



SEQUENCE ANALYSIS AS A TOOL FOR PUBLIC POLICY EVALUATION

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Importance of Trajectories in Evaluation

- Social policies and administrative reforms often aim at influencing trajectories or processes.
 - Ex1: Evaluation of administrative processes.
 - Ex2: Evaluation of integration policies.
- Evaluative questions:
 - Do the observed processes/trajectories follow the expected processes/trajectories?
 - Are there different kinds of processes/trajectories?

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Comparing Groups of Trajectories

- Sometimes the expected trajectory is undefined.
- Evaluative questions can involve the comparison of groups of trajectories.
 - Comparing periods.
 - Comparing groups.

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Sample Issue

- Evaluation of professional integration policies aimed at jobseekers who reached the end of their unemployment benefits.
- Research design:
 - Study trajectories of jobseekers who reached the end of their unemployment benefits
 - Trajectories between employment, social assistance, unemployment insurance...
 - Compare trajectories before and after the legal reform.

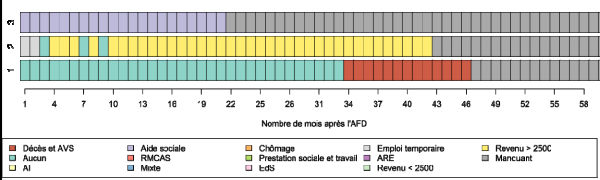
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Quantitative study of trajectories

- Methodological challenge:
 - Focus on observed trajectories.
 - Individuals might go through different situations:
 - Employment, social assistance, unemployment, occupational measures, ...
 - How to summarize the information ?
- Approach:
 - Trajectory as a sequence of status.
 - Evolution of a unit over time over several situations.

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Coding Processes as Sequences

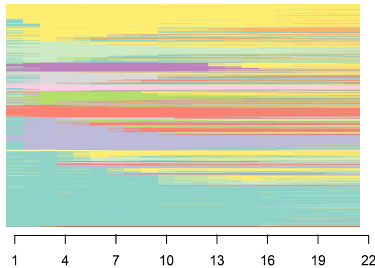


- Trajectories:
 - Evolution of one unit over time over several situations.
 - **Start:** End of unemployment benefit.
 - **Time unit:** Monthly trajectories.
 - **Possible states:** employed, unemployed, social assistance, occupational measures...

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Graphical Representation

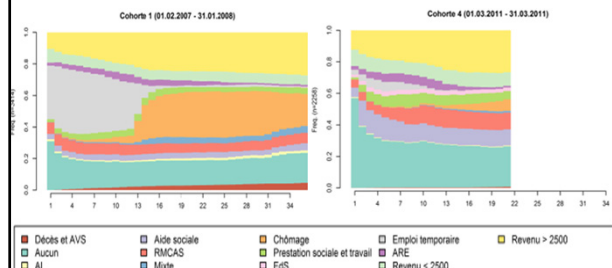
- Sequence index plot:
 - Representation of all trajectories (after the reform).
 - Sequences are ordered.
 - Aim: Identification of patterns of professional integration.



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Graphical Representation

- Chronogram:
 - Distribution over all situation at each time point.
 - Comparison before and after the reform.



Contributions

- Visualize institutional transfers.
 - From unemployment insurance to social assistance.
- View employment as a process rather than as a definitive outcome.
 - Frequent discontinuous employment.
- Individuals leaving the system are taken into account.
 - Rise of the proportion of jobseekers who are neither employed neither on benefits

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Conclusion

- Strengths of the method:
 - Holistic perspective on trajectories.
 - Simultaneous study of several situations.
 - Transient states and patterns matter.
 - Visualization.
 - Assessing a policy from individual trajectories.
 - Centred on individual rather than institutions.

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Conclusion

- Requirements
 - Longitudinal data.
 - Information from the beginning of the process.
 - Understanding of contextual factors.
- Limits:
 - Limited handling of missing data.
 - Less powerful than survival analysis to answer precise research questions.

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Software

- TraMineR: R package for sequence analysis
 - Developed within NCCR LIVES: Overcoming vulnerability: life course perspective.
 - Longitudinal data management.
 - Several graphical representation of trajectories.
 - Statistical tests for comparing groups of trajectories.
 - Building typology of sequences (identification of recurrent trajectories).
 - Event sequences analysis.
 - Many other tools.

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Questions?

- How does it applies to the evaluation of ... (i.e., your evaluation) ?
- What is the added values of sequences analysis when compared to other longitudinal methods (i.e. survival analysis)?

- ... or one of your questions !

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