Transition to sustainable forest management and rehabilitation

How to analyse our data

AREA ENVIRONMENTS AND GLOBAL SUSTAINABILITY CHALLENGES

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- Wil de Jong
  - How to analyse our data
- Liu, Jinlong
  - Qualitative analysis
- Youn, Yeo-Chang
  - Transition to quantitative analysis

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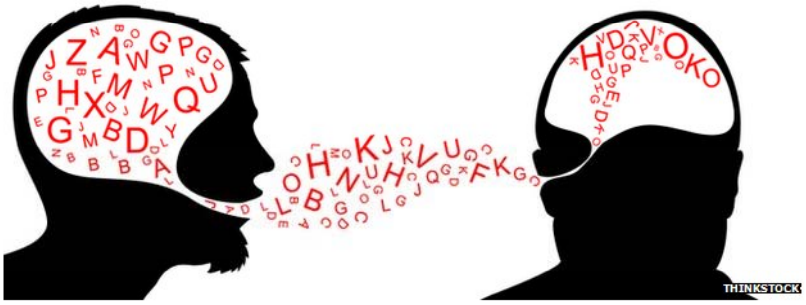
Why speaking English can make you poor when you retire

By Tim Bowler
Business reporter, BBC News



Not all languages require the use of a future tense

Could the language we speak skew our financial decision-making, and does the fact that you're reading this in English make you less likely than a Mandarin speaker to save for your old age?

It is a controversial theory which has been given some weight by new findings from a Yale University behavioural economist, Keith Chen.

Prof Chen says his research proves that the grammar of the language we

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Correlations and causality

- There are often significant differences within language groups, and just using the average of these results in analysis can prove problematic.
  - Morten Lau, director of Durham University's Centre for Behavioural Economics
- You have to be careful what inferences you make from correlations
- The need of good theory or understanding of the mechanisms (black box)

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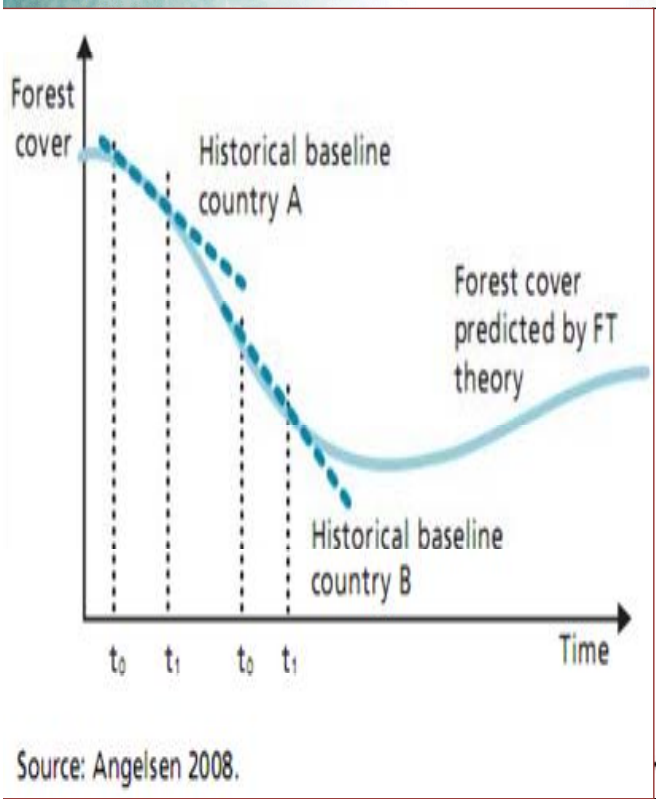
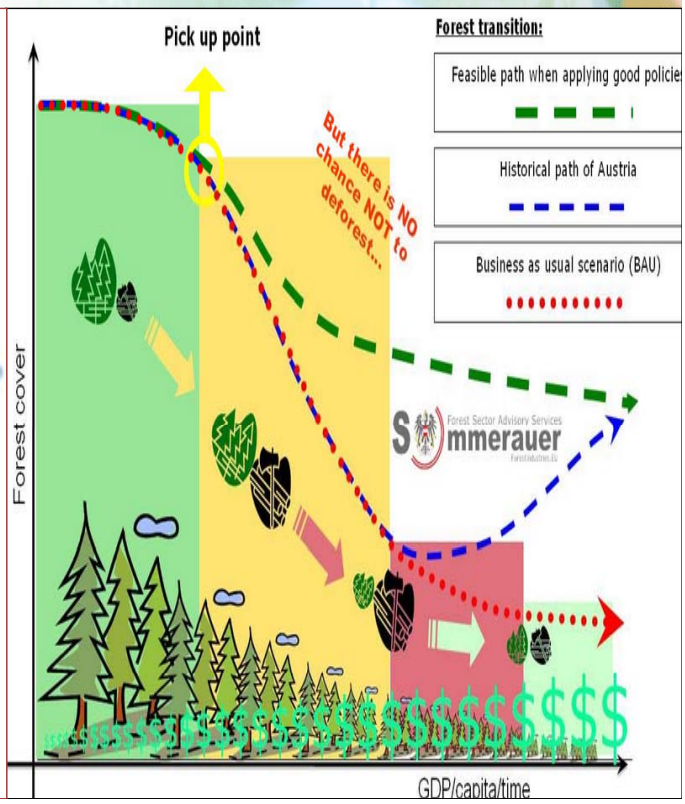
Forest transition theory



Source: Angelsen 2008.



Forest transition pathways

- Economic development
  - Scotland, France, Denmark, Holland
- Forestry scarcity
  - Puerto Rica, China, Vietnam
- State forest policy
  - Bhutan
- Globalization
  - Costa Rica, El Salvador
- Smallholder tree land use intensification
  - Java, Guinea

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Sustainable forestry/ forest transition matrix

	Pre transition	Post transition
Unsustainable forestry	- Deforestation through land conversion and logging - Forest degradation	- Forest area expands - Forest degradation - Natural forests being replaced by degraded forest and plantations
Sustainable forestry	- Sustainable supply of goods and services - Forest conversion continues	- Sustainable supply of goods and services - Forest area continues to expand.

- Dependent variable: forest cover
- But possibly also: biomass, biodiversity, forest goods and services
- Independent variables: forest transition pathways? Others?
- At what scale?
  - National
  - Sub national

Data to use

- How to construct data sets?
- Type of data:
  - Discrete data; Categorical data; Nominal data; Ordinal data; Continuous data
- Time series
- Somewhere between 35 – 50+ variables
- 9 countries (x no cases), time data-points

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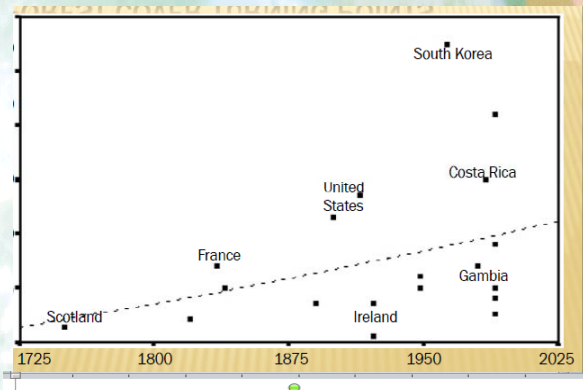
Type of analysis

- Descriptive statistics
  - Correlations, Frequencies,
- Inferential statistics
  - (Non) linear regression
  - Multivariate analysis
  - Principal component anal.
  - Correspondence analysis



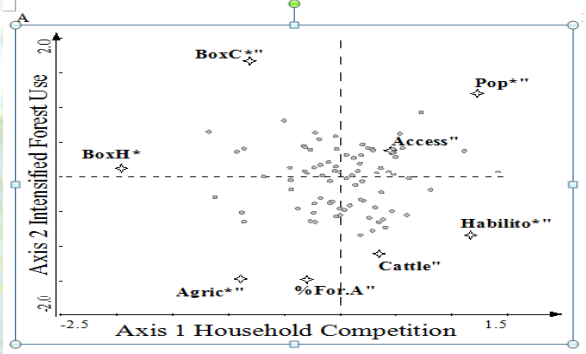


Fig. 3 Results of Correspondence Analysis used to evaluate changes in 81 forest
the variation across communities ($\lambda = 0.047$), Axis 2 explains 19.4 % of variation
Axes in figure A. Dots denote communities; stars denote variables (variable code

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