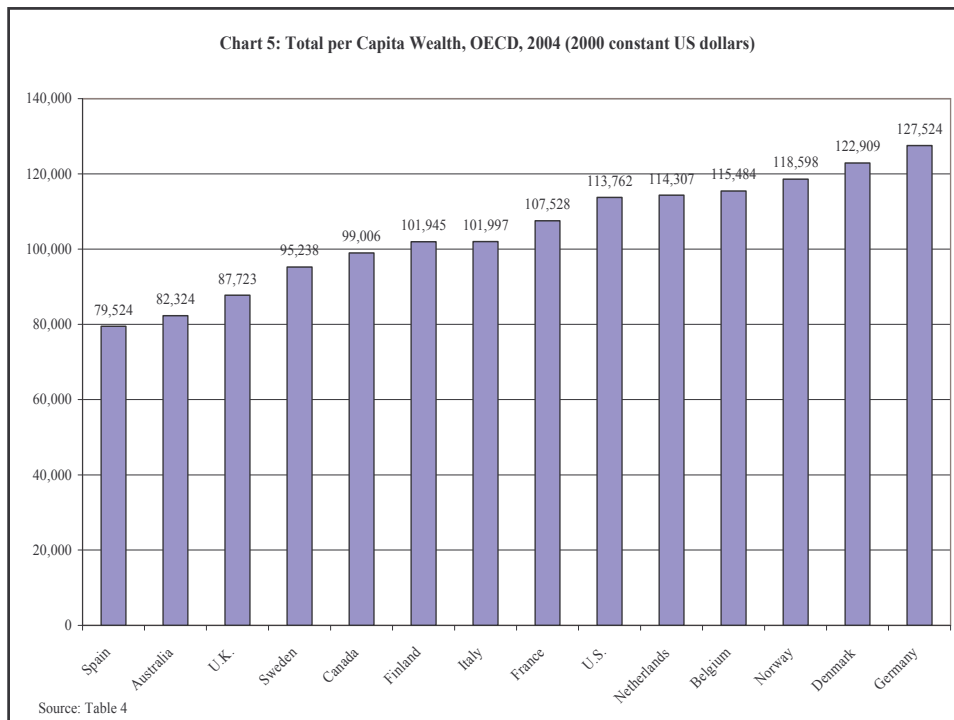


Source: Table 3.

Wealth Stocks, Sustainability and Intergenerational Bequest \$

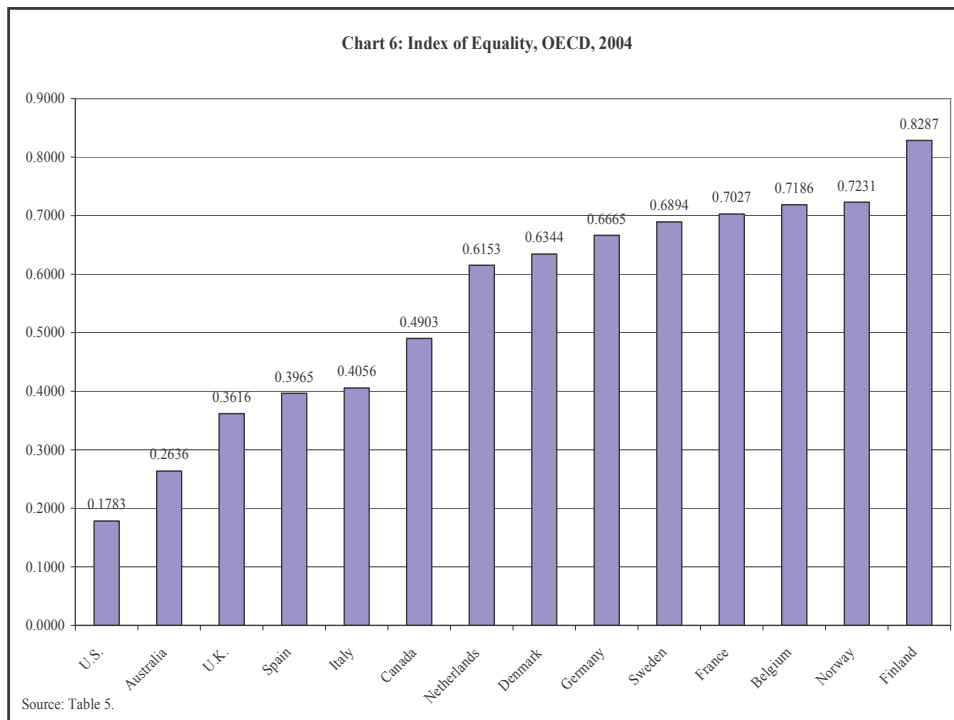
- Physical capital stock from SNA
- State of environment and national heritage (degradation -)
 - cost of CO₂ emissions @ \$ 85 per tonne
- Value of natural resource stocks
 - price + quantity change
- Stocks of human capital
 - Evaluated at cost of schooling
- Research and development capital stock
- Net foreign indebtedness (-)

- NOTE: Real productive assets only



Income Distribution Index

- How to summarize "Distribution"?
 - Simplicity desirable if index to be used
 - Poverty & Inequality differ, but both matter
- Inequality
 - Gini coefficient
 - After-tax & transfer household income
 - Equivalence scale = $\sqrt{\text{family size}}$
- Poverty
 - Sen-Shorrocks-Thon measure
 - Rate
 - Average poverty gap ratio
 - Intensity = rate x gap
- Index = $0.75 * \text{Poverty} + 0.25 * \text{Inequality}$



Universal Declaration of Human Rights - 1948

- [25] “**Everyone has** the right to a standard of living adequate for the health and well being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and **the right to security in the event of unemployment, sickness, disability, widowhood, old age** or other lack of livelihood in circumstances beyond his control.”

“Economic Security”

- Risk of income loss due to unemployment
 - changes in employment rate x UI coverage x UI replacement rate
- Risk of financial loss due to illness
 - Uninsured medical expenses as % disposable income
- Risk of single parent poverty
 - poverty rate & gap for single women with children
 - divorce rate of legally married couples
- Risk of poverty in old age
 - chance x depth of elderly poverty

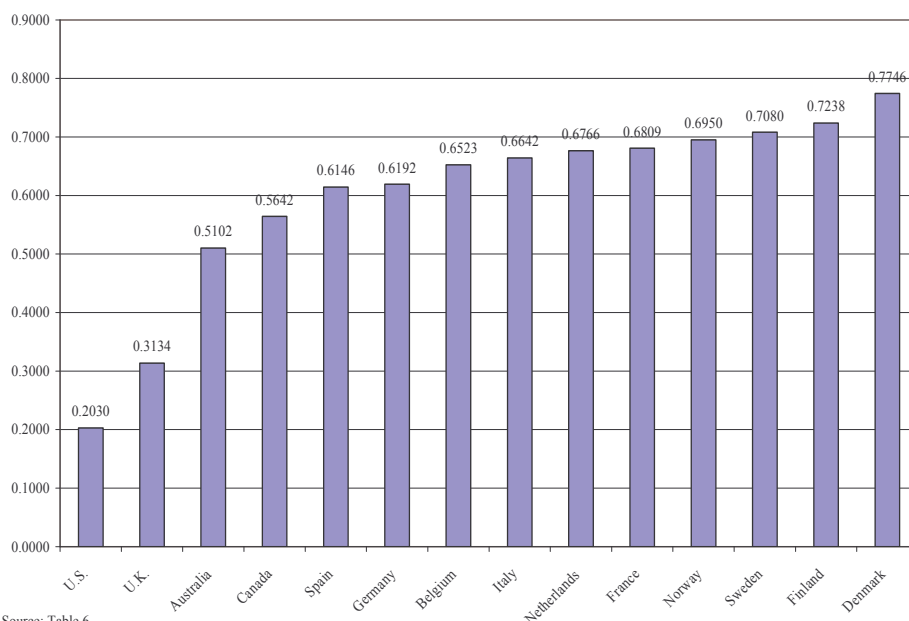
“Economic Security”

- Risk of loss due to unemployment
 - Risk of Unemployment + E(financial loss|unemployment)
- Financial Risk of Illness
 - Unreimbursed private medical expenses as share of disposable income
- Risk of single parent poverty
 - Divorce rate x poverty rate x poverty gap of single parents
- Risk of poverty in old age
 - chance x depth of elderly (>65) poverty
- Security risks weighted by relevant population size

Security from Unemployment

- Original method – financial loss implied by compound probability
 $= P(U) * P(B|U) * (E(B/W))$
 - Assumes components matter equally
 - Decline UI/EI coverage has big impact on trends
- New literature on self-reported happiness
 - Di Tella, MacCulloch, Oswald (2003) "The Macro Economics of Happiness" *RESTAT*
 - Ordered Probit life satisfaction - n= 271,224
- Recover Implicit weights on Unemployment Rate and Unemployment Benefits
- This paper: Unemployment rate = 4x UIBen
 - = .8*(scaled Unemp) + .2*(scaled $P(B|U) * (E(B/W))$)

Chart 7: Index of Economic Security, OECD, 2004



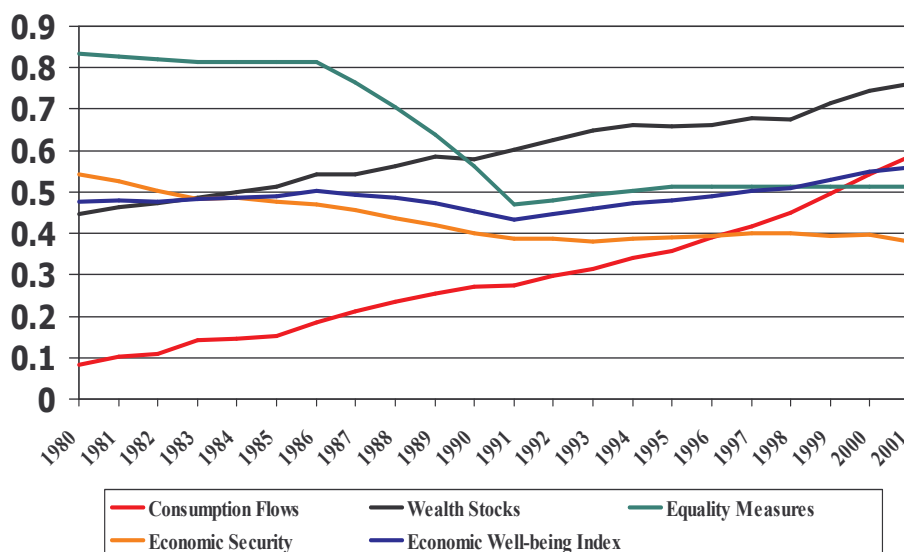
Source: Table 6.

Does it matter?

How different is trend in IEWB & GDP?

- Trend in IEWB depends partly on how heavily current consumption is weighted compared to:
 - Sustainability / accumulation
 - Income Distribution
 - Security
- Excel data sheet available for experimentation @
 - <http://www.csls.ca/iwb.asp>

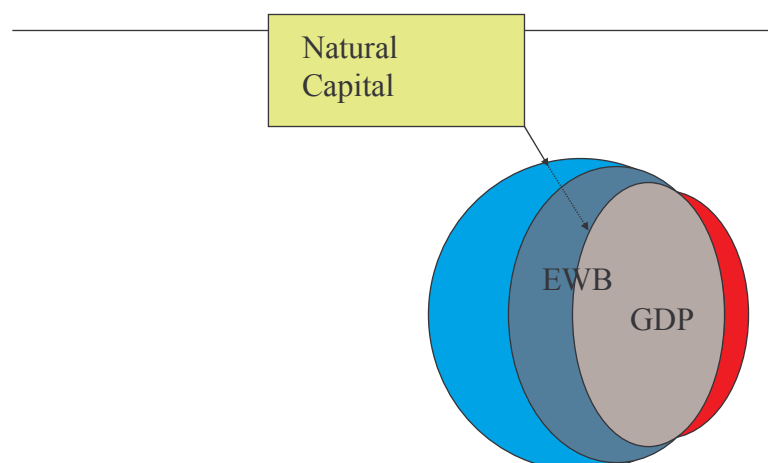
Figure 2a: The Index of Economic Well Being and its Components in the United Kingdom, 1980-2001

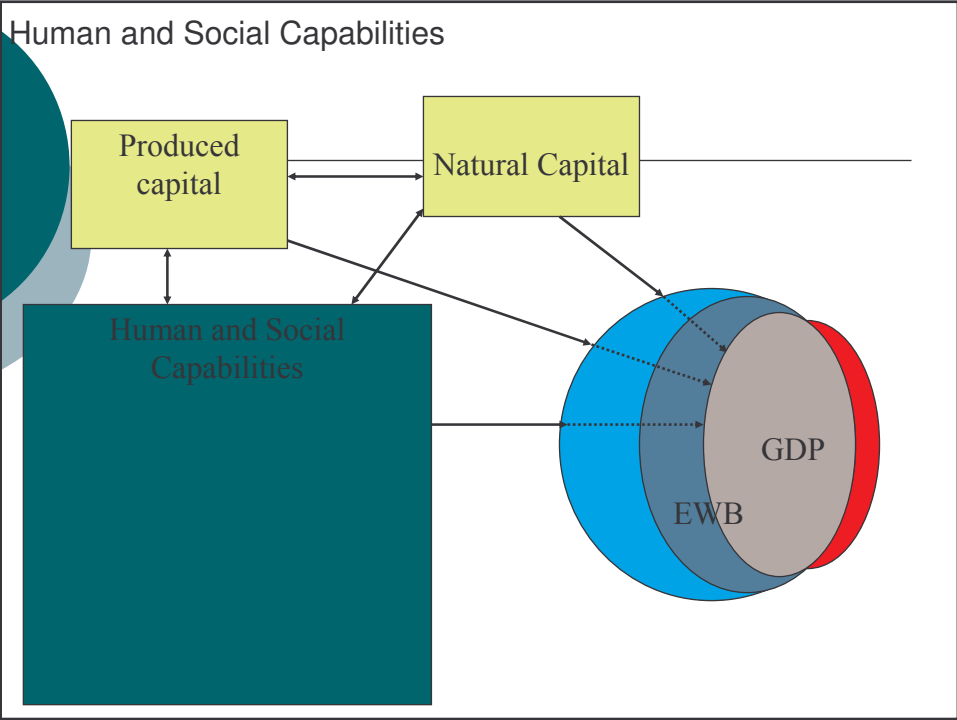
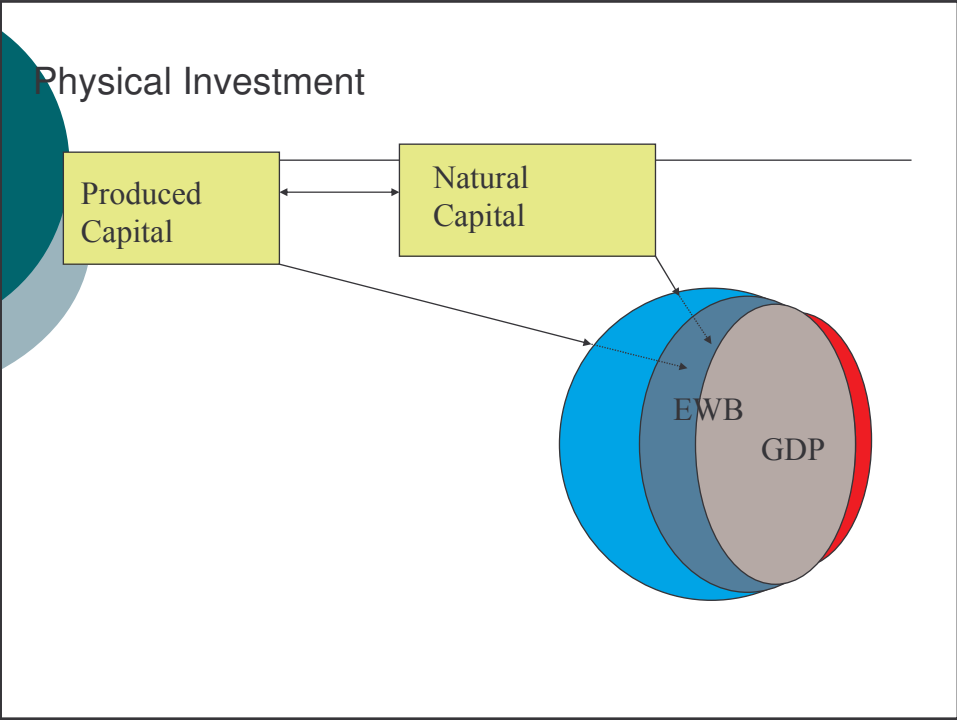


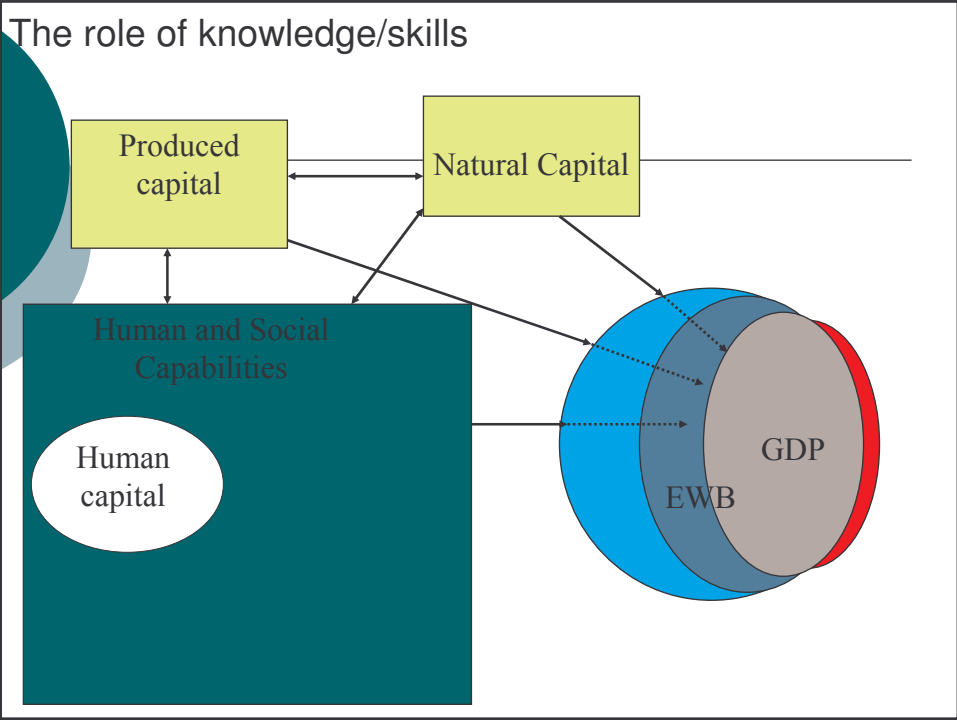
Policy Implications ?

- Much less gain in economic well-being than in real GDP per capita 1980-2004
- Major reason has been growth in inequality & insecurity
 - Reducing Inequality & Insecurity was the major objective of the welfare state
 - BUT de-emphasized in recent years
- Social Policy Design should aim at increasing *Well-Being*

The role of the natural environment



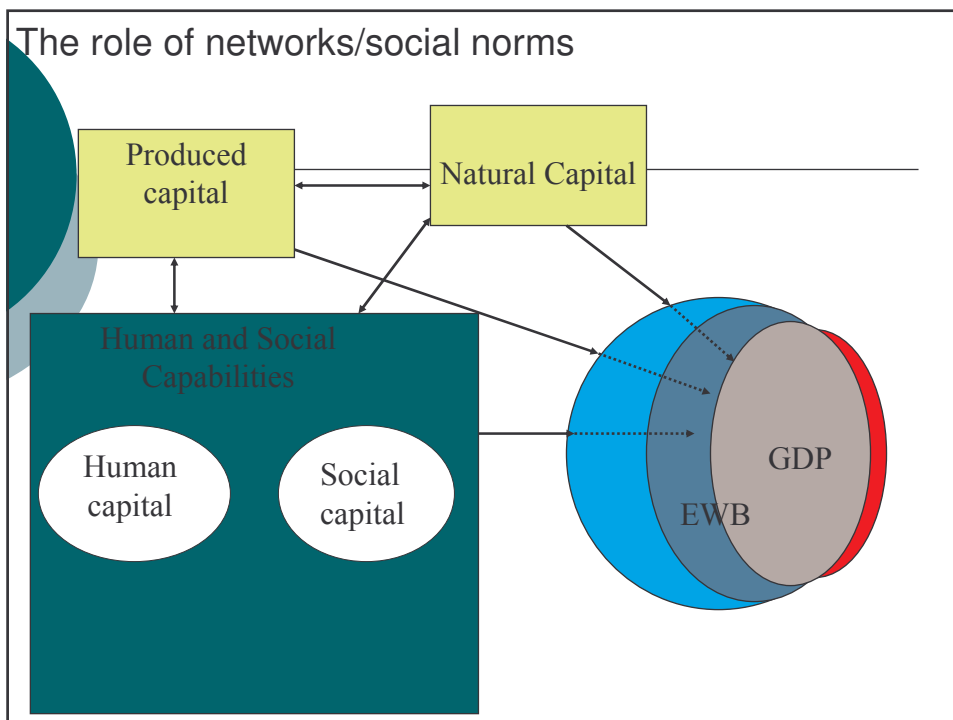


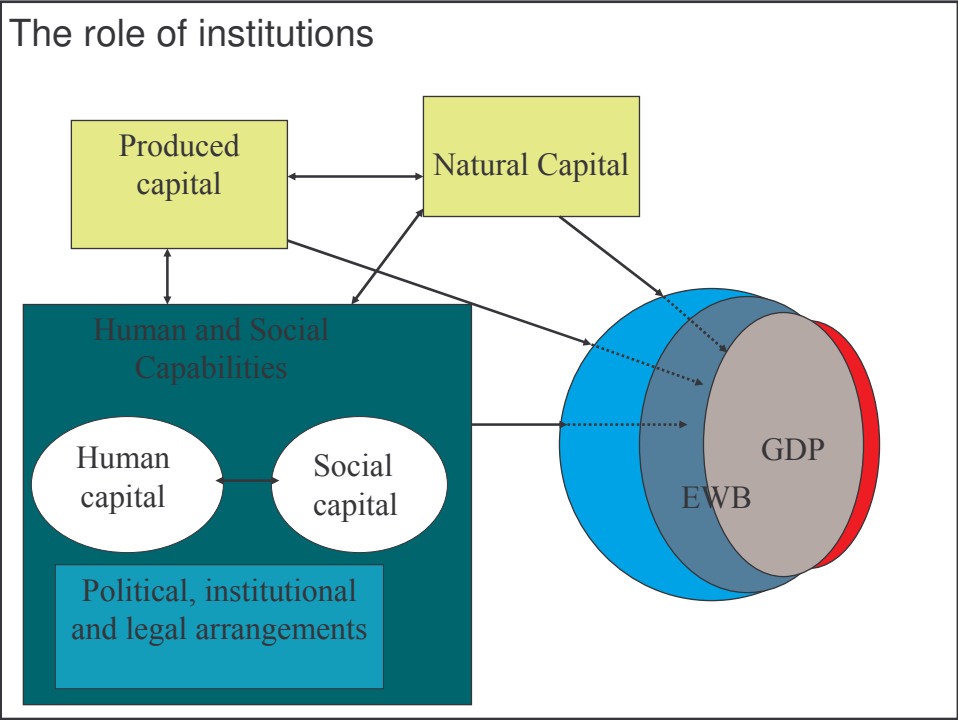
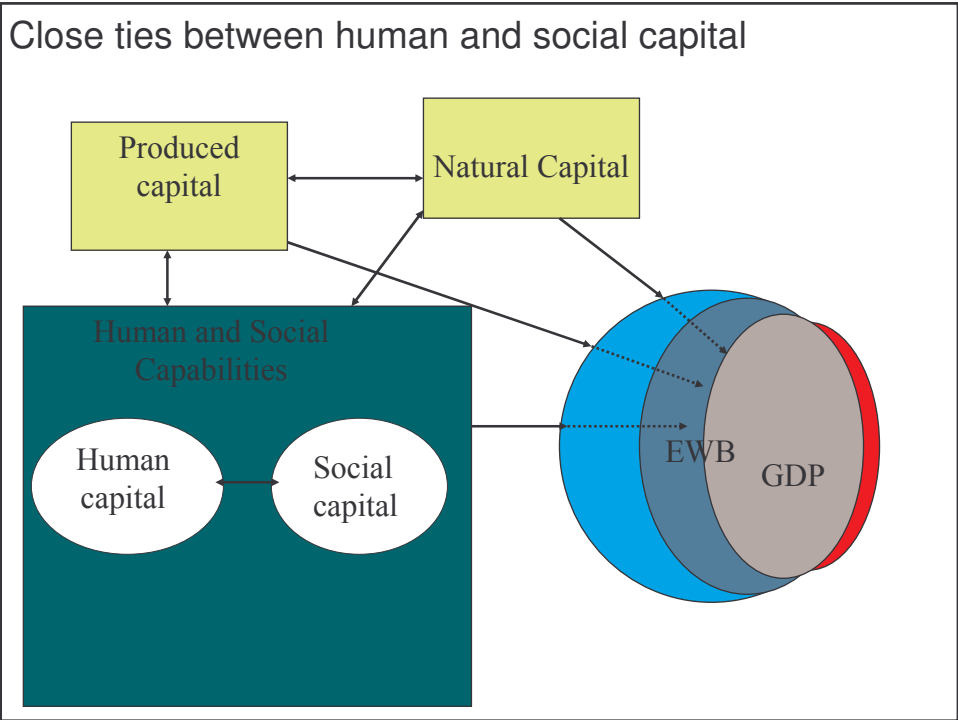


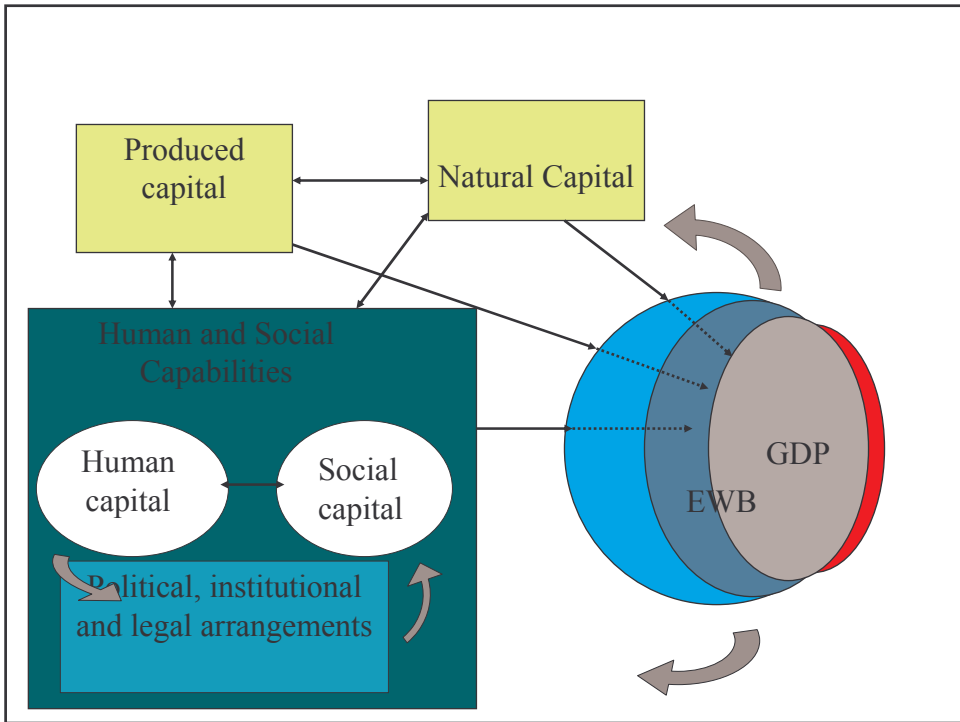
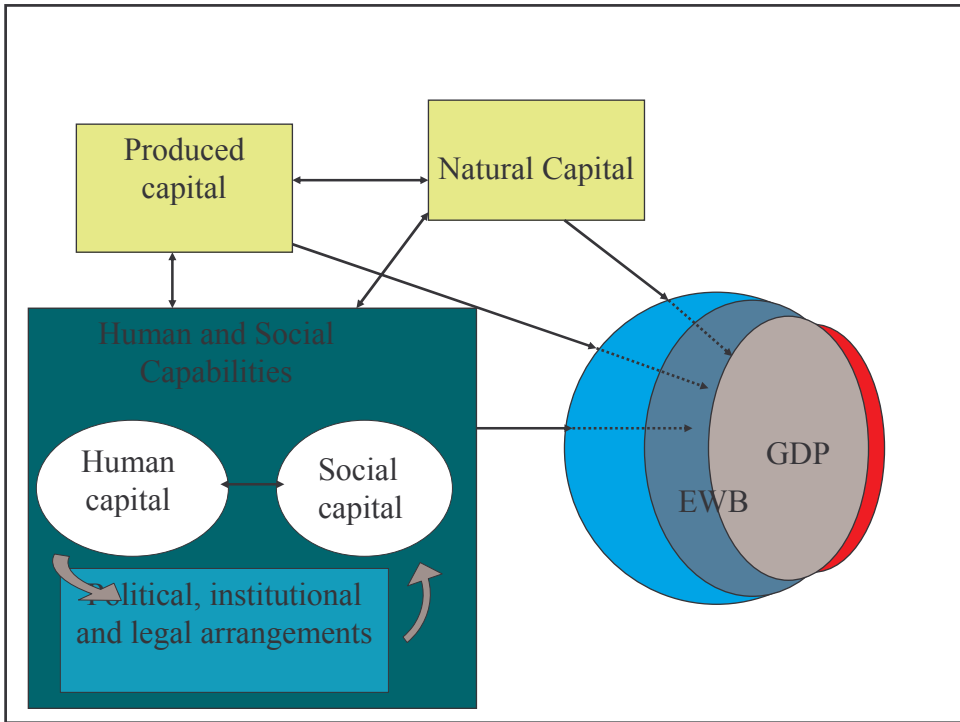
A DIGRESSION

Definitions

- Human Capital
 - *"The knowledge, skills, competencies and attributes embodied in individuals which facilitate the creation of personal, social and economic well-being"*
- Social Capital
 - *"Networks together with shared norms, values and understandings which facilitate co-operation within or among groups"*







In both 1984 & 2006

– why do we care if indicator goes ‘up’ ?

- Standard Indicators have ambiguous relation to Well-being
 - GDP per capita excludes leisure, environment & more
 - Hourly wages ? Employment ?
 - Not valued directly – but indicate a more fundamental objective
 - Wage = *price* of labour;
 - *potential consumption? Market ‘power’?*
 - Unemployment = unused labour;
 - *insecurity? Social exclusion ?*

Methodology

- Variables now scaled linearly
 - Consistent with other indices (e.g. HDI)
 - Solves “Directionality Problem”
 - $(\text{Max} - \text{value}) / (\text{Max} - \text{Min})$
 - OR $(\text{Value} - \text{Min}) / (\text{Max} - \text{Min})$
 - Problems:
 - Reporting trends as % change or % points
 - Scaling removes base – sensitive to comparison group
- “Base Case” assigns equal weight to all dimensions
 - Excel data sheet available for experimentation
 - <http://www.csls.ca/iwb.asp>