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Multivariate Self-Exciting Threshold Autoregressive Modeling by Genetic Algorithms

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Summary

Several nonlinear time series models have been proposed in the literature to explain various empirical nonlinear features of many observed financial and economic time series. One model that has gained much attention is the so-called self-exciting threshold autoregressive (SETAR) model. It has been found very effective for modeling and forecasting nonlinear time series in a wide range of application fields. Furthermore, SETAR model is able to capture nonlinear characteristics as limit cycles, jump resonance, and time irreversibility. In this work the attention is focused on a multivariate SETAR (MSETAR) model where each linear regime follows a vector autoregressive (VAR) process and the thresholds are multivariate. We propose a methodology based on genetic algorithms (GAs) for building MSETAR models. The GA is designed to estimate the structural parameters, i. e. to determine the appropriate number of regimes and find multivariate threshold parameters. The behavior of the proposed methodology has been observed on a simulation experiment involving three artificial data sets.

On Interaction Effects: The Case of Heckit and Two-Part Models

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Summary

Interaction effects capture the impact of one explanatory variable on the marginal effect of another explanatory variable. To explore interaction effects, so-called interaction terms are typically included in estimation specifications. While in linear models the effect of a marginal change in the interaction term is equal to the interaction effect, this equality generally does not hold in non-linear specifications (Ai/Norton 2003). This paper provides for a general derivation of interaction effects in both linear and non-linear models and calculates the formulae of the interaction effects resulting from Heckman's sample selection model as well as the Two-Part Model, two regression models commonly applied to data with a large fraction of either missing or zero values in the dependent variable. Drawing on a survey of automobile use from Germany, we argue that while it is important to test for the significance of interaction effects, their size conveys limited substantive content. More meaningful, and also more easy to grasp, are the conditional marginal effects pertaining to two variables that are assumed to interact.

Schumpeter, Marshall, and Neo-Schumpeterian Evolutionary Economics

A Critical Stocktaking

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Summary

The focus of evolutionary economics is a process of continuous and irreversible economic and organizational change over time. Currently there is no agreement on the explanation of economic evolution.

From the perspective of the history of economic thought, at first the theoretical approaches of Schumpeter and Marshall with regard to economic development or evolution are dealt with in detail. For both authors technical and economic innovations are the engine of economic change. According to Schumpeter, they are created through newly established firms as the agents of change. For Marshall, innovations and economic development are a side effect of the manufacturing process and the division of labour. Technical and economic changes go off both gradually (Marshall) or discontinuously (Schumpeter).

After that, a concept of neo-Schumpeterian evolutionary economics is elaborated. Evolution is understood as a process of change that leads to the adaptation of complex systems, the result of the causal interaction between variation, selection and retention of variety leading to continuity over time. It has gained wide application to the theory of innovation and later to resource-based theories of the firm. Modern evolutionary economics includes the determinants of new knowledge and innovations into its analysis. Business enterprises not only follow their routine behaviour, in a dynamic view they also show capabilities to restructure their given resources and to build new ones. To sum up, technical and economic evolution are both the result of the unintentional market selection through competitive forces of the environment, and of the intentional, voluntary entrepreneurial choices, based on the firm's resources and dynamic capabilities.

Ökonometrie vs. Projektdesign:
Lehren aus der Evaluation eines Modellprojekts
zur Umsetzung des Workfare-Konzepts

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Summary

A common problem of welfare states consists of a high unemployment risk for low-skilled workers. This is often attributed to a lack of jobs for the low-skilled, but it may as well be caused by a lack of incentives to work. Low-skilled workers are easily substitutable and therefore have little bargaining power. Hence, they are typically dependent on low-paid jobs. This may create disincentives to work, if the achievable market wage does not sufficiently exceed the welfare level. Workfare could be an efficient strategy to overcome such disincentives by introducing a work requirement for unemployed welfare recipients. In our paper we investigate the importance of such a supply side policy.

We evaluate a pilot workfare project of a Berlin city community to integrate young people in social assistance into the labor market. Reference data are generated in collaboration with the German Employment Office. The participation effect is found to be positive and of relevant size, but not statistically significant. This indicates that selection biases detected in the allocation process of individuals to the program can be adjusted by econometric techniques, but only at the prize of reduced significance levels. Given the small sample sizes of pilot projects this calls for social experiments in controlled project designs.

Literaturüberblick / Literature Overview

Labor Market Effects of Trade and FDI – Recent Advances and Research Gaps

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Summary

The last decade has been shaped by dramatic developments in international trade, international investment and production, both in terms of the scale of events and in terms of their qualitative nature. Intriguing questions have been thrown up concerning the labor market impact of these developments, notably *welfare issues* (the evolution of real wages, employment and unemployment), the *distribution of income* (the wage structure) and *employment volatility*. Path-breaking innovations in the theories of trade, location and the multinational firm allow a fresh look at these labor market effects. This paper takes stock of these theoretical innovations and contrasts these with the recent empirical research efforts to uncover the labor market implications of trade and FDI. We identify research gaps and highlight promising avenues for future research.