Economic perspectives on "small" languages: principles, recent trends and new challenges

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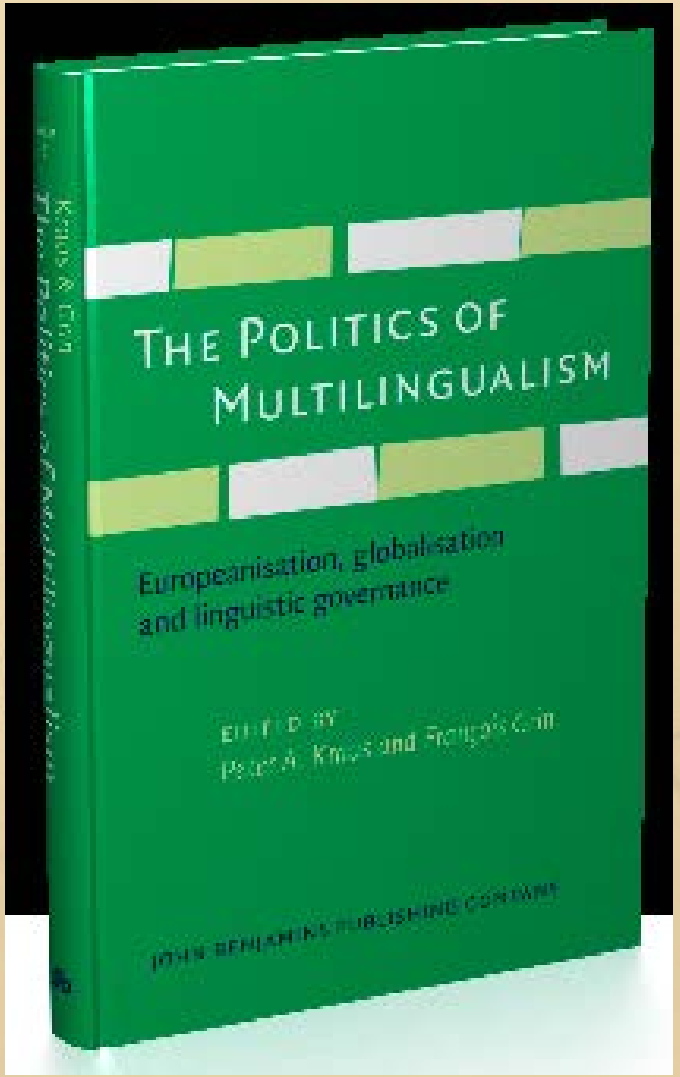
What this talk is about

1. General orientation into the economic *approach* to "small" languages
    - Basics of "language economics" and overview of applications of language economics to "small" languages ("thinking economically")
2. Recent trends
    - Example: from algebraic modelling to simulations
3. New challenges
    - Choosing appropriate tools

Sources of this talk

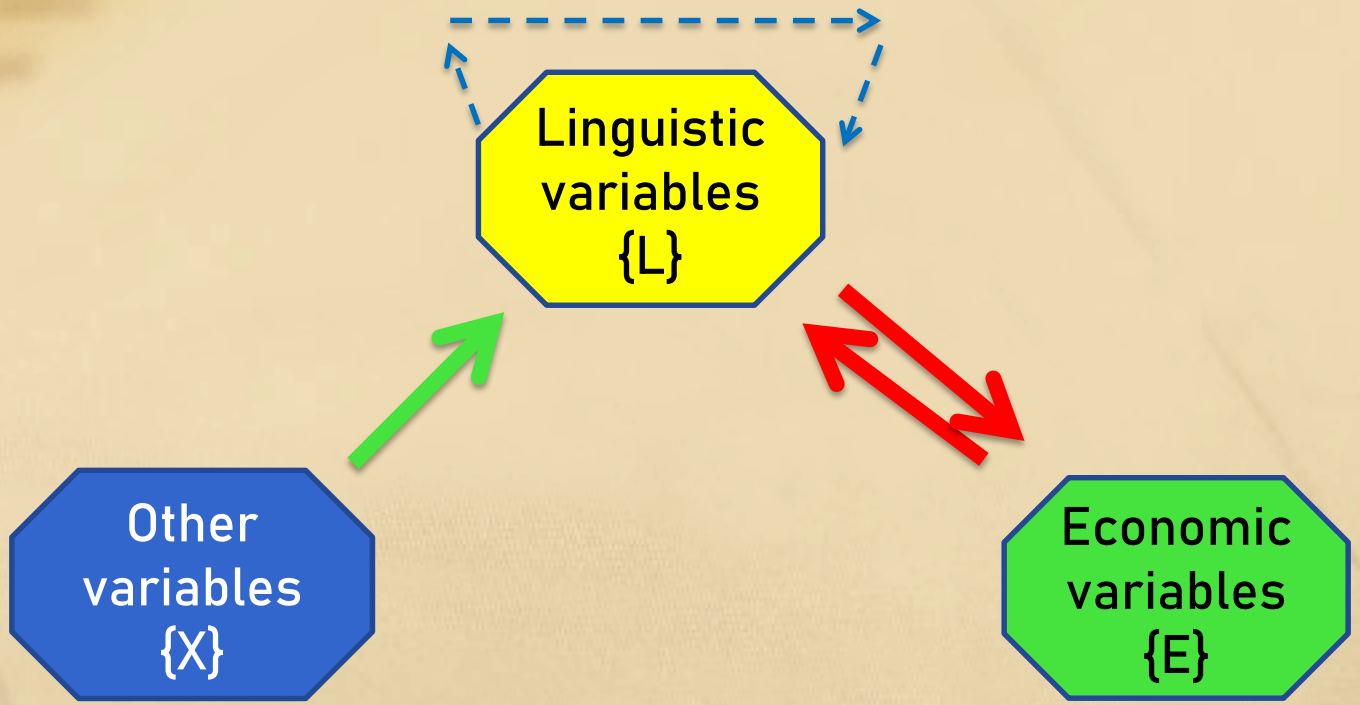
1. Some key references in language economics ("LE")
2. An (unpublished) report I drafted in 2012 for NPLD on *Multilingualism, economic performance and language policy. Incorporating constitutional, regional and smaller state languages*
3. Marco Civico's current PhD work
4. A recently published book (co-edited by P. Kraus and myself) on *The politics of multilingualism*. Amsterdam: John Benjamins, 2018)



What is language economics (LE)?

1. How language variables influence economic ones (e.g.: language skills → earnings)
2. How economic variables influence linguistic ones (e.g.: trade → spread and decline of languages)
3. How economics can shed light on (almost) any "language-related process" (even if no explicitly "economic" *variables* are present)
   (e.g.: relative effectiveness of different measures for the long-term vitality of a small language: subsidising the translation of literary works [to/from this language]? "Visibilizing" it in the public space ? Banning big languages?

A diagrammatic overview



Corresponding formal definition: "Language economics refers to the paradigm of mainstream theoretical economics and uses the concepts and tools of economics in the study of relationships featuring linguistic variables. It focuses principally, but not exclusively, on those relationships in which economic variables also play a part"

LE: a thriving research area

1. Origins in the 1960s
2. Initially centered mid-60s to late 80s) on the study of the effect of linguistic attributes on labour income
    1. English and French in Canada
    2. Immigrants on the US labour market
3. Since the 1990s, development of a “European” tradition in LE
    1. Broader range of questions (e.g. value of foreign language skills)
    2. More emphasis on small languages
    3. Identification of “economics of language policy” as a major component of LE

Some useful distinctions

1. "Economics" v. "the economy"
   - economics isn't confined to standard economic variables and processes like production, consumption, markets, prices, etc. (i.e., what typically makes up "the economy". Economics is broader: it's about *choice*, including in *a priori* "non-economic" matters
2. "Purely economic" processes v. processes "with government intervention"
   - Some LE research is interested in the interplay of forces/behaviours that generally manifest themselves independently of the existence of the state (e.g. supply & demand)
   - Other lines of work are interested in the economic dimensions of state intervention in our "linguistic environment" (e.g., what are the costs of language policy and planning (LPP)?)

Levels of value: are "small languages" valuable?

	PRIVATE	SOCIAL
MARKET	Net earnings differentials	Social rates of return
NON-MARKET	Access to culture & interpersonal contacts	Social, political, cultural aspects

Allocation v. distribution

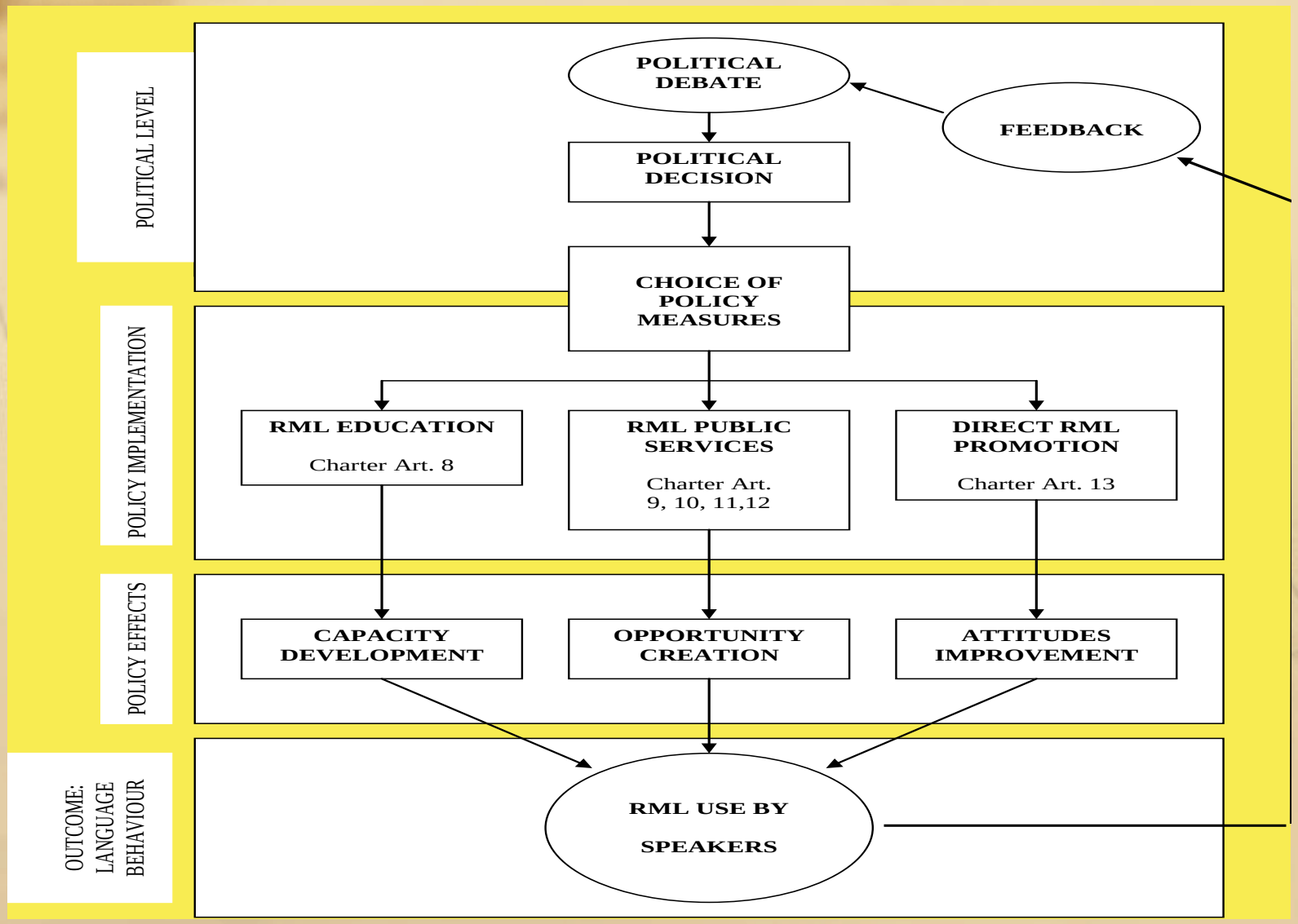
- Resource allocation → effectiveness / efficiency
- "What to produce?" & "How to produce?"

- Resource distribution → equity / fairness
- "For whom to produce?"

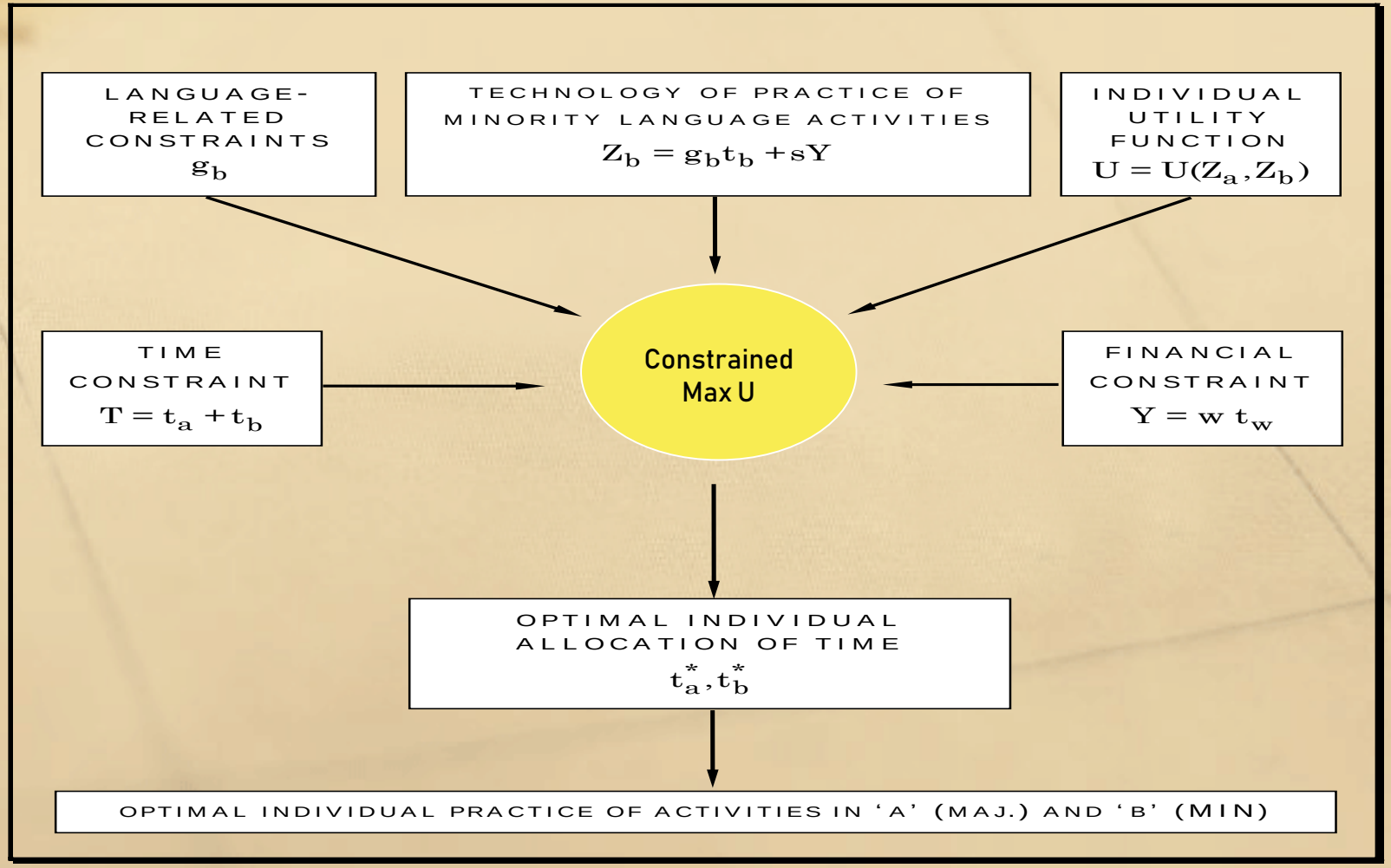
The concept of counterfactual

- Makes sense when choices have to be made, and in particular when policies (>¦< "political debate") have to be chosen
- "Counterfactual" = "the alternative against which a particular policy is being evaluated"
- Example: the value of multilingualism in contingent v. absolute perspective
  - "contingent": *given* that the world is multilingual, how much is this or that language worth? E.g.: "are we better off if we cultivate it or ignore it?"
  - "absolute": are we better off with diversity (including language *X* or *Y* as a component of diversity), or *without* diversity (i.e. in a uniform world)?

Application to “small” languages: the policy-to-outcome path (P-TOP)



The core of the P-TOP: a model of language behaviour by speakers of "small" languages



Limits of, and alternatives to classical modelling

- Very general, but
  - very abstract
  - quickly becomes *very* difficult to handle mathematically
  - Restricts the extent to which the actual *complexity* of language-related processes can be accommodated in modelling (e.g. non-linearity, feedback loops)
- Alternative: use computer simulations
  - Instead of computing algebraically the effects of a change of variable X and its effect on variables A, B, C, etc. (given certain values for contextual variables Y and Z), we *quantify* the relationships and estimate the effects of a change in X
  - It allows us to test, much faster and with less difficulty, all kinds of changes, including some that may be induced by language policy

Agent-based modelling

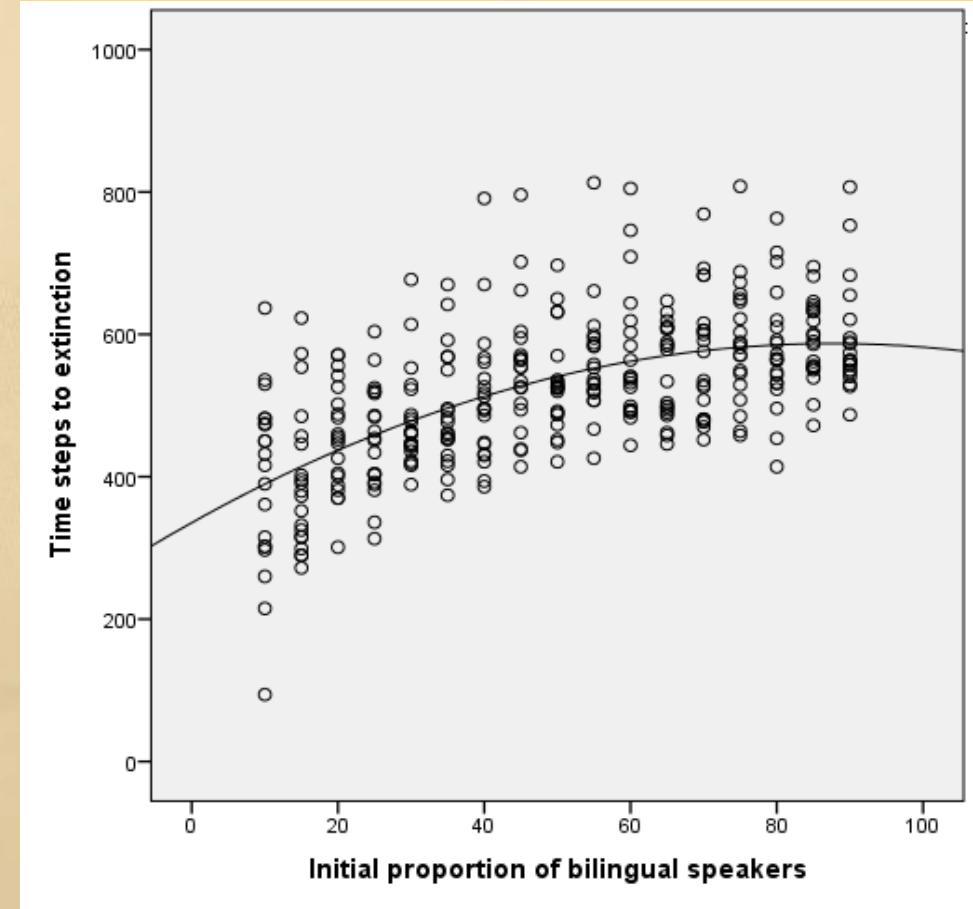
- ABMs are explicit models (as opposed to implicit models) – assumptions are transparent, they are tested for consistency, logical relations and consequences are known. Other people can change the assumptions and produce different results by simply modifying the source code
- It allows for sensitivity analysis
- ABMs are particularly useful for exploring relationships about which empirical information is too patchy to run proper statistical tests
- ABMs, being based on iterated functions, account for chaos and stochasticity, as opposed to other methods such as ordinary differential equations

Example: Language vitality

- Giles *et al.* (1977) suggest that language vitality feeds on itself. In other words, languages used more tend to have higher chances to survive.
- Grin (1992), through formal economic modelling using data on Welsh, argues that higher (lower) initial percentages of minority language speakers in the resident population are not automatically associated with higher (lower) chances of long-term survival.
- Agent-based modelling can put all sorts of variables in relation to survival likelihood, helping us to identify their relative impact on the chances of long-term survival. This way, it is possible to identify the right combination of factors (such as language education) that can affect the proportion of minority-language speakers.

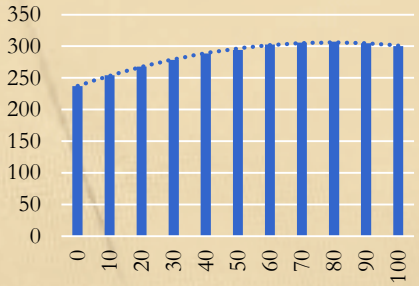
Example: language vitality (cont.)

- Some well-known perspectives on vitality and long-term survival (e.g. Giles *et al.* (1972)) are somewhat circular, in that survival is simultaneously described as an indicator of vitality and a consequence thereof; one way to overcome this problem is to develop explicit dynamic models of language use (e.g. Grin, 1992)
- With ABMs, we can run various tests, for example whether the initial proportion of minority language speakers of the correlates with time to extinction of the minority language community
- By launching several hundred simulations with identical starting conditions but different initial proportions of minority-language speakers, it is possible to see that long-term survival is only weakly correlated with initial proportion and that this correlation is virtually non-existent for initial proportions higher than 40% (see figure)
- A small group can survive for a very long time, while a high initial proportion is in no way a guarantee of long-term survival.
- This confirms that long-term survival depends on many other factors, including policy-driven ones, as well as on a certain amount of randomness.

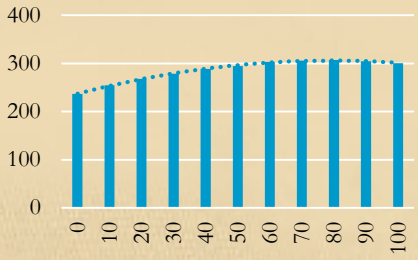


The impact of "policy-actionable" variables: reveal strategy + education

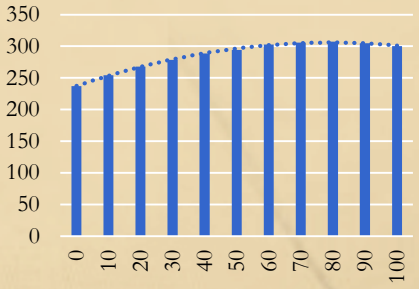
Levels of "reveal" speakers



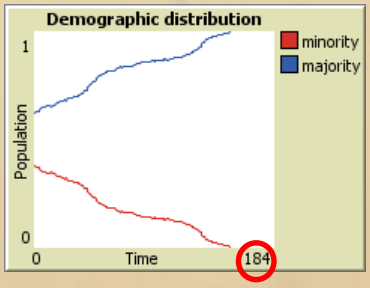
Levels of people involved in education



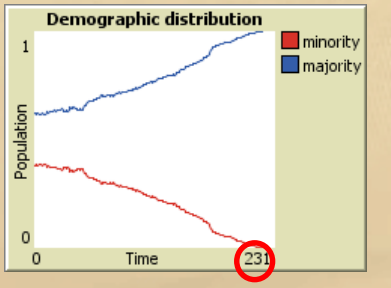
Minority thresholds



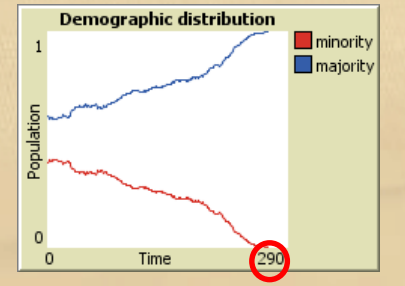
Reveal = 15%



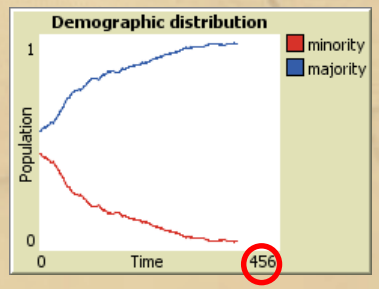
Reveal = 40%



Reveal = 75%



Reveal = 75% +
Education = 50%



ABMs for RLS

- The ABM approach brings to light the paramount importance of language choice in exogamic couples. In line with substantial empirical evidence, the preceding simulations assume that in bilingual couples where the *M*-speaker is unilingual while the *m*-speaker is bilingual, the home language will be *M* (Majority language).
- It is therefore crucial for language policy to re-orient this tendency, which can be done in several ways:
  - Minority-language teaching programs targeting in particular monolingual, majority-language speaking young fathers or mothers whose spouse/partner is a minority-language speaker, in order to increase the likelihood of the minority language becoming one of the home languages
  - Campaigns encouraging the use of the minority language with the children by the bilingual spouse, even if the monolingual *majority* language speaking spouse doesn't yet) know the minority language
  - Bilingual schooling with which *Mm*-background pupils (children with *M* home language but with one bilingual parent) can develop *m*-language skills – with methods tailored to the situation of this group of pupils

Current challenges

- "The usual":
  - Dealing analytically with the intrinsic complexity of the interconnections between various processes (political, social, cultural, economic) in which language issues are "transversal" (they run through all the domains concerned and affect all these processes)
    - moving beyond traditional modelling thanks to complex approaches
    - adopting an interdisciplinary ethos
  - Gathering appropriate data:
    - "RAD" (Representative, in Adequate numbers, sufficiently Detailed) survey or census data for quantitative analysis
    - qualitative data for (i) finer-grained understanding of how processes unfold, (ii) establishing causation, (iii) generating novel hypotheses
- The new/specific:
  - Working though the maze of faddish, but problematic concepts (e.g. "languaging"; alleged "commodification")