Wednesday, August 31, 10:00, Room H2033

Endogenous Innovation in Models of Cyclical Growth

Frank C. Englmann, Universität Stuttgart

In Goodwin's Growth Cycle technical change is exogenous. In the models presented in the paper a part of profits will be invested in real capital accumulation, another part in R&D. Only labour is used in the R&D process that leads to an increase of labour productivity. Concerning the R&D production functions two variants are distinguished. In the first case, the number of workers employed in the labs determines the change of labour productivity via a linear function, i.e. knowledge spillovers are excluded. In the second case, the *percentage rate* of change of labour productivity is a function of labour employed in the labs. The latter assumption implying knowledge spillovers is the one usually made in the so-called *New Growth Theory*.

The following results are obtained in the paper:

- In the case *without* knowledge spillovers, for a wide range of parameter values, a stable focus exists which undergoes a Hopf bifurcation leading to a stable limit cycle for decreasing values of the parameters of the bargaining equation.
- In the case *with* knowledge spillovers a locally stable steady state exists, too.
- The region of attraction of the attractors is much smaller in the case *with* knowledge spillovers than in the case *without* knowledge spillovers.
- This destabilizing effect of knowledge spillovers does not show up in the neoclassical new growth theory because of the assumption of rational expectations.

Wednesday, August 31, 10:30, Room H2033

The Impossibility of Sustainable Economic Growth

Karl Farmer, Universität Graz

Some years ago Mourmouras (1991) proved the possibility of sustainable economic growth in a highly aggregated overlapping generations model with capital accumulation and the utilisation of a natural resource stock. The accumulation of capital and the growth of the output are sustainable if real capital is accumulated at a positive rate and the natural resource stock does not decline over time.

However, Mourmouras' interesting result depends heavily on an unusual specification of the regereration function of the natural resource stock: a linear adaptation rule. Clearly, this specification simplifies the anaysis of the equilibrium dynamics, but it provokes the question whether sustainable growth is also possible under a usual non-linear (e. g. logistic) regeneration function of the resource stock.

It is precisely this question the underlying paper is addressed to. It is shown that within an overlapping generations economy, which is similar to Mourmouras' one, sustainable economic growth is impossible if the regeneration function is of the usual logistic type.

Reference:

Mourmouras (1991), A., Competitive Equilibria and Sustainable Growth in a Life-Cycle Model with Natural Resources. Scandinavian Journal of Economics 93 (4), 585–591.

Wednesday, August 31, 14:00, Room H2033

On the Stabilizing Potential of Fiscal and Monetary Policy Rules in a Keynesian Model of Monetary Growth

Peter Flaschel, Universität Bielefeld
Gangolf Groh, Universität Bielefeld

In this paper we investigate whether a Keynesian fiscal policy rule or an orthodox (Classical) one is more successful in stabilizing the cyclical dynamics of a complete Keynesian model of monetary growth with an elaborate wage-price sector (and an endogenously determined natural rate of employment). The tendencial result is that both fiscal policy rules can be successfully applied (within certain limits) in cases, where the steady state of the economy is locally asymptotically stable. In the opposite case of an unstable economy – where instability is caused by a very high adjustment speed of prices – only a Keynesian fiscal policy is capable of bringing stability to the model.

Wednesday, August 31, 14:30, Room H2033

Why Agents don't Learn. A Rehabilitation of the Cobweb Theorem

Thomas Kähler, University of Hamburg
Dirk Rudolph, University of Hamburg

Old models need not be obsolete. The cobweb model is the oldest economic model analyzing the dynamics of expectation formation, supply response, and price fluctuations. Its central expectations assumption, the naive expectations hypothesis, however, implies that decision makers do not learn from past price series. The price fluctuations so caused are not efficiently forecasted by naive expectations. Instead of assuming many identical producers, who deliberately disregard the information contained in the time series of past prices, we consider a market where changes in supply are exclusively the result of entry and exit of potential and incumbent producers that differ with respect to their efficiency. The emerging economic model of heterogeneous technological capabilities may be viewed as an evolutionary rehabilitation of the cobweb model. There are many examples in economic history that show the relevance of entry/exit phenomena for sector cycles.

Wednesday, August 31, 15:00, Room H2033

Why Efficient Market Tests Based on OLS May Be Inefficient

Dirk Rudolph, University of Hamburg

When testing the efficient market hypothesis one should not rely on econometric methods, which effectively eliminate the most important information contained in the data set. The sign of price changes is a binary variable that cannot be efficiently predicted by econometric techniques that are based on a squared error loss function. We will propose a binary predictor for an investor who follows a simple trading rule. Using the proper loss function the binary predictor proposed is optimal in the sense of minimizing expected loss. For such an investor, the most important piece of information is the sign of the future price change. Ordinary least squares leaves some of the sign relevant information content of exogenous variables unexploited. The new predictor is based on discriminant analysis but does not use fixed weights for the losses from misclassification. For the resulting optimal predictor, called "Truncated-Regression-Weighted-Discriminant-Analysis"(TWDA), we present two numerical counter examples which show that interactions among informative signals, influencing the sign of a future price change, may remain undetected by OLS techniques but can be detected by "TWDA".

Wednesday, August 31, 15:30, Room H2033

Pareto-Improving Transition from a Pay-As-You-go to a Fully Funded Pension System in a Model with Differing Earning Abilities

Robert Fenge, Universität Magdeburg
Robert Schwager, Universität Magdeburg

This paper resumes the discussion whether a Pareto-improving transition from a pay-as-you-go to a fully funded pension system is possible. In contrast to recent work it is shown that in a model with two differing individuals, where labour supply is endogenous and contributions to PAYG are raised as an income tax, a Pareto-improvement is possible if the labour incomes of both individuals do not differ too much or if the distortion by the wage tax is large.

Wednesday, August 31, 16:30, Room H2033

Currency Substitution and the Demand for Money During the Bolivian Hyperinflation 1984/85

Martin T. Bohl, Justus-Liebig-Universität, Giessen

The main purpose of Cagan's (1956) seminal work on the monetary dynamics of hyperinflations was to estimate a money demand function for a period of intense monetary stress. A number of researchers have reestimated the proposed function and modifications under a variety of alternative assuptions with regard to the formulation of inflation expectations. In one of the latest contributions Taylor (1991) puts forward the direct relationship between Cagan's money demand function, the cointegration approach and the formation of inflation expectations. Taylor demonstrates how, by the application of the cointegration technique one can test the Cagan model without restrictive assumptions concerning the formulation of expectations. However, the results are rather discouraging because in the majority of cases Taylor finds no evidence for Cagan's hyperinflation model using the Engle-Granger technique. This paper utilizes Taylor's framework to evaluate the Cagan model on the Bolivian hyperinflation from April 1984 to September 1985 and examines currency substitution as a likely source of unsatisfactory cointegration results. In the first instance we find only very weak impirical support for the model. However, taking account of a structural break due to currency substitution after the inflation peaked in February 1985 there is, in contrast, strong empirical support for a cointegration relationship and Cagan's money demand function for the Bolivian hyperinflation period.

Wednesday, August 31, 17:00, Room H2033

Common Currency Effects on Employment and Real Wages in Austria

Thomas M. Url, Austrain Inst. of Economic Research, Vienna

The paper describes a structural model for the exchange rate, the relative prices between tradable and non-tradable goods, the real wages in the tradables and nontradables sector, and overall employment. This model provides short and long run restrictions for a structural VAR which will be combined with a cointegrating relation to estimate dynamic multipliers from exchange rate shocks. An application to the Austrian economy is provided and policy conclusions for further steps of monetary integration in Europe are drawn.

JEL: F41, E52, C32
keywords : European monetary integration, dynamic response, cointegration

Semi-Plenary Lecture
Thursday, September 1, 10:30, Room H2032

Cycles and Bifurcations in a Dynamic Macroeconomic Model

Volker Böhm, Universität Bielefeld

Dynamic macroeconomic models based on disequilibrium theory are at least two dimensional and in most cases cannot be represented by a simple analytical system of equations, either in continuous or discrete time. The paper presents the analytical complexity of a general class of such models and shows global dynamic properties using numerical techniques. The results obtained show cycles of highly varying order, complex bifurcation phenomena, complex (chaotic) attractors, horse shoe features, and complicated basins of attraction.

Thursday, September 1, 14:00, Room H2033

Social Security and Immigration

Götz Uebe, Universität der Bundeswehr Hamburg

The two effects (i) of ageing of the German population (of the united country) and (ii) of unchanged attraction of Germany as destination of immigration are analyzed by simulation, in particular with respect to the social security system. German social security is statistically modeled as a subsystem of economics and demography, which is projected long run. Due to social security's legal setup, and its tight link up with the slowly changing demography, the total system is of extreme inertia even if large changes, funds and immigrations are involved. More crucial than greying and migration for a substantial beneficial, resp. nondeteriorational change of the social security system seems to be the growth pattern of the economy. If one wants a widely supported and effective social security system from the model the almost trivial conclusion follows: the economy must flourish, anything else being secondary.

Thursday, September 1, 14:30, Room H2033

Human Capital and New Growth Theory - Some Insight from a Cross Country Study

Michael Graff, Technical University of Dresden

Economic theory relates output to input factors. While it is generally accepted that human capital - at least in the developed countries - is an important input factor, no consensus has yet been reached on how to conceptualize and measure this specific factor of production. These difficulties can be clearly seen from any of the recent empirical cross-country studies of the "new growthliterature. First of all, these studies have to deal with our lack of theoretical knowledge (specification problems). Moreover, there are well known data problems: the more elaborate the specification on which an actual estimation is based, the less number of observations suited for empirical analysis. To overcome, at least in part, this trade-off between quality and quantity, panel data analysis using so-called "fixed effects-modelsällows to consider explicitely that a model may be missspecified because of omitted variables. Applying this method to the estimation of aggregate Cobb Douglas production-functions drawing on a pooled data set of 75 countries and various years, it is shown that a production function which is homogenous in "rawlabour, physical capital and human capital fits the data best. Of sevearl human capital variable tried out, "mean years of schoolingßeems to be the most adequate indicator for human capital as a factor of production. Moreover, no support is found in favor of the "increasing returns to scalehypothesis, frequently advanced in the "new growthliterature.

Thursday, September 1, 15:00, Room H2033

Endogenes Wachstum und internationale Kaptitalbewegungen

Berthold Wigger, Martin-Luther-Universität Halle Wittenberg

International kommt es langfristig sowohl zu Konvergenz- als auch Divergenzentwicklungen wirtschaftlichen Wachstums. Im Rahmen einer durch einen gemeinsamen Kapitalmarkt integrierten Zwei-Länder-Welt wird den Ursachen dieser beiden Trends nachgegangen. Unter der Annahme, daa sich die beiden betrachteten Länder allein in der Aufteilung der Ersparnisse pro Periode für die Bildung von physischem und Humankapital unterscheiden, werden zwei mögliche langfristige Gleichgewichte abgeleitet: ein Divergenz- und ein Konvergenzgleichgewicht.

Thursday, September 1, 15:30, Room H2033

Die Notwendigkeit von Revisionen bei Sozial- produktschätzungen

Simone Dahnke, Universität Jena

Der Gegenstand des Beitrags ist die Beurteilung der Genauigkeit von Sozialproduktsschätzungen und der Notwendigkeit von regelmäßigen Revisionen. Grundlage dafür bilden Zeitreihen der vorläufigen und der revidierten Schätzungen von 9 makroökonomischen Aggregaten der Bundesrepublik über einen Zeitraum von 1970 bis 1991. Im ersten Teil des Vortrages werden Ursachen und Arten von Revisionen erläutert und verschiedene Möglichkeiten für deren Analyse aufgezeigt. Dabei erfolgt die Auswertung von Niveau- und Veränderungsrevisionen einerseits durch solche statistischen Kenngrößen wie arithmetisches Mittel, absolutes Mittel und Standardfehler oder auch den Theil'schen Ungleichheitskoeffizienten und andererseits durch Zeitreihenmodelle, wie z. B. ARIMA-Modelle.

Der zweite Teil des Vortrages enthält eine kurze Beschreibung des verwendeten Datenkörpers und eine Darstellung der Ergebnisse. Die Auswertung der Zeitreihen der vorläufigen und revidierten Schätzungen erfolgt mit den o. g. Methoden. Dabei wird deutlich, daß man sich in den letzten Jahren bei der Schätzung von Sozialproduktsdaten vorsichtiger verhält als in der Vergangenheit, d. h. man unterschätzt im Durchschnitt die jährliche Entwicklung, wobei man aber dem endgültigen Ergebnis bereits sehr nahe kommt. Die Auswirkung der Revisionstätigkeit auf die Gesamtaggregate (Bruttoinlandsprodukt, Bruttosozialprodukt) ist im Vergleich zu den Teilaggregaten (z. B. Anlageinvestitionen, Verbrauch, Vorratsveränderung) relativ gesehen nicht sehr bedeutend und läßt auf eine Fehlerkompensation schließen.