Longitudinal Analysis of Historical Demographic Data

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We meet Monday through Friday from 9:00 am to 5:00 pm in G150B, Perry Building, 330 Packard, Ann Arbor. The room will be available for lab use in the evenings.

All readings are required unless marked “Recommended.” The texts for the course will be handed out on the first day of the workshop. Required readings not in the texts will be handed out in course packets. Required and recommended readings can also be found on the CTools website (https://ctools.umich.edu/portal). Exercises and instructions about Projects will be posted to the website. Participants will work on Projects and share their results in the final day of the Workshop.

(This Syllabus may be revised during the course of the Workshop.)

Week 1

Day 1 (7/23):

*ORIENTATION*

Deane: Life Tables. The Life-Table Method; Life Tables from Grouped Data


Gutmann: Family Reconstitution: Person Years & Rates


Recommended: E.A. Wrigley. 1966, pp 96-159

Leonard: Introduction to the Lab and STATA

*OPENING RECEPTION 5:00 PM-7:00 PM

Michigan Union, Room D, Anderson Room

Day 2 (7/24):

Gutmann: The Life Table and Its Analogs


Deane: Using *stset* and Estimating Survival Curves: The Kaplan-Meir Method; Testing for Differences in Survivor Functions

Cleves, Gould and Gutierrez, 2004, Chapter 8, Chapter 6

Leonard: Compute Person-Years and Rates: Creating Life Tables using Brute Force

Exercise: Mortality Life Tables

**Day 3 (7/25):**

Gutmann: From Family Reconstitution to Population Registers: Various Kinds of Longitudinal Data


Deane: Event History Analysis: What is EHA/Survival Analysis?; What is Survival Data?; Why Use EHA?; Approaches to EHA; Basic Concepts of EHA; Censoring

Cleves, Gould and Gutierrez, 2004, Chapters 1 and 4

Leonard: Build a Mortality Life Table

Exercise: Mortality Life Tables using STATA

**Day 4 (7/26):**

Gutmann: Introduction to the Data Used in the Course: German Villages, French Parishes, Sart (a Belgian Commune), and the Utah Historical Database


Deane: Analysis of Discrete Data:

Cleves, Gould and Gutierrez, 2004, Chapters 2, 3 and 5

Leonard: ST functions & Kaplan-Meier curves

Exercise: Birth Interval Life Tables
Day 5 (7/27):

Gutmann: Censoring and Informative Censoring.


Deane: Event History Analysis

Cleves, Gould and Gutierrez 2004, Chapter 7

Leonard: Experiments with Informative censoring

Exercise: Simulating the effect of migration on family reconstitution data

*Saturday: SUMMER PROGRAM PICNIC AT BURNS PARK*

Week 2

Day 1 (7/30):

Lynch: Understanding Malthus


Recommended: Malthus An Essay... 1st ed, 1798, Chapters 7-19


Deane: Estimating Cox Regression Models: The Proportional Hazards Model; Partial Likelihood; Tied Data; Time-Dependent Covariates

Cleves, Gould and Gutierrez 2004, Chapter 9

Alter: A Strategy for Building Episode Files; Basics of Microsoft Access

Exercise: Define tables, enter data, simple queries


Day 2 (7/31):

Lynch: Thinking about “Preventive Checks” in Social Context


**Deane: Cox Models with Nonproportional Hazards:** Interaction with Time as Time-Dependent Covariates; Nonproportionality via Stratification; Left Truncation and Late Entry into the Risk Set

Cleves, Gould and Gutierrez 2004, Chapter 10

**Alter: Simple Queries**

*Exercise: Occupation code dictionary*


**Day 3 (8/1):**

**Lynch: Re-thinking Checks on Population: Fertility and Mortality Patterns within Marriage**


**Deane: Residuals and Influence Statistics**

Cleves, Gould and Gutierrez 2004, Chapter 11

*Lunchtime Talk: Satomi Kurosu*
*ISR 6006*
*Lunch Provided*

**Alter: The Relational Model**

*Exercise: Reconstructing Kinship*

Alexander, 2006, pp. 39-82

*KUROSU RECEPTION 5:00 PM-7:00 PM*
Michigan Union, Room D, Anderson Room*
Day 4 (8/2):

Lynch: Household Forms and Family Formation Systems


Deane: Testing Linear Hypotheses

Clives, Gould and Gutierrez 2004, Chapter 11

Alter: Working with Data in MS-Access: Text, Dates

Exercise: Matching people on partial names and approximate dates

Alexander 2006, pp. 111-134, 144-152, See also Appendix A

Day 5 (8/3):

Lynch: Families and Households as Systems of Social Support


Deane: Analysis of Discrete Data: The Logit Model for Discrete Time; The Complementary Log-Log Model for Continuous-time Processes; Data with Time-Dependent Covariates
Week 3

Day 1 (8/6):

Campbell: Issues and Debates in Asian Historical Demography

Smith: Re-cap Essentials of Cox models with UPDB: Competing risks and Cox Models; Multiple potential exits per subject; Identification problem; Independence assumption; Use of covariates

Alter: Moving from Events to Episodes
- Exercise: Marital Status over Time

Day 2 (8/7):

Campbell: Sources in Asian Historical Demography
- Campbell, Cameron "Appendix: Sources and Measures." In Bengtsson, et al. 2004, pp. 441-476. (Also assigned Day 3 of Week 1.)

Smith: Multiple events and Cox Models: Sequential events; Multiple events in a group; Marginal models; What is the right clock?
- *Lunchtime Talk: Timothy Guinnane*
- *Location TBA*
- *Lunch Provided*

Alter: Aggregation
- Exercise: Count older siblings by sex
- Alexander 2006, pp. 241-255
Day 3 (8/8):

Campbell: Reproduction in Asian Societies


Smith: Parametric Models: Alternatives to the Cox Model; Common models

Cleves, Gould and Gutierrez 2004, Chapters 12 and 13

Alter: Coordinating episodes within households

Exercise: Household composition over time

Day 4 (8/9):

Campbell: Health and Mortality in Asian Societies


Smith: Parametric Models (Continued): Alternatives to the Cox Model; Common models

Alter: “Time since x” variables

Exercise: Survival of the preceding child

Day 5 (8/10):

Campbell: Family and Household in Asian Societies


Smith: Plotting fully-adjusted survival curves; Variance adjustments for clustered data; Regression Diagnostics

Cleves, Gould and Gutierrez 2004, Chapters 9 and 14


Richard M Cawthon; Ken R Smith; Elizabeth O'Brien; Anna Sivatchenko; Richard A. Kerber. “Association between telomere length in blood and mortality in people aged 60 years or older.” The Lancet; Feb 1, 2003; 361, 9355, pp. 393-395.

Cleves, Gould and Gutierrez 2004, Chapters 12 and 13

Alter: Forms and Reports

Alexander 2006, pp. 275-304

*Saturday*

Afternoon: SUMMER PROGRAM PICNIC AT BURNS PARK
Week 4

Day 1 (8/13):

Hacker: Classic Demographic Transition Theory and Recent Critiques


Smith: Frailty: Individual; Group/shared; Correlated; Alternatives

- Cleves, Gould and Gutierrez 2004, pp.147-152 and 278-299


Alter: Student Projects

Day 2 (8/14):

Hacker: The Mortality and Epidemiological Transitions


Smith: Discrete-time Event-history Analysis


Alter: Introduction to Visual Basic in Forms

Exercise: A simple record linkage form

Day 3 (8/15):

Hacker: The Mortality Transition


Smith: Discrete-time Event-history Analysis (continued)

*Lunchtime Talk: Bertrand Desjardins*
*ISR 6050*
*Lunch Provided*

Alter: Lab – Student Projects

*DESJARDINS RECEPTION 5:00 PM-7:00 PM*
Michigan Union, Room D, Anderson Room

Day 4 (8/16):

Hacker: The Fertility Transition


Smith: Interactions: Centering; Interpretations; Complexities of Non-proportionality

Alter: Lab – Student Projects

Day 5 (8/17):
Student Reports
Poster Session