ECONOMETRIC SOCIETY EUROPEAN MEETING 1987

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About 450 economists gathered in Copenhagen for ESEM87, which as in the previous year followed on from the EEA meeting. The latter had taken place over the weekend and been of similar size – economists seem quite happy to work (or at least attend conferences) at weekends. About 150 hardened conference addicts stayed over from the EEA meeting for ESEM; at least this was the official figure, though there may well have been others engaging in fee avoidance. Given the high fees, avoidance was quite attractive, at least for the more unscrupulous, though the organizers tried to control it by subtly changing the colour of the name badges between the two conferences. When account is taken of the fees and the cost of living in Copenhagen, the attendance figures for the two conferences were impressive; demand seemed fairly price inelastic though this may reflect the way in which attendance grants are allocated rather than the preferences of the individuals concerned.

The closing reception for the EEA meeting and the opening reception for ESEM were held together at the city hall. The food was fairly lavish and disappeared quickly, since many of us had already discovered the rather daunting prices of Copenhagen restaurants. The speed at which people were eating provided an interesting illustration of the problems that occur when property rights are ill-defined. Since there is no such thing as a free reception, we had to listen to a rather overlong speech from the mayor of Copenhagen, who bemoaned the fact that Copenhagen suffers from the all too familiar problem of inner cities – outward migration of smart people and inward migration of bums. However in Copenhagen even the bums are smart, at least if smartness is judged by linguistic ability.

In his speech the mayor emphasized the need for economic research to be related to practical problems, a relationship that is not always apparent in the work of Econometric Society members. The mayor might have been somewhat bemused by a paper entitled 'Transfer Function and Distributed Lag Identification and Estimation: The Padé Z-transform Method', though he would have felt more at home with 'Punishment Works But Do Not Waste Money on the Police'. In fact, judging by the standards of previous Econometric Society meetings and *Econometrica*, the conference organizers had clearly made an attempt to avoid dull technical papers containing only minor modifications to existing work. While

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there was plenty to interest the technician, a good proportion of the papers were also of interest to the less technically proficient economist. Indeed some of the authors actually emphasized the economic content of their papers rather than highlighting their technical virtuosity; maybe, at long last, rigorous economic theory is coming of age.

Certainly the Fisher–Schultz lecture, given by Joe Stiglitz, was an example of economic theory at its best. In this lecture Professor Stiglitz gave an overview of his research programme aimed at explaining macroeconomic phenomena using theories with sound microeconomic foundations. The presentation was excellent, liberally sprinkled with jokes at his own expense and barbed remarks about the New-Classicals. His performance was particularly impressive, since he was compressing a paper which had taken some three hours to deliver at the European University Institute into a 90-minute presentation. The consequences of asymmetric information form the centrepiece of the Stiglitz research programme. Efficiency wage theory holds for the labour market, while credit and equity rationing are central to the capital market. The combined effect is that output can fluctuate, with real wages constant, without reference to sunspots, mysterious bursts of technical regress or other unlikely phenomena. While the component parts of this research programme have received some attention in the literature, including some important contributions from the prolific Stiglitz himself, one of the main merits of the Stiglitz research programme is the aggregation of these component parts into a coherent view of the macroeconomy. The programme provides an interesting and tractable route out of the macroeconomic wasteland of models based on *ad hoc* assumptions of market clearing or quantity constraints, and potentially can provide the basis for a revival of macroeconomics from its recent recession.

Business cycles more generally provided one of the major foci of the economic theory section of the conference, reflecting the revival of interest in cyclical behaviour. There was a mixed bag of papers on both real business cycles and expectations-driven cycles. Jean-Michel Grandmont's invited paper provided an excellent introduction to the often complex literature on expectations-driven cycles. Grandmont concentrated on the comparatively simple case of a one-dimensional overlapping generations model generating endogenous cycles. The simplicity of this model provided an excellent medium for his exposition, since the economic content was not obscured by the mathematical difficulty of more complex cases. Although in the subsequent discussion Roger Guesnerie was somewhat critical, arguing for a more complex multi-dimensional treatment, in developing his argument Guesnerie showed an impressive grasp of the relevant jargon, managing to refer to both the Hopf bifurcation and sunspots. This latter 'technical' term was studiously avoided by Grandmont in his presentation – he preferred a more general characterization which allowed a richer variety of potential causes of shifts in self-fulfilling expectations, including among such causes changes in economic policy.

Another area of interest on the economic theory side was game theory. The topics reflected the pluralism of game theory, ranging from comparatively simple experimental games and bargaining games to more complex analyses of repeated games and the core. One of the more interesting titles in this category was Christopher Bliss' paper 'A Model of Cake Division with a Blind Player', which at least sounds more compelling than asymmetric information. Another new technical term which cropped up in the game-theory sessions was 'banana head'. This term was coined by Hugo Sonneschein in an interesting report on experimental work on non-cooperative bargaining theory. In his paper, co-authored with Janet Neelin and Matthew Spiegel, Sonneschein argued that intelligent and presumably rational individuals do not, apparently, choose the backward induction solution of a bargaining game with more than two stages. The participants in the experiment were university students, presumably from Princeton; as we all know such elite students cannot be 'banana heads', but maintaining this hypothesis calls into question some standard game theoretic solutions. To be fair, Sonneschein's argument was more sophisticated than this, since, as he pointed out, the rationality of the backward induction solution for the class of games under consideration is by no means clear cut. Not surprisingly this argument was controversial, generating a fairly animated discussion at least by the rather feeble standards of other sessions. Many of the audience had considerable human capital invested in game theory and were understandably reluctant to accept the experimental results at face value. In part this reflects the relative novelty of experimental work in economics, although the popularity of such research is growing. The development of experimental work is hampered by the need for research funds to finance the rewards implicit in the game. This is a potential difficulty since, as one member of the audience pointed out, the rewards offered by Sonneschein may not have provided sufficient incentive for the participants to engage in the intellectual gymnastics required by the backward induction solution in a multi-stage game; in effect the student participants were operating under bounded rationality rather than being banana heads. (If any reader gets hold of a large enough research grant to avoid this criticism, we would like to volunteer for the experiment.)

Turning to the econometric sessions, the major focus was cointegration. Judging by the primarily American literature, cointegration has taken over as the latest econometric fashion. In simple terms, two non-stationary time series are said to be cointegrated if a stationary series can be generated by a linear combination of the two basic series; use of this cointegration relationship in a regression enables information about potential long-run relationships between the levels of economic variables to be retained whilst avoiding the statistical problems associated with non-stationarity such as spurious correlations. As such it goes some way to bridging the gap between the time series (VAR) approach and both more traditional econometrics and its Hendry variant. The cointegration theme was set in the first morning of the conference, with the only econometrics paper on offer in the second session being an invited survey paper on cointegration given by Robert Engle. This was followed up by further sessions devoted to the theory of cointegration and applications of cointegration. These sessions certainly succeeded in stimulating debate, with the more traditionally inclined being sceptical of the usefulness of cointegration studies. The debate rekindled memories of Koopman's strictures on measurement without theory and raised some interesting questions regarding the roles of data manipulation and economic theory in econometric work. Otherwise the econometrics sessions presented a fairly standard menu of theory and applied work. Unsurprisingly, employment and labour market studies were a popular applied topic. On the theoretical side the sessions were remarkable for their uninspiring titles which read a bit like the chapters in an undergraduate textbook, e.g. Hypothesis Testing, Model Selection and Goodness-of-Fit Measures, Estimation of Simultaneous Equation Models, Causality and Exogeneity etc..

In this brief review of the conference sessions we have left Dale Jorgenson's Presidential Address until last. On one level this was a masterly presentation describing Jorgenson's ongoing work on aggregate consumer behaviour and the measurement of social welfare. Jorgenson set out from a well founded critique of the simplistic use of the representative individual approach and the all too frequently used assumptions of identical and homothetic preferences, and via an exposition of exact aggregation, developed a model of consumer behaviour and a novel measure of social welfare. Jorgenson's delivery was articulate and his mastery of detail characteristically impressive, but for some unfathomable reason his talk failed to inspire. One was left with the feeling that this was important work but one was happy to leave Jorgenson and his acolytes to get on with it.

Overall there were surprisingly many interesting papers, with fairly wide ranging appeal, and the Programme Committee certainly deserve credit for this. The major weakness was the paucity of discussion at many of the sessions; indeed there were some sessions which, even though time was made available, generated no discussion at all. It is hard to know the cause of this, but it could well be worth experimenting with alternative formats to try to provide more stimulus to discussion. One interesting possibility is to introduce poster sessions, which are widely used in the natural sciences and would at least provide an element of variety. Discussion would be helped if papers were made available beforehand, or, if the logistics of this were too complex, by assigning discussants and giving them the opportunity to read the paper. More informal discussion was not helped by the conference venue, the Technical University of Denmark. The sessions and coffee breaks were dispersed in different buildings of the University, and there was no central location at which people congregated. The publishers' display stands which often provide such a focus were fairly limited and many publishers chose to leave after the first day of the conference; perhaps their expense budgets did not run to a whole week in Copenhagen.

The conference venue was some 15 kms from the city centre, which meant that most participants had to commute. Buses were provided in the morning and evening. Originally the morning bus was scheduled to leave at 7.45 am from one central location; since most hotels did not start serving breakfast before 7.00 am, this left a choice between missing breakfast or missing the bus. Fortunately the organizers rearranged the bus to leave at the more civilized time of 8.15 am. The alternative was to use the public transport system, which turned out to be relatively cheap and efficient once the art of using discount tickets had been mastered.

Copenhagen itself is an interesting and cosmopolitan city, well endowed with restaurants and bars. The atmosphere has changed somewhat in recent years as 'yuppification' has set in, with Porsches and BMWs replacing free love and home-knitted yoghurt, though for the nostalgically inclined you can still see a fair number of rather dissolute looking hippies, particularly if you venture to the dubious area behind the central station, where, unwittingly of course, a number of conferees had booked hotels in what remains of the red-light district. There was plenty to see and do, ranging from the standard museums, through a trip to the Carlsberg or Tuborg breweries with the added incentive of free beer, to the pleasures offered by the Tivoli or Bakken amusement parks. One of the cheaper forms of relaxation was an evening stroll along the pedestrian streets between Radhus Pladsen and Nyhavn; this seemed a popular activity, particularly at weekends, with entertainment provided by a wide range of buskers. Language presents no difficulty since all Danes appear to speak excellent English. This was a relief since Danish, particularly in spoken form, did not appear easy to master.

One abiding impression of Copenhagen is the cost of living; fairly mediocre restaurant meals were close to £20, beer was commonly around £2 for 1/3 of a litre and house wine around £8 a bottle. Although this is a rather dubious way of constructing a price index, particularly for tradeable goods, it does cast suspicion on purchasing power parity. The high price of restaurants made one appreciate the smorrebrod kits provided for lunch, although the voluminous plastic wrapping was reminiscent of airline meals.

Overall the conference was an enjoyable and rewarding experience, and we both hope to be able to attend next year's meeting in Bologna.