


<https://www.youtube.com/watch?v=ETxmCCsMoD0>

money money money
(Abba, 1976)



Money, money, money
Must be funny
In the rich man's world
Money, money, money
Always sunny

In the rich man's world
Aha-ahaaa
All the things I could do
If I had a little money
It's a rich man's world

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Sustainability Myth Busters

Economics & Business
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Bert Scholtens

Today's Agenda

Money is the root of all evil

Money don't buy you happiness

What is my footprint

How to measure wealth and progress

The role of markets and governments in addressing externalities of productions

Money is the root of all evil?

- Bible (1 Timothy 6:10)
For the love of money is a root of all kinds of evil.
- People's response to financial crisis – Robert Shiller
 - People are angry
 - People believe the crisis was a product of something fundamentally wrong with the financial system and with the people who compose it
 - People believe that financiers purposefully aggravated the situation for their own benefit
 - Support for capitalism is falling all over the world
 - Cynicism and skepticism regarding the financial industry abound



Money is the root of all evil?

- Money makes the world go round
[John Kander, Fred Ebb - Line from song Money, Money - from musical Cabaret – 1960s]
- Money is used as a payment mechanism, storage device, way to calculate; different items have fulfilled this role.
- Money helps develop societies, institutions, firms, households.
- But, there can be too much of a good thing: greed, inflation, financial crisis, ...

Does money buy happiness?

- Clearly **decreasing returns to scale** (more money doesn't buy equally more happiness....).
- Impact seems to be **levelling off at income of US\$ 60,000 per capita**.
- However, we cannot clearly detect the **asymptote**.
- Anyhow, this seems to suggest that for a considerable part of world's population at least, the answer might be *'YES, money does help me become happier'* (as it improves health, education).

Footprint

Wackernagel and Rees, 1996.

- measure in hectares of biologically productive space with world average productivity.
- measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under the prevailing technology .
- applications at the individual level, firm level, industry level, country level.

Footprint

$$EB = \sum_i TBC - \sum_i ECF$$

- *EB* = ecological balance
- *TBC* is total biological capacity
- *ECF* is the ecological footprint;
- *i* is for the countries.

There is an ecological deficit if the footprint exceeds biological capacity, if it is the other way round, the country has an ecological reserve.

Footprint

- For total biological capacity, cropland, pasture, forests, fisheries, built space and energy are taken into account.
- Footprint varies with population size, per capita consumption and the resource intensity of the prevailing technology.
- WWF et al. (2006) allocate **1.8** global hectares per person to ensure ecological balance. That is, consumption is sustainable when the footprint is not above this amount.
- Countries with a large footprint are United Arab Emirates, United States, Kuwait, and Canada.
- The footprint is smallest in Bangladesh, Benin, Cambodia, Mozambique and Nepal.

Alternatives to Footprint

- **Environmental Performance Index (EPI)**
 - ranks how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health from environmental harm and protection of ecosystems.
 - <http://epi.yale.edu/epi>
- **Human development index (HDI)**
 - a **summary** measure of average achievement in key dimensions of human development: a long and healthy **life**, being **knowledgeable** and have a decent **standard of living**. The HDI is the geometric mean of normalized indices for each of the three dimensions.
 - <http://hdr.undp.org/en/countries>

Criticism wrt aggregate indexes / ratings

1. assume substitution, hence neglects the loss of critical natural capital
2. biases toward the level of income of a country
3. often consider most high income countries as sustainable
4. can't answer whether humanity's consumption is sustainable and within the limits of ecological capacity
5. don't capture vulnerability to human-induced climate change.
6. Footprint defined by arbitrary national (political) borders; implicitly reflects an anti-trade bias.

How to measure wealth and progress

- Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.
- GDP includes all private and public consumption, government outlays, investments and exports minus imports that occur within a defined territory.
- Put simply, GDP is a broad [measurement of a nation's overall economic activity](#).

Use of GDP

- The GDP calculates the economic value of all produced goods and services generated by the country.
- The exact calculation is complicated, but there are two general approaches to reach a GDP number.
- The first is to add up the total number all working individuals and businesses earned within a year (income approach).
- The second is to add up what everyone spent (expenditure approach).
- The income approach is less commonly used than the expenditure approach, but all things considered, both calculations should reach roughly the same number.
- When the GDP is up, the nation has a lower unemployment rate and workers see wage increases. When the GDP is down, the nation faces higher unemployment rates and workers sometimes see wage restrictions.

Abuse of GDP

- Often, people (politicians, r value on GDP.
- They see it as a thermomet
- However, it does not accou imbalance in international | distribution, unemploymen
- Further, it is not an approp WEALTH as **externalities** ar
 - THINK: pollution, diseases, a household labor



Pigou – Internalize external effects of production via taxation

- Pollution taxes should equal their net social costs.
- Subsidies on prosocial behavior should be set at their net social benefit.

Pigovian tax

- How to determine the tax?
- How to implement the tax?
- Marginal social costs are hard to determine
- With many externalities, costs are individual and psychological
- Social costs and tax revenues may be unequally distributed in society

Measuring wealth

- Alternatives to GDP:
 - Genuine Progress Indicator
 - Measure economic welfare generated by economic activity
 - Accounts for the depreciation of 'community capital' as an economic cost

GPI

- Starts with personal consumption expenditure (which also is central in calculating GDP).
- Adjusts for 24 items:
 - Income distribution
 - Environmental costs
 - Crime
 - Pollution
 - Volunteering
 - Household work
 - etc

GPI

- This is NOT an indicator of Sustainability (see Footprint, EPI, HDI)
- Tries to capture economic welfare
- Use GPI next to biophysical, social and cultural indicators (dashboard)

The role of markets and governments in addressing externalities of productions

- Classical view is that social or environmental goods and externalities are characterized by nonrivalry and/or nonexcludability.
- Governments have the power to correct and private firms have not sufficient incentives to correct market inefficiencies.

Joint production

- Firms often produce a public good or externality jointly with their main task to provide private goods or services for consumption.
- Firms are organizations that conform to a broad group of private agents: shareholders, workers, managers, customers, suppliers, regulators, ..

Trade-offs

- **Markets** enjoy comparative advantage in accommodating heterogeneous shareholder and stakeholder preferences at the cost of suboptimal public good levels.
- Uniform **regulation** can achieve first-best public good levels at the cost of detrimental redistribution effects.

Trade-off between CSR and regulation

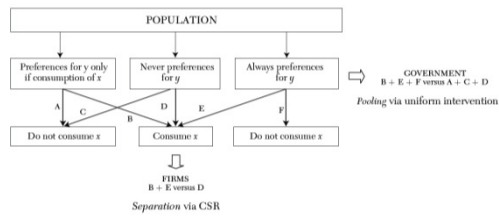


Figure 1. CSR and Welfare

CSR and markets

1. Markets are left alone
 - CSR benefits B, E and F without harming neutral (non)consumers
 - Too little CSR from a societal/intergenerational perspective: $y^{CSR} < y^*$.

CSR and regulation

- 2. Regulatory standard be imposed on all firms
 - Neutral consumers pay higher price (or don't consume)
 - Redistribution from D to B & E
 - (only makes sense if standard > CSR)

CSR and regulation

- The relative welfare question of when total surplus is maximized under regulation as opposed to CSR can only be answered when **weighting** the relative benefits and losses of social groups (B, E, F) against those of neutral D.
- This depends on the **number** of members in each group and the **strength** of their preferences.

Transmission channels

1. Markets: it is all about **incentives**; labor, capital, nature – product
2. Politics: alternative pass-through to reveal preferences; some **threat** is involved; private and public politics; product differentiation; spillovers; overcompliance; government imperfection.
3. Social norms: institutional environment and accepted norms/views/values that might discipline. Industry specifics, interdependencies.
