Zoë Fannon

Somerville College, Woodstock Road, Oxford, OX2 6HD, United Kingdom

zoe.fannon@economics.ox.ac.uk   +44 (0)7527096207   www.zfannon.com

RESEARCH AND TEACHING FIELDS

Primary field: Econometrics
Secondary fields: Applied Microeconometrics, Financial Econometrics

EDUCATION

2016 – present   DPhil Economics
                        Somerville College, University of Oxford
                        Thesis Title (provisional): *Understanding the role of age, period, and cohort in the analysis of individual-level data*
                        Supervisor: Bent Nielsen
                        Expected completion: June 2020

2014 – 2016   MPhil Economics
                        St Cross College, University of Oxford

2011 - 2014   BA Philosophy, Politics, and Economics (PPE)
                        Somerville College, University of Oxford

REFERENCES

Professor Bent Nielsen
Department of Economics and Nuffield College
University of Oxford
bent.nielsen@nuffield.ox.ac.uk
+44 (0) 1865 278630

Professor Jurgen Doornik
Department of Economics and Nuffield College
University of Oxford
jurgen.doornik@nuffield.ox.ac.uk
+44 (0) 1865 278587

Professor Christiaan Monden
Department of Sociology and Nuffield College
University of Oxford
christiaan.monden@sociology.ox.ac.uk
+44 (0) 1865 286182

Professor Kevin Sheppard
Department of Economics and Keble College
University of Oxford
kevin.sheppard@economics.ox.ac.uk
+44 (0) 1865 616613

Annamaria De Crescenzio
Codes Unit, Investment Division, Directorate for
Financial and Enterprise Affairs, OECD
Annamaria.DECRESCENZIO@oecd.org
+33 1 45 25 13 65

TEACHING EXPERIENCE

Spring 2019, 2018   Class teacher, Financial Econometrics, MSc Financial Economics
Saïd Business School, University of Oxford
Supervisor: Kevin Sheppard

Dec 2019, 2018   Undergraduate Admissions Interviewer for Economics (PPE)
Somerville College, University of Oxford

RESEARCH EXPERIENCE AND OTHER EMPLOYMENT

Jun – Oct 2019   Organisation for Economic Co-operation and Development (OECD)
Policy Research and Advice, Directorate for Financial and Enterprise Affairs
Paris, France

Mar – Jun 2018   Dondena Research Centre, Università Bocconi
Visiting researcher, DisCont Project
Milano, Italy

Jun – Aug 2015, 2014   Locus Analytics
Co-pilot, Summer Labor Project (2015)
Data Team intern (2014)
New York City, USA

HONORS, SCHOLARSHIPS, AND FELLOWSHIPS

2014 – 2018   ESRC 2+2 studentship (fees and stipend)
Oxford Social Sciences Doctoral Training Centre

PROFESSIONAL ACTIVITIES

18 Apr 2019   Presenter, Royal Economic Society Junior Researcher Symposium

Apr 2017, 2016   Econometric Game, University of Amsterdam
University of Oxford team captain (2017)
University of Oxford team member (2016)

PUBLICATIONS

Fannon, Z. & Nielsen, B. (2019). Age-period-cohort models. *Oxford Research Encyclopedia of Economics and Finance.* Forthcoming, working paper version available here:
https://www.nuffield.ox.ac.uk/economics/Papers/2018/2018W04_age_period_cohort_models.pdf

RESEARCH PAPERS

Job Market Paper: Fannon, Z., Monden, C., & Nielsen, B. *Age-period-cohort modelling and covariates, with an application to obesity in England 2001-2014.*

(R&R at Journal of the Royal Statistical Society Series A: Statistics in Society)
Available here: https://www.nuffield.ox.ac.uk/economics/Papers/2018/2018W05_obesity.pdf

We develop a model to study non-linearities in age, period, and cohort for repeated cross-section data with covariates. The model is developed for both continuous and binary dependent variables. The age, period, and cohort effects in the model are represented by the canonical parametrization. This parametrization has freely varying parameters because it prioritises identification of the non-linearites in age, period, and cohort, and does not purport to identify their unidentifiable linear parts. We develop a test of the parametrization against a more general time saturated model which includes a dummy for each age-cohort combination. The method is applied to an analysis of the obesity epidemic in England using survey data.

Fannon, Z. apc.indiv : R tools to estimate age-period-cohort models with repeated cross-section data.

I present apc.indiv, a set of tools for estimation of age-period-cohort models using repeated cross section data in the statistical software R. I use the canonical parametrization of Kuang et al. (2008) to identify non-linearities attributed to each of age, period, and cohort. The apc.indiv package includes tools to estimate models with continuous or binary outcomes, and with or without covariates. It also includes tools to test the age-period-cohort specification against a more general "time-saturated" model. This more general model is of high dimension and so custom algorithms are developed to estimate it. These tools extend the existing R package apc, which allows estimation of age-period-cohort models from aggregate data.

RESEARCH IN PROGRESS

Fannon, Z. Age-period-cohort models for panel data.

I develop a model to study non-linearities in age, period, and cohort with panel data. The age, period, and cohort effects in the model are represented by the canonical parametrization. This parametrization has freely varying parameters because it prioritises identification of the non-linearities in age, period, and cohort, and does not purport to identify their unidentifiable linear parts. I adapt the parametrization to three common panel data settings: pooled OLS, random effects, and fixed effects. I show that under the standard assumptions of these settings, age and period non-linearities are identified in all cases, while cohort non-linearities are identified in pooled OLS and random effects settings. I apply the panel data results to study the non-linear parts of the age profile of demand for durables among older British household. I compare my findings to a previous study, which examined the full age profile under an alternative identification strategy.

Bruins, M., Fannon, Z., and Golin, M. Welfare-to-work programmes and long-run outcomes of recipients' children: Evidence from the UK.

Welfare for families with dependent children in the UK has changed dramatically over the last two decades, with the main reforms to the tax credit scheme occurring in 1999 and 2003. The effects of these reforms on child outcomes is poorly understood. We address this question by examining how maternal labour supply and income changed at critical stages of child development due to the reforms, and how child outcomes responded to these changes. We instrument for maternal labour supply and income using a range of synthetic measures of welfare policy, the relevant subset of which is selected using Lasso.

De Crescenzio, A., Fannon, Z, and Lepers, E. Effects of currency-differentiated reserve requirements.

We evaluate the effects of a central bank policy of currency-differentiated reserve requirements, using a panel of advanced and emerging market economies. Currency-differentiated reserve requirements, whereby the proportion of a deposit received by a commercial bank that the commercial bank must keep in reserve differs depending on the currency of the deposit, are used by several emerging market central banks. The intent is macroprudential, aiming to reduce systemic risk arising when commercial banks have large foreign currency liabilities. The policy changes the relative price of deposit-taking in foreign currency compared to domestic currency and so should have both a substitution effect and an income effect. Through the substitution effect, an increase in the foreign currency reserve requirement should reduce the proportion of assets and liabilities denominated in foreign currency. Through the income effect, an increase in the foreign currency reserve requirement should lead to a reduction in bank credit growth. A possible unintended side effect would be that holders of foreign currency may shift their savings out of the financial sector. This would appear as an increase in non-financial corporation debt growth and credit to the non-financial sector. We investigate these intended and unintended effects using a new quarterly panel dataset of approximately 40 countries over 15 years. We extend the existing literature by considering the magnitude of the change to reserve requirements rather than a simple indicator for policy change.

De Crescenzio, A., Fannon, Z, and Lepers, E. How important is global investment for local house prices? Results from a factor analysis of house prices among sub-national regions.

Policymakers are concerned about the effects of international investment on local house price growth. Major cities such as London, Sydney, and Toronto have introduced or are considering introducing measures to limit such investment to reduce pressure on house prices. There is therefore a need to understand the contribution of global factors to local house prices in these and other areas, especially the relationship between house price growth and international investment. We address this need using a new panel dataset of house prices at the level of sub-national regions, roughly equivalent in size to US states, for 26 countries in the post-financial-crisis period. We use a dynamic factor model to estimate common factors in house price growth among these regions. We then use a VAR to compare the factor estimates to measures linked to global investment, such as the return on a global safe asset and a measure of international capital flows.

SOFTWARE IN PROGRESS

Fannon, Z. & Nielsen, B. apc: Age-Period-Cohort Analysis. R package version 1.3.3 (development version).
Available here: http://users.ox.ac.uk/~nuff0078/apc/index.htm

FURTHER DETAILS

Citizenship: USA, Republic of Ireland
Languages spoken: English (native), French (CEFR B2, June 2019)
Computer skills: R, Stata, MATLAB, Lyx, Latex, Microsoft Office