

Behavioral Insights for the Design of Green Growth Policies in Developing Countries

Insumos de la economía del comportamiento al diseño de políticas para el crecimiento verde en países en desarrollo

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Simposio Crecimiento Verde y
Política Económica

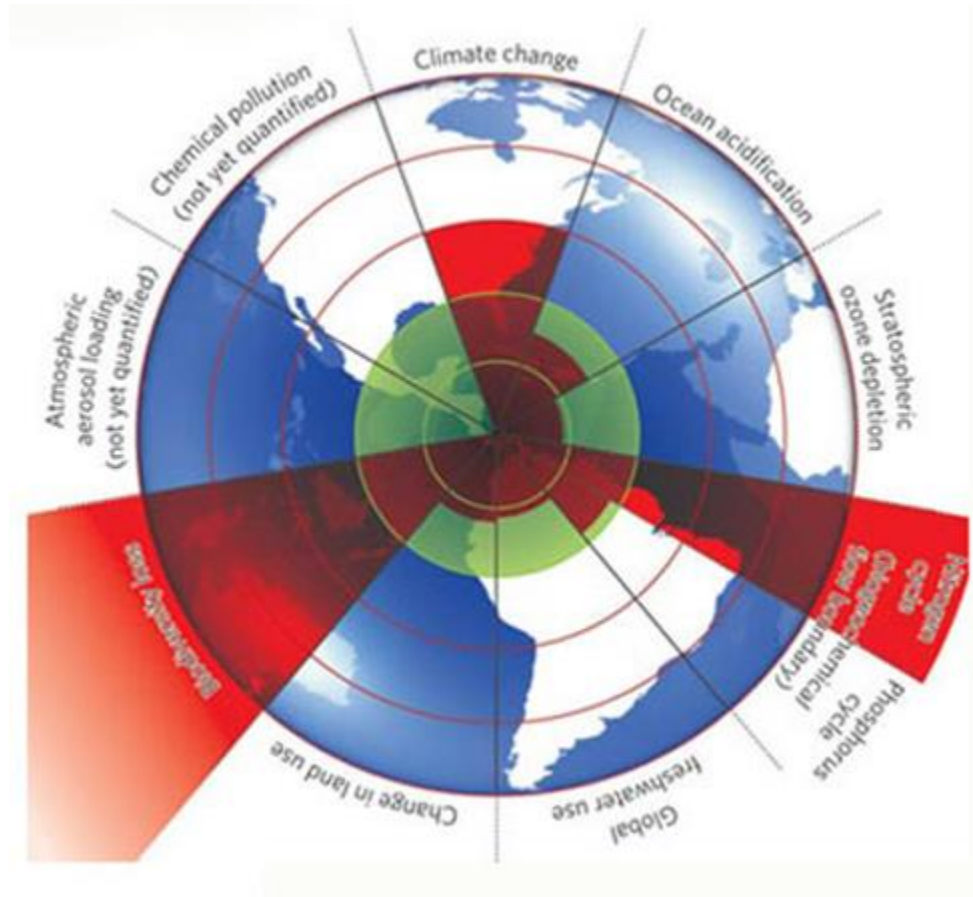
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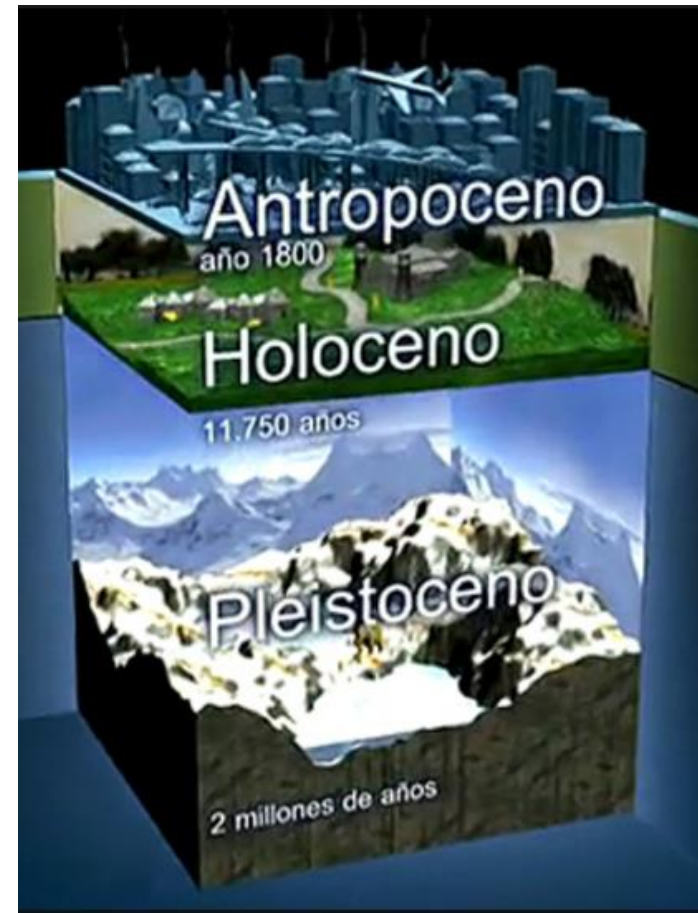
The rationale...

- Each day, individuals make small choices and take small actions that, as a whole, have enormous impacts on the Earth's resource base.
- Changing our development path requires changes in human behavior, social norms, habits.



Behavioral Insights and green growth

- We need well designed policies that change behavior towards green growth.
- Green Growth is the decoupling of economic growth (and hopefully increased well-being) from the depletion of natural resources.....challenges and opportunities
- Behavioral insights....
 - Are a combination of insights from economics and psychology.
 - Focus on the true rationale behind human decisions as consumers and/or producers.



Key challenge: deconstructing the *homo economicus* into something more credible

Description of the *homo economicus*:

- Rational
- Selfish
- Transitive
- Time consistent
- Maximizer of utility derived from consumption



The real challenge is to make the individual utility function more credible without abandoning the toolkit of economics!!!

What do we know?

- Bounded rationality
- Bounded willpower
- Bounded self-interest

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Bounded rationality

- Human problem solving is constrained by **limited cognitive abilities**:
 - **Framing effects**: many human decisions are determined by the way **information** is presented.

Bounded rationality

- Human problem solving is constrained by **limited cognitive abilities**:
 - **Loss aversion**: a common simplification of decision-making is to value losses higher than benefits of equal size → **inaction**.

Bounded rationality

- Human problem solving is constrained by **limited cognitive abilities**:
 - **Habitual behaviors**: many choices are not true decisions but **automatic responses** (default alternative).

What do we know?

- Bounded rationality
- Bounded willpower
- Bounded self-interest

Bounded willpower

- People sometimes make **short-sighted choices** that appear contradictory (e.g. credit card debt...)
- Consequences of choices at different time scales are often hard to see
 - *Myopia* of intertemporal choices.
 - Problem specific **discount rate**
- Underinvestment, low savings rate, high debt...

Bounded willpower

- **Cognitive dissonance**: frequently, there is a mismatch between what we believe and the things we do, so that actions seem to violate transitivity.
- Choices can be hard to follow through:
 - I am going to stop procrastinating soon.
 - These cigarettes are killing me!
 - All these junk food is going to give me a heart attack.
 - We should be recycling at home.

What do we know?

- Bounded rationality
- Bounded willpower
- Bounded self-interest

Bounded self-interest

- People often sacrifice themselves in order to help others.
 - Altruism
 - Fairness concerns
- Social norms and peers: people conform to behaviors that are considered the norm in their reference group....for good or bad
 - Shark fin soup
 - Dog lovers

Why is this relevant to environmental problems?

Many environmental problems are caused by habits, and such automatic choices are not easy to change;

We focus too much on the present, overlooking long-term environmental impacts;

Sustainability is perceived as impersonal:

- there is nothing I can do,
- we want it, but still do nothing.

Why is this relevant to environmental problems?

As soon as something works, we stop thinking → No optimal choices.

Agents have the tendency not to notice some of the important features of the environment:

- Cognitive limitations, e.g. carrying capacity;
- Knowledge acquisition biases, if irrelevant once, always irrelevant.

The nightmare of climate change

In simple terms, it is:

- Caused by billions of tiny decisions that result in large emissions in the aggregate, but nobody is obviously responsible...Impersonal!
- Yet will all suffer the consequences.

**Bounded
rationality**

The nightmare of climate change

- Associated to massive redistribution of wealth: poor individuals and countries will bear most of the costs... Ugly question
- Cost from solving the problem will occur in the short term but benefits will accrue in the long to very long term... I want a good life now!
- There is large uncertainty on the best solutions available, the size of the damages and the costs.... Oh god!

Bounded
will power

MNopia of
intertemporal
choices

Is there a need for correcting public policies?

Behavioral “faults” lead to inefficiencies, just as market failures do.

- Classical examples: compulsory seat belts, indoor-smoking prohibitions

Behavioral insights for environmental policy design

Three sets of tools and a caveat:

- Choice architecture;
- Peer comparison and social norms;
- Analytics; i.e. beware of response.
- Very problem specific!!!!

Choice architecture

The specific way that policies are presented and implemented will potentially have tremendous influence on whether they will work or not:

- Simplify and frame information: energy stars, ecolabelling;
- Invest in technology to push for more efficient decisions as a matter of habit: efficient light bulbs, water conserving technologies;
- Change default alternative: default setting of air conditioners

Social norms and peer comparison

- Use social norms and peer comparisons: have households compete to become green energy users or green water users.
- Use a combination of public rewards and punishments: reward if garbage is separated at the household and punishment if not.
- Goal settings and commitment devices: tell your kids you are going to quit smoking.

Beware of response to policies

- Individuals react to policies and rules:
 - Ignoring them,
 - Hating them,
 - Using them in their favor,
 - Or against someone,
 - Obeying them,
 - Interpreting them.
- Biggest behavioral insight is the most obvious one:
beware of response!!

Some examples

Social norms and recycling

A social norm is a **predominant behavioral pattern** within a group...

...backed by a shared understanding of **allowable actions**,
...and sustained through social interactions
(**approval and disapproval**) within the group
(Nyborg et al., 2016).

Social norms help us solve a coordination problem: threshold PG.

The separation of plastic, metal, paper and biodegradable waste at home makes sense only if enough houses do it.

Social norms and recycling

Can we make recycling a social norm?

How does it combine with other tools?

- Laws and regulation
- MBI like rebates and deposit refund schemes
- Institutional commitment (large scale infrastructure)
- Information / attitude campaign / education
- Social comparisons (Alpizar and Gsottbauer, 2014)
- All of the above? If so in what combination?

Beware of response: *Aedes aegypti* and fines

Dengue, chikungunya and zika are viruses transmitted by the same vector of disease: a mosquito.

- The mosquito has thrived in urban environments, where water is stagnant in gutters, flower vases, pot plants and backyard garbage.
- Elimination of mosquito breeding grounds through physical removal is the only solution, with widespread fumigation a far second best.



Beware of response: *Aedes aegypti* and fines

How do we get households to eliminate the mosquito breeding grounds?

- Costa Rica 's government: Let 's fine families with breeding grounds on their premises, after inspection.
- What do you think will happen?
- Late pick ups in day care centers (Gneezy and Rustichini, 2000)

Again, how do we build a social norm in support of mosquito eradication?

Choice architecture and protected area finance

Can we use donations instead of entrance fees to increase revenues for protected areas?

Alpizar and Martinsson (2017) explored this issue in Cahuita:

- 64% are perfect or near perfect conditional cooperators, and 25% are free-riders.....promising!!!!
- But cooperation breaks in the presence of free-riding (Gächter, 2007)
- KEY: Nature lovers are mainly cooperators and beach lizards mostly free-riders.

A voluntary contribution scheme does not look promising unless beach lizards and nature lovers can be separated somehow

➔ separate entrances

As you can see: Nudging \neq Behavioral Insights

A nudge is “... *any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives*”

(Thaler and Sunstein, 2008).

- No salt in the table is a nudge (México).
- Prohibiting sugary drinks in schools is not.

- Nudging is only a subset of tools that can otherwise be informed by BI.
- But nudging has a lot of potential.

Some examples of nudging

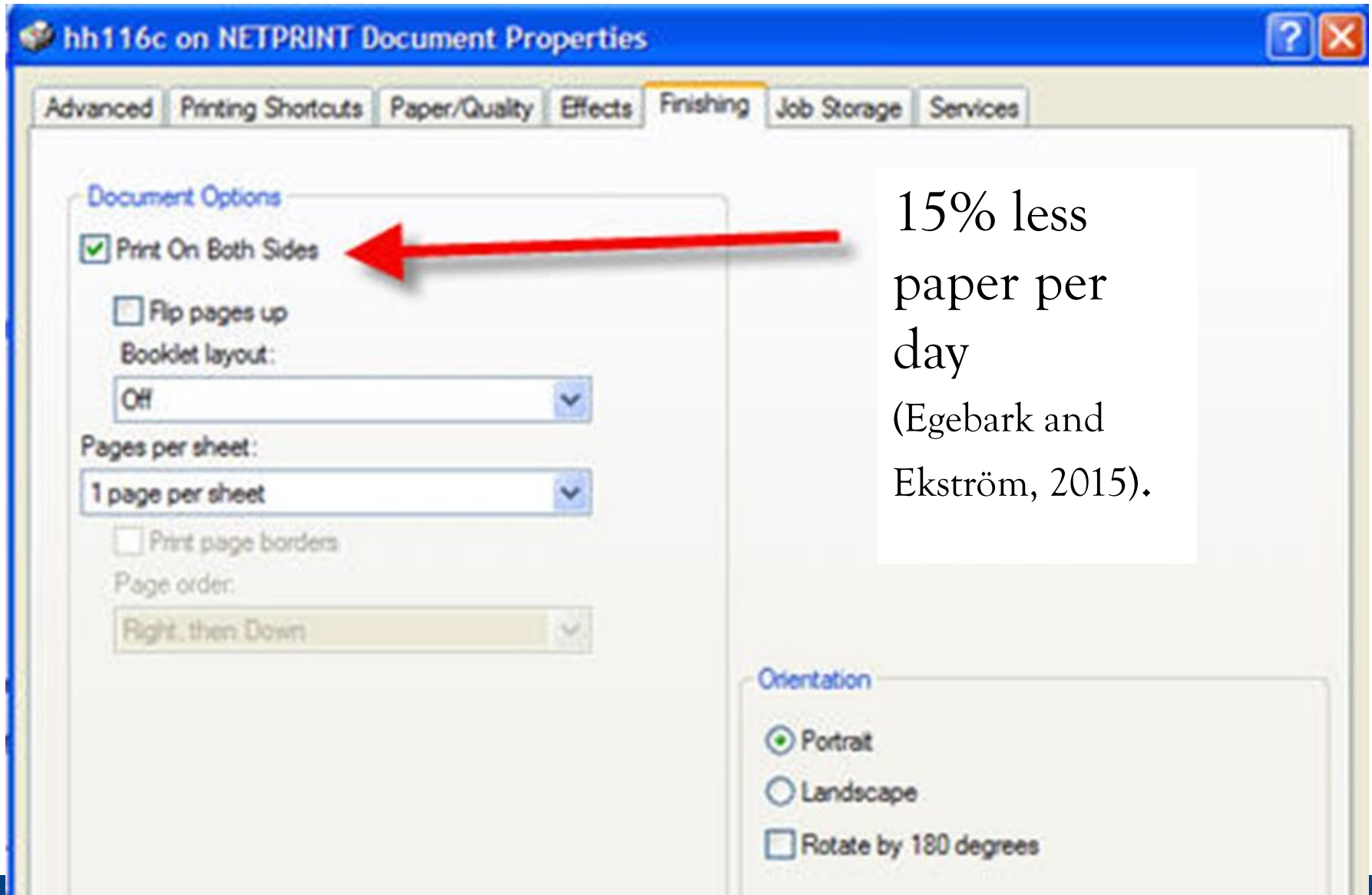
(From Carlsson 2010)

Food



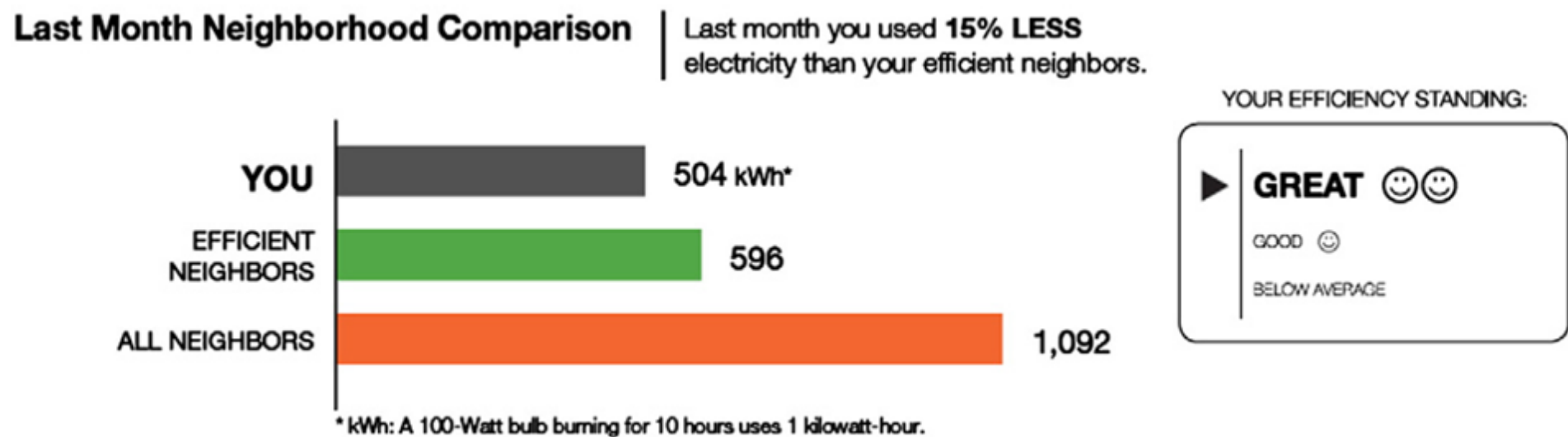
Reduced the amount of food waste in hotel restaurants by around 20% (Kallbekken and Saelen, 2013).

Paper



Water and energy

- Allcott (2011): 2% reduction in electricity use
- Ferraro and Price (2013): 3-5% reduction in water use
- Jaime (2015): 6% reduction in water use



What do we know about
behavioral insights in
developing countries?

Very Little....

Most of what we know comes from WEIRD subjects:

Western

Educated

Industrialized

Rich

Democrat

Why do we expect differences?

Income level, social norms and peer comparisons

- Hipsters compete to reduce energy or show off by being vegan.
- In South Africa, a recent study shows that social comparisons lead to reduction in water consumption for the wealthier and increases for the poorer, that make 48% of the population.

Why do we expect differences?

Distance of social context:

- People in the developed world are used to very distant social relations; their reference group is broad.
- In our countries, social connections are much tighter, and our reference groups are much closer and smaller.
- If we want to use social comparison as a nudge: what is the correct social reference?

Why do we expect differences?

Context:

- Cooperation breaks in the presence of free-riding (Gächter, 2007),
- Yet free-riding is much more ubiquitous in the developing world, because of higher poverty levels and larger informal sector.
- Is there a way of containing free-riding in key governmental policies?
- How can that be done and still maintain solidarity?
Pension system, cash transfers programs.

Why do we expect differences?

Behavioral insights at different scales:

- Most of our knowledge comes from individual behavior in its relevant context (as consumer, as worker, etc)
- Yet we need to know more about the behavior of:
 - Communities
 - Companies
 - Cooperatives,
 - Producer associations,
 - etc.
- Which are very relevant in our context.

By way of summary (1)

Behavioral patterns and habits do matter, and in some cases matter a lot.

Lots of evidence from developed countries showing that:

- Habits can be altered by changes in the choice architecture that favor the sustainable choice.
- For example, lots of talk around nudges.

By way of summary (2)

Behavioral insights should be seen both as
a complement and
as an input...

to traditional policy instruments
rather than as a substitute for laws,
regulations and economic tools....

...but we know little on the interaction of all these tools.

By way of summary (2)

Very few studies focus on LDC, and on the particularities of human behavior in our context.

But most importantly, policy making in the developing world is not yet sophisticated enough:

- Too big a focus on legislation,
- Too much trust on technical fixes,
- And too little changes in behavior and habits (e.g. electric cars).

Sustainable policies need to be sustained in the long run, and for that they need to be acceptable to consumers and producers.

Behavioral Insights are a key input into such policies.

Thank you
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