Università della Svizzera Italiana

Academic Year 2023/24

EVENT HISTORY ANALYSIS

Ph.D.-course
Prof. Nikolaus Beck

Schedule

Very flexible in June/July
Online participation possible!

Prerequisite for participation: At least basic knowledge of multivariate statistics
Bring your laptops to classes!

Contents

Techniques of event history analysis have proven to be the most important empirical research tools in management and organization theory. These methods, stemming from demography and medicine, are best suited for the analysis of dynamic processes that are characterized by the occurrence of discrete events, or in other words: for the analysis of transition processes between two different states of existence. The most prominent transition process in organizational research is, of course, the death of organizations. Also change events are subject to the application of event history analysis tools. For example, the succession of executives like football coaches or the change of certain organizational practices, e.g., defense systems of sports teams could be mentioned as change events that are best analyzed with event history methods.

This course aims at providing students with the most important analytical tools of event history analysis. At the end of this course students should be able to understand the theoretical concepts of event history analysis as well as to apply these methods by themselves.

Although this course aims at exploring the potential of event history techniques for organizational research the data that will be used for practical exercises will basically consist of the example data set provided by the textbook of Blossfeld et al. (2007). This is data from the German life course study (Lebensverlaufstudie) of the Max-Planck-Institute in Berlin and consists of job spells (moves between job positions) of individuals of three birth cohorts. Although this type of data is not of "core" interest in organizational analysis (but see Haveman and Cohen 1994) the data structure is similar to the structure of data on organizational change and death.

Moreover, the students will be confronted with "real" data. They can choose between working on a data set on newly founded German brewpubs or on a sports data set of German Bundesliga teams. The students ***do not have to write an exam.*** Instead, they ***must write a short report*** on a research project that they undertake with the mentioned data, applying methods of event history analysis.

Two sessions will be reserved to the estimation and interpretation of interaction effects. These sessions are not only useful in the context of event history analysis, but generally for regression analysis. As it becomes increasingly difficult to find completely new topics that allow the introduction of novel main effects, researchers are more and more compelled to find conditions under which certain main effects differ. This is done with the use of interaction effects. It is therefore absolutely necessary to know exactly what could be done with this kind of effects and how to interpret them.

The course is planned to be held in 14 sessions (each time two sessions will be held in a row), but I am very flexible on the schedule.

All topics will be presented in a theoretical and a practical manner which means that the presentation of the topics is followed by practical exercises with real data. The main software that will be used is Stata. Translation of the command files into R-code are planned. The students should bring their laptops to class.

The following topics will be addressed in the course:

1. The basic concepts of event history modeling: Duration, censoring, continuous time, discrete time, hazard rate, cumulative hazard rate, density, survivor function
2. Non-parametric methods: e.g., life table estimators, Kaplan-Meier-functions
3. Semi-parametric and parametric models: Exponential models, piecewise constant exponential models, Gompertz-, Weibull-, log-logistic models, Cox-models
4. Time varying covariates and split spells: quantitative and qualitative time varying covariates and splitting, panel data. Different forms of modeling duration dependence
5. Recurring event models – organizational change
6. The application of panel data: Discrete time hazard rate models, comparison with continuous time hazard rate models
7. Unobserved heterogeneity: Fixed effects, stratified Cox-models
8. Interaction effects

Basic materials

The ***basic text book*** for this course is:

Blossfeld, HP., Golsch, K., and Rohwer, G. (2007): Event History Analysis with Stata. Mahwah, NJ and London: Lawrence Erlbaum.

Another important textbook is:

Allison, P. (1984): Event History Analysis: Regression for Longitudinal Event Data. Newbury Park: Sage

Those students who understand German might want to take a look at my own textbook chapter on EHA:

Beck, N. (2005): Ereignisanalyse. In: Kühl, S. et al. (Eds.): Quantitative Methoden der Organisationsforschung. Ein Handbuch. Wiesbaden: VS Verlag, 443-477.

I can also provide a longer manuscript version of that chapter.

Interaction effects:

Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (No. 72). Sage.

It is absolutely necessary that participants of the course read the papers for the first session (discussion) in advance.

For example, Classes always from 10-12 and 14-16

Schedule			
n.	*Date*	*Contents*	*Readings*
1		Introductory session: Discussion on liabilities of...	• Freeman, J., Carroll G.R. and Hannan, M.T. (1983): The Liability of Newness. Age Dependence in Organizational Death Rates. American Sociological Review 48: 692-710. • Brüderl, J. and Schüssler, R. (1990): Organizational Mortality: The Liabilities of Newness and Adolescence. Administrative Science Quarterly 35: 530-547. • Barron, D.N., West, E., and Hannan, M.T. (1994): A Time to Grow and a Time to Die. Growth and Mortality of Credit Unions in New York City, 1914-1990. American Journal of Sociology, 100, 381-421.
2		Basic concepts of EHA	• Blossfeld et al. (2007): Chapter 1; Allison (1984): Introduction
3		Basic EHA Data structure – Handling dates	• Blossfeld et al. (2007): Chapter 2
4		Non-parametric Modelling	• Blossfeld et al. (2007): Chapter 3
5		EHA regression models I: Exponential and Cox models	• Blossfeld et al. (2007): Chapter 4 and 9
6		Time varying covariates I: Qualitative splitting and PCE-models	• Blossfeld et al. (2007): pp. 116-146
7		Excursus: Interaction Effects I	• Jaccard/Turrisi (2003): TBD
8		Excursus: Interaction Effects II	• Jaccard/Turrisi (2003): TBD
9		Time varying covariates II: Quantitative splitting and panel data	• Blossfeld et al. (2007): pp. 147-181
10		Parametric models of time dependence – the role of panel	• Blossfeld et al. (2007): chapter 7

		data	
11		Introduction to brewery data	• Preparation for course-work
12		Discrete time models	• Allison (1984): chapter 2.
13		Unobserved heterogeneity and fixed effects	• Allison, P. D. 1996. Fixed-effects partial likelihood for repeated events. ***Sociological Methods & Research***, 25: 207-222.
14		Recurring event models and organizational change	• Amburgey, T. L., Kelly, D., & Barnett, W. P. 1993. Resetting the clock. The dynamics of organizational change and failure. ***Administrative Science Quarterly,*** 38: 51-73. • Beck, N., Brüderl, J., and Woywode, M. (2008): Momentum or Deceleration? Theoretical and Methodological Reflections on the Analysis of Organizational Change. ***Academy of Management Journal***. • Blossfeld et al. (2007): pp.109-115

Additional reference:

Haveman, H.A. and Cohen, L.E. (1994): The ecological dynamics of careers. The impact of organizational founding, dissolution, and merger on job mobility. American Journal of Sociology 100: 104-152.