"Dynamic Capabilities"

Work on the integration of two methodological issues:

The operationalization of Capabilities on quantitative secondary data within the framework of life-course, using panel data with information on the transition to parenthood in Germany.

Prerequisites:

Capabilities cannot be observed directly, the real set of Capabilities a person has, is unknown.
Life-Courses are multidimensional and self-referential and hence path-dependent.

The Model of Dynamic Capabilities:

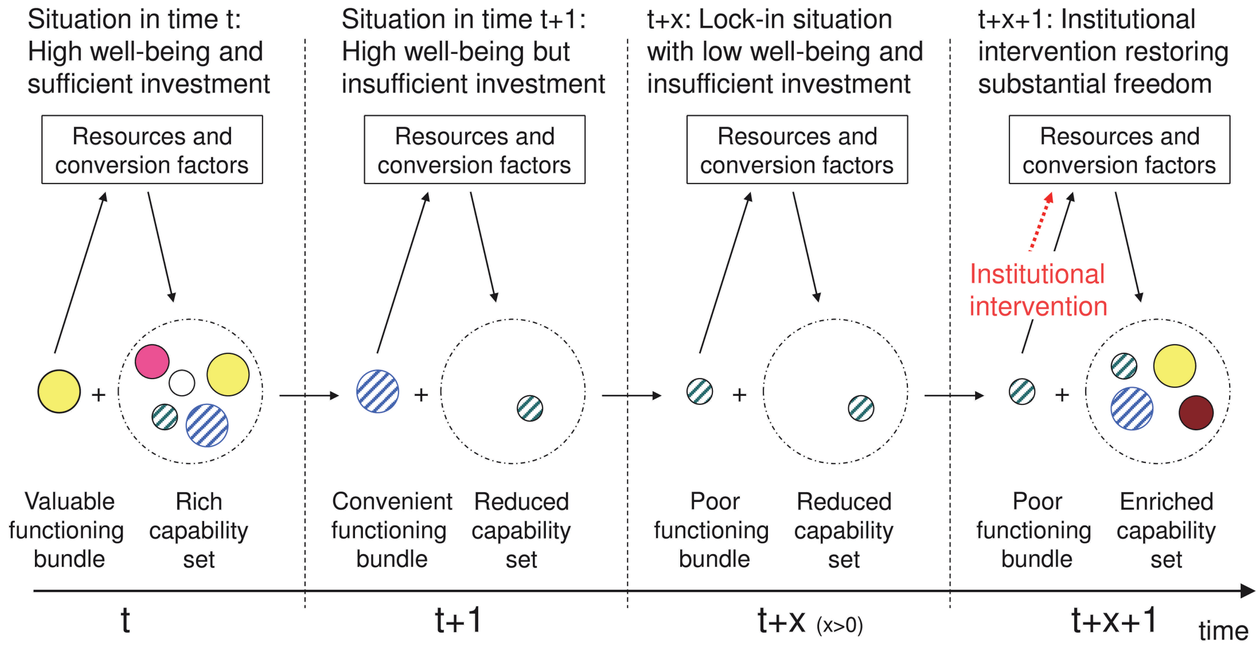
The basic theoretical model of capability spaces (as known) is expanded by accounting for successive states over time.

Functioning bundles, determine a person's current well-being ('consumption'), and secondly they condition the capability space from which the functionings of the following period can be chosen.

An example:

A Person at point in time t has finished tertiary education and has many possibilities to choose in her capability-set. She can start a career or make a journey round the world or start a family or start volunteering in the cloud forest of equador....

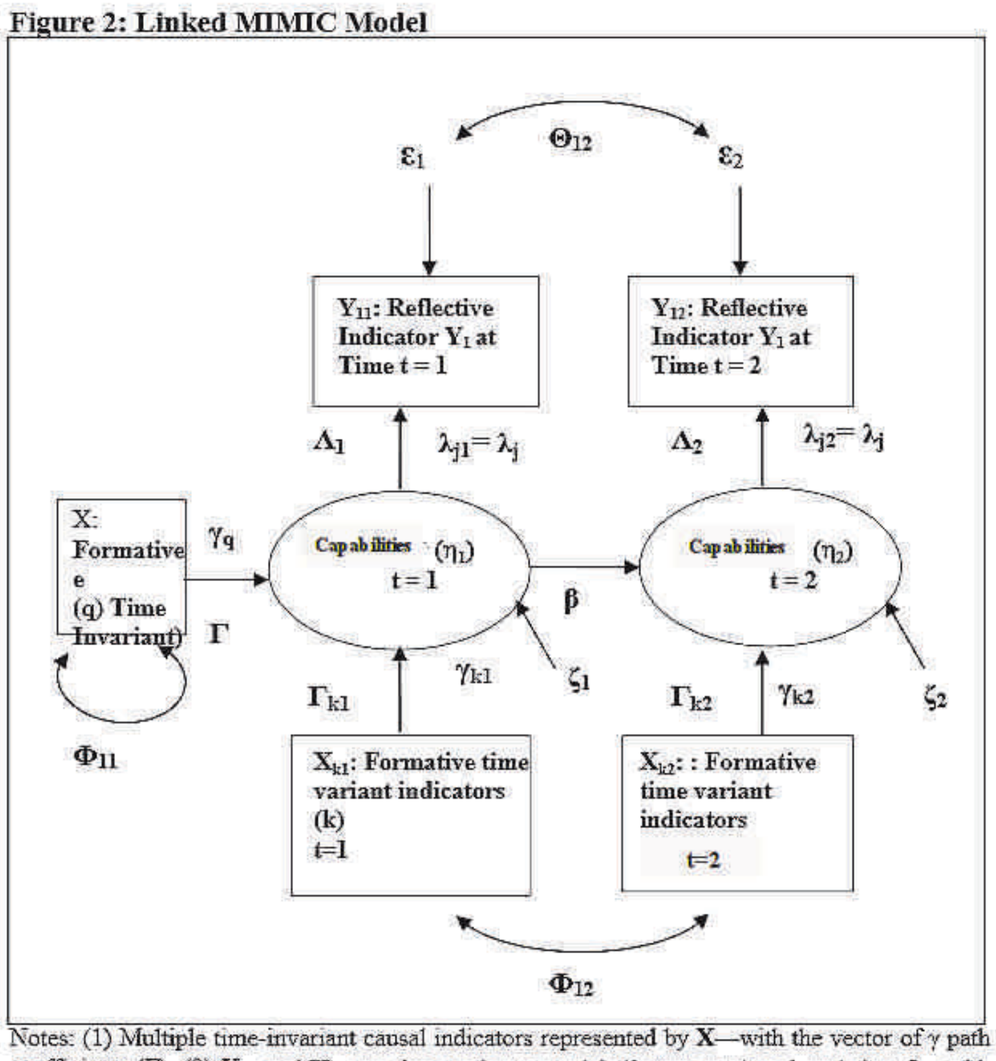
Let us assume, she decided on having a baby and unfortunatly her partnership breaks up. In this case her capability-set in t+1 is reduced, because now she cannot choose a career, because she has not anymore the capacity for long working hours, because she has to care for the baby and to earn somehow money. So lets say, the reduced capability set at t+1 consists of the capability to work part-time. And this status persists some timepoints.
In t+x+1 institutional intervention, like improved institutional child-care leads to an enriched capability set again, including i.e. full-time-work.



Source: Bartelheimer, Peter; Büttner, René; Schmidt, Tanja (2011): Dynamic capabilities - A capability approach to life courses and the case of young adults. In: Leßmann, Ortrud; Otto, Hans-Uwe; Ziegler, Holger (Hrsg.): Closing the Capability Gap- Renegotiating Social Justice for the Young. Leverkusen: Barbara Budrich. S. 147-164.

Method and Data:

A Multiple Indicators and Multiple Causes (MIMIC) Model with Capabilities as latent Constructs and Formative Indicators



Notes: (1) Multiple time-invariant causal indicators represented by **X**—with the vector of γ path coefficients (Γ). (2) $\mathbf{X}_{k1}$ and $\mathbf{X}_{k2}$ are time-variant causal indicators at time 1 and time 2—with vectors of γ_k path coefficients (Γ_k). (3) Double-headed arrows represent correlated errors: Θ_{12} represents the matrix of θ correlations between reflective indicator errors (ε) at time 1 and 2; Φ_{11} represent the matrix of ϕ cross-sectional correlations for formative indicators at time (wave) one; Φ_{12} represents the matrix of ϕ panel correlations for formative indicators. (4) Path coefficients for reflective time-invariant indicators are equal at each point in time (e.g. (in Λ) $\lambda_{11} = \lambda_{12} = \lambda_1$). (5) ε and ζ are measurement errors.

Source: Lester, L.H. (2008): A Multiple Indicators and Multiple Causes (MIMIC) Model of Immigrant Settlement Success. Working Paper No. 160. National Institute of Labour Studies. Flinders University, Adelaide, Australia. p. 8 - (worked by Tanja Schmidt)

Method:
Special case of a longitudinal structural equation model, in which the influences of formative indicators on unobservable capabilities are assessed through their impact on the reflexive indicators.
Formative indicators (X) are built of ressources and conversion factors at t. Capabilities at t are a function of these.

Data:
The empirical implementation is based on the German Family Panel (Pairfam) and is still work in progress.

"The 2008-launched German Family Panel pairfam ("Panel Analysis of Intimate Relationships and Family Dynamics") is a multi-disciplinary, longitudinal study for researching partnership and family dynamics in Germany. The annually collected survey data from a nationwide random sample of more than 12,000 persons of the three birth cohorts 1971-73, 1981-83, 1991-93 and their partners, parents and children offers unique opportunities for the analysis of partner and generational relationships as they develop over the course of multiple life phases." (www.pairfam.de)

Relevant Variables:
Examples for time variant formative indicators (ressources & preferences):
Household-Composition; "Women should be more concerned about their family than about their career"; "Future: Importance to have children";
Examples for time variant reflective variables:
Number of Children in Household; Employment-Status;

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