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EUROPEAN UNION CEREALS POLICY: AN EVOLUTIONARY INTERPRETATION

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Following an introduction explaining the genesis of the paper, section 2 briefly reviews some relevant literature and concepts. On the basis of this review, section 3 develops an outline evolutionary model of policy development. Section 4 interprets the history and present status of the EU policy within this framework (here illustrated by the cereals policy which is taken as archetypal for the CAP as a whole). It characterises the policy history in broad evolutionary terms, emphasising the 'fitness for purpose' of various manifestations of the policy organism. The key conclusion from this section is that the present policy situation cannot be described as 'fit' — there is too much conflict between the present (rather new) policy environment and the character of the existing policy. This conclusion is in distinct contrast to more conventional views about the status of the present policy and to the current view from within the policy-making bureaucracy. Section 5 develops some major implications of this analysis for future development of the CAP. Section 6 offers some broad conclusions.

Introduction

European Union cereals policy is a matter of central concern within and outside the Union. For the outside world, the future development of the CAP can be seen as critical for the development of the world order of agricultural trade. Within the Union, the policy can be viewed as standing at a cross-roads. On the one hand, the 1992 MacSharry reform clearly changed the direction of the CAP in shifting the burden of farm support from the consumers and users to the taxpayers and also partially de-coupling the support payments from the product (if not from production). On the other hand, the 'coupling' of the support payments to the arable land set-aside requirement can be interpreted as a reluctance to discard a dominant tendency to rely on isolation from the world market, in the limit through supply control. The future balance of policy direction is therefore still subject to serious question.

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The central role of cereals policy for the future development of the CAP as a whole is clear — once the parameters and structure of cereals policy are established, policies for the other commodities have to conform for the agricultural system to be stable and sustainable. It was not by accident that the cereals regime was the first commodity regime to be decided in the formation and development of the CAP. Thus, the 1992 reform is fundamental to the future of the CAP, in distinct contrast to the 1984 dairy quota reform.

The questions addressed in this paper are: a) whether further reform of the policy is to be expected; b) what factors might promote further reform; c) what direction further reform might take.

The paper is organised as follows. Section 2 briefly reviews some major themes in farm policy analysis. Against this background, section 3 outlines an evolutionary model of policy development in conceptual terms. Section 4 interprets the history and present status of the EU policy within this framework (here illustrated by the cereals policy which is taken as archetypal for the CAP as a whole). It characterises this history in broad evolutionary terms, emphasising the 'fitness for purpose' of various manifestations of the policy organism. The key conclusion from this section is that the present policy situation cannot be described as 'fit' — it is subject to too much conflict between its character, reflecting its history and behaviour patterns (in evolutionary terms, its pheno-genotype), and the present (and rather new) policy environment. This conclusion is in distinct contrast to more conventional views about the status of the present policy and to the current view from within the policy-making bureaucracy.¹ The interpretation is contrasted with a recent example of public choice analysis of the policy direction. Section 5 develops some of the implications of the evolutionary perspective both for the future of the policy and for a future research agenda. Section 6 offers some broad conclusions.

An Outline of the Development of Policy Analysis from an Economic Perspective

From the economic welfare theory, derived through the concept of a general equilibrium of perfectly competitive goods, services and factor markets, there are four major reasons for the establishment of government policy:² These may be labelled as follows.

i. *The Policeman*: to establish and maintain the legal and judicial framework within which the market will operate, both at the national and

¹ This view is well illustrated by Herr Fischler, the incoming Commissioner for Agriculture — reported in *Agra Europe* (1629, Jan. 27, 1995): 'Fischler played down the widespread clamour for changes in the CAP, whether to address budgetary or market problems, or to face up to the impending accession to the countries of Central and Eastern Europe' (p P/1)

² See, for example, Grant, 1975.

the international level, including the important role of establishing and policing property rights;

ii. *The Engineer/Doctor*: to correct 'market failures' including at least the organisation of the provision of public goods (defence, government itself, etc) and the correction of the free enterprise system for externalities and imperfect competition;

iii. *The Mechanic/Pharmacist*: to encourage and foster economic efficiency, both in static terms — the need for which can be seen as resulting from the public good characteristics of information, and potential imperfections arising from risk markets; and in dynamic terms to assist in adjustment to changing circumstances, which might be associated with externalities of progress and growth and with the public good aspects of technological change;

iv. *The Judge*: to redistribute income and wealth in the interests of equity.

Non-economists are inclined to add a fifth function to modern government, that of the Priest, as the guardian of public morals and ethics, requiring additional roles to those envisaged by the clinical calculus of neo-classical economics for the policeman and the judge.

Typically, neo-classical economic analysis of agricultural policy finds it impossible to reconcile these potential functions of government with the observed characteristics of the policy, and is limited to providing estimates of the 'social welfare cost' of existing policy compared with the benchmark of an 'un-regulated' though policed, well-engineered and maintained healthy economy, and is obliged to conclude that the re-distributive effects of the policy must be the reason for its existence. The apparent fact that many policies actually transfer income and resource from the poor to the rich rather than *vice versa* compounds the embarrassment of neo-classical economics in explaining and understanding farm policy. 'Clearly agricultural support has been neither in the national interest nor justified by widely held perceptions of social justice' (Wilson, 1977) or 'the political system exists to legitimise the protection of vested interests at the expense of unsatisfied or badly expressed and represented interests' (Josling 1974).

The neo-classical economic model contains within it the seeds of its own destruction. Consider the implications of profit-seeking firms and utility-seeking consumers combined (as the theory admits it must be) with a government whose major function is the redistribution of income and wealth. The workings of the competitive market mean that this redistribution, even if entirely resource-neutral, will need to be continuous. Even in the absence of market imperfections and failures, the market model includes a government continually engaged in economic activity, taking and re-distributing income.

The existence of such a government provides entrepreneurs, consumers and taxpayers with the means to influence their economic environment, including government, to their own ends. Add to this model the evident gains to be made from collective action (especially but not only in the

labour market) and the pressures in favour of the maintenance of workable competition are now turned in favour of winning control over the government, as well as over the market place. This is the essence of much of the public choice literature, epitomised by Rausser in the classification of PERTs (legitimate engineering and maintenance transfers) and PESTs — the rent-seeking transfers.³

The general conclusion of the public choice literature is that 'government (or policy) failure' is to be expected as a consequence of rational, self-interested economic behaviour. However, beyond this general conclusion, and associated 'explanations' of current and past policies using these theories, they are all practically silent about how to predict future policy change; nor are they good at explaining why governments so often choose demonstrably inefficient policy sets, even given their own stated objectives (MacLaren 1992). Further examination of the policy process (for example, Rausser and Irwin 1989; Moyer and Josling 1990; Harvey 1994) emphasise the importance of institutional factors in policy change, though again are relatively silent about the implications of this focus for the prediction of future policy development.⁴

The traditional neoclassical view of the world, carried forward into the public choice literature, is in contrast to the Austrian tradition.⁵ Here, a key concept is that human action takes place in a world of ignorance and uncertainty, while choices are fundamentally subjective and unpredictable. A major consequence is that a mechanistic framework of strictly-defined relationships is impossible. Thus, the notion of measurement of social costs makes little sense within the Austrian tradition. To borrow from the quantitative tradition, the results of economic behaviour will be incurably 'noisy'. Hence, the logic of the law court is more appropriate than that of the mathematician and econometrician to the study of economic behaviour, while economic systems are organic rather than mechanistic. The precise (measurable) relationships between stimuli and response will also be highly contextually specific, and thus not capable of generalisation or refutation. From this perspective, competition for unexploited opportunities is the driving force of economic systems — hence the key role played by the entrepreneur, including consumers and other economic agents as well as producers, rather than mechanistic maximisation of profit or optimisation of welfare.

³ A useful survey of this literature as related to agricultural policy can be found in, *inter alia*, Swinnen and Van der Zee (1993), Winters (1987) and MacLaren (1992). More general treatments can be found in, for example, Phelps (1985), McLean (1987), Stevens (1993), Buchanan and Tollison (1984).

⁴ A further disturbing feature of this literature is its complete reliance on self-interest. Models based on this principle run the risk of producing policy prescriptions best suited to a self-interested world and thus to encouraging the development of such a world at the expense of a more charitable one. In the realm of public choice, this danger seems particularly worrying.

⁵ See Barry (1993), for a concise review of this tradition.

The archetypal Austrian position that government (public) intervention is bound to be anti-social depends on the proposition that no public institution can compete with the market mechanism in achieving an acceptable and efficient allocation, while any intervention in this process will inevitably distort and undermine the market's systematic processes. However, this view of the economic world is subject to exactly the same criticism as is the neo-classical model: governments are endogenous, not exogenous, while government processes are an important arena for the pursuit of profitable opportunity.

There is an alternative perspective — evolutionary economics.⁶ The historical underpinnings of an evolutionary approach to economic behaviour have been dealt with elsewhere (e.g. Clark and Juma 1988), though seldom allude to the Austrian tradition. Notwithstanding the serious dangers associated with socio-biology, there is considerable attraction in the concept of social (human) systems evolving rather than simply working, and thus considerable force to the objections of the Austrian school to the presumption of neo-classical economics that the world is mechanistic or clockwork.⁷ From an evolutionary perspective, not only does the clock behave in an extremely 'fuzzy' fashion, but, even more importantly, the process of telling the time actually triggers a change in the clock's mechanism. It is this latter point which is absent in the Austrian objections to the neo-classical school, since both are enshrined in the concept of unalterable 'laws' of economic behaviour.

The evolutionary perspective incorporates diversity (noise) as the critical driving force of economic change and development. It is 'experiments' (either conscious or sub-conscious) which allow the existing socio-economic order to be tested against the contextual environment. Thus, Nelson and Winter (1974) propose an evolutionary model of economic growth (NW) which relies on firm heterogeneity. In their words:

the model comprises a number of very simple firms' (operating at full capacity but otherwise satisficing), 'interacting in an equally simple selection environment. Technically advanced firms reinvest their profits and expand, thereby driving up the wage rate facing other firms. Firms with low rates of return look for better techniques . . . rejecting technical regress in favour of the *status quo* (so) progress is achieved on average. Imitation helps to keep the technical race fairly close, but at any given time there is considerable cross-sectional dispersion in factor ratios, efficiency and rates of return. How do the quantitative results look? In a word . . . plausible (*op cit.*, p.896).

⁶ 'Public policies may reflect not changes in objective conditions but shifts in values, or understandings' (Nelson and Winter 1982). Allanson *et al.* (1994) develop this approach in the context of rural sustainability, which substantially influenced the development of the following arguments.

⁷ It is intriguing, for instance, that a Nobel Prize winner in Chemistry should devote considerable time and effort to exploring precisely these issues in considerable depth — see Prigogine and Stengers, 1985

Nelson and Winter conclude that even a highly simplified model within an evolutionary theory is quite capable of generating aggregate time series with characteristics corresponding to those of economic growth in the United States. 'One does not have to extrapolate the performance of evolutionary theory very far beyond the present primitive level in order to conclude that neo-classical models are unlikely to be decisively superior.' (*op cit.*, p.899). There is no equilibrium in this model, the results cannot be described as optimum (there are always better but unfound and unused techniques), there is no production function — the apparatus of neo-classical economics is not necessary to generate realistic real-world observations. As Nelson and Soete, 1988, remark (p.633), 'from such a perspective the concept of a 'social optimum' disappears. Occupying a central place in the policy analysis are now the notions that society ought to be engaging in experimentation and that information and feedback from that experimentation will be the central concern in guiding the evolution of the economic system'. Nelson and Winter (1982) and Dosi *et al* (1988) provide substantial amplification of these ideas and concepts.

An Evolutionary Approach to Policy Development

Such a perspective rings several important bells for the policy analyst. Non-optimal policies are continually observed. The notion of social costs, necessarily defined with reference to a non-observed and even impossible perfect-case scenario, is fraught with difficulty and opaque as far as policy makers are concerned. It is difficult to project likely policy change from formal models. Public choice analysts differ substantially about the explanations of past policy decisions (e.g., see de Gorter and Tsur 1991). Yet there appears to be a 'conservative social welfare function' (MacLaren 1992) or inertia. Policy change depends on the context and circumstances facing the sector and policy makers, in a way which conventional models find difficult to incorporate; there is an apparent crisis policy management process and somewhat discontinuous policy change.

Development of a fully-fledged evolutionary model of the policy process is beyond the bounds of this article. However, the major elements of such a model do suggest themselves.⁸ Suppose that policy actors (ministers, other politicians and political parties, bureaucrats, pressure groups, treasury ministers and officials etc.) are treated like firms in the NW model, making (proposing) policy elements (instruments and settings). The 'yield' of these proposals depends on the extent to which they are 'fitted' to the *political climate* (voters and constituency, preferences and opinion, often weighted through interest groups) and also to the

⁸ With hindsight, Harvey (1989) develops a very modest precursor to an evolutionary model of policy development, without recognising it as such. This reference also provides the logic for the supposed supremacy of supply control over support price reduction in the development of the CAP within a closed European Community.

socio-economic terrain (the effects such policy settings are expected to have on the performance of the sector and its relationships with the rest of the economy). Together, the climate and terrain determine the structure and nature of the objective set which the system can be seen as if trying to satisfy. In effect, the policy organism is pictured as producing a constellation of potential policy options, more or less well fitted to the current socio-political environment (climate and terrain). The policy selection process results in the development of those expected to be best fitted to the environment, leaving the rest in embryonic form. As the environment changes in a co-evolutionary fashion since these systems can also be viewed in evolutionary terms, so the continual selection of dominant (active) policy species will change.

For the purposes of this article a 'reduced form' of this outline is clearly needed. Consider the development of the dominant species of policy as a farm policy organism (as a sub-set of the government/political process as a whole). This organism is a collection of currently active policy instruments and an associated decision-making process embodied in an institutional complex, motivated to satisfy (not optimise) current policy objectives, which include the costs of the policy set.⁹

The extent to which particular choices satisfy the several objectives depends on the external context and conditions in which the policies operate (the terrain), while the definition of the objectives is dependent on the political climate, conditioned by expected socio-economic performance under alternative instruments. The 'satisficing' levels of objective-achievement are dependent on the political structure of the decision-making group — the institutions. The internal 'self-organised' structure of the organism is, in turn, subject to evolutionary change, possibly at discrete intervals (elections and/or crises), in response to the macro-performance of the complete policy-organism. The decision-making process is both noisy and fuzzy, since choice(s) of instruments and levels of settings reflect the uncertainty, lack of information, and misplaced expectations of the policy organism, while the choices made through a limited and non-optimising system are somewhat unpredictable.

This model incorporates a substantial element of inertia, providing the terrain and climate (together making the socio-political environment) do not change; it is likely to generate both mixed and demonstrably inefficient policy sets; it allows for the influence of terrain and climate change and for these (in conjunction with policy choices) to feedback to changes in the structure and institutions of the decision-making process. It thus has the potential to meet the major deficiencies of the public choice literature.

⁹ While the costs could be reflected as a set of constraints rather than (negative) objectives, the policy process seldom identifies costs as an explicit and rigid constraint, preferring to treat these in a similar fashion to the achievement of objectives.

Such a framework appears similar to that proposed by Moyer and Josling (1990). However, the distinctive features of this outline are: a) the fuzzy nature of the policy choices; b) the independence of the choice set (here the pool of variation) from interest-groups (though including their policy proposals); c) the explicit driving force of the evolutionary system as one of achieving a satisficing performance rather than as a bargain between competing groups; d) specification in a form which seems capable (in principle) of simulation modelling enabling qualified prediction and experimentation. Such a simulation system has not yet been built. However, it is possible to pursue the model in an applied setting — the CAP cereals policy — in qualitative terms.

*The Evolution of the CAP
(especially the cereals regime)¹⁰*

An Evolutionary Interpretation of CAP History

In the interests of brevity, the story will begin in 1973, the date of the first enlargement of the EC and the CAP. Additionally, only the most salient changes in terrain and political climate will be considered, while structural changes of the policy organism will be largely ignored here. The 'starting' point is an established CAP cereals regime characterised by historically high internal prices relative to prevailing world prices, defended through intervention buying, import levies and export subsidies. This organism had already generated signs of over-production and unsatisfactory cost within the original six member states, and the Mansholt Plan (essentially to 'down-size' the EC farm sector) was part of the potential policy choice set, as were the UK's deficiency payment and minimum import price systems. Indeed, for some commodities, aspects of these instruments were already being used.

The broad quantifiable background (the socio-economic terrain) within which the policy organism has evolved since then is outlined in Table 1.

¹⁰ A recent account and discussion of the prevailing debate and issues surrounding the CAP, against which the following section might be compared, is contained in Kjeldahl and Tracy (1994), in which Nedergaard explores a more conventional public choice analysis of the present policy. A more locally available summary of the policy issues of the current CAP is contained in Felton-Taylor *et al.* (1994). Munk (1994) provides a recent and rare example of a quantified public choice approach to development of the CAP, see below.

TABLE 1
The Socio-economic Terrain of the CAP¹¹

Agriculture's Place in the EU		1973	1980	1986	1992
1.	Ag GVA as % total GDP	3.80	2.54	2.16	2.02
2.	% popn. in agric.	10.00	9.00	8.00	5.80
3.	Ag. relative income:	0.38	0.28	0.27	0.35
4.	EU Unemployment rate (%)	2.60	6.10	11.90	11.20
5.	Total support cost (bn. ecu)	3.20	30.80	65.40	64.00
6.	Taxpayer support cost (bn. ecu)	4.00	16.00	22.90	35.80
7.	Support cost as % GVA (agriculture)	8.82	48.28	85.83	66.05
8.	Support cost as % GDP	0.33	1.23	1.86	1.33

The policy has not prevented either the continued decline in agriculture relative to the rest of the economy (1 above, showing agricultural gross value added (GVA) as a proportion of EU GDP) or the decline in farm labour (2). Nor has it been able to close the gap between incomes earned in farming and those earned elsewhere in the economy (3, measured here simply as the ratio of rows 1 and 2 — as the average GVA per head in agriculture as a proportion of average GDP per head in the whole economy). Against a rising level of unemployment (4, and associated social and economic re-structuring problems), the policy resulted in a rising total cost (taxpayer plus consumer costs,¹² 5), a large rise in taxpayer costs (6), a growing proportion of farm GVA being accounted for by these support costs (7), and a growth of the cost as a fraction of total GDP (8), though many of the latter 'trends' appear to have stabilised somewhat during the recent past.

During the mid-1970s, the world commodity price boom substantially reduced the protection rates of the policy (PSEs turned negative for cereals in the Community during 1973–1975). Coupled with the expansion of the Community to include the UK, then a substantial importer, the threats of surpluses and increased budgetary cost receded. Popular concerns over the ability of the world to feed itself, and the associated conviction that world prices would stay firm, reduced the pressures which had encouraged the development of the Mansholt Plan. The policy organ-

¹¹ The crude and debatable nature of most of these data is freely acknowledged. However, they are taken here as being reasonable approximations of the *perception* of the organism's surroundings, if not an accurate representation of the real environment. Notice, however, that in this world, 'real' is often just a collection of other peoples' opinions.

¹² Consumer costs are here measured as the Consumer Subsidy Equivalent (CSE), 1973 figures from Josling FAO, later figures from OECD.

ism evolved to take advantage of the higher world prices and lack of pressure on over-supply, and pursued the evolutionary line towards higher protection rates — the line of least resistance. By the end of the 1970s, it became apparent that the 'food supply' (budget) and benign environment allowing such an organism to thrive were at an end. The 'ice age' of growing surpluses and escalating budgetary costs produced a range of viable mutations in the organism to cope with the colder climate.

By the early 1980s, the policy organism can be seen as searching for adaptations to cope with the new environment. 'Prudent price' strategies, co-responsibility levies, tightened intervention standards and procedures, and maximum guaranteed thresholds appeared, but none were sufficiently well-adapted to the new environment to prosper in the longer term. Nevertheless, the policy set was not sufficiently 'ill-fitted' to the political landscape of the member states to demand a thorough overhaul (Harvey 1982¹³). By 1984, the environment surrounding the dairy sector in particular was especially hostile, particularly in the budgetary/surplus dimension. Action on the price axis having proved insufficiently well-adapted, the organism developed supply control in the form of production quotas, albeit against considerable opposition, especially from the UK.¹⁴ Within the closed European Community and for the well-suited dairy sector, the supply-control adaptation proved very well fitted to the new climate, though the co-evolution of the dairy sector and the policy implementation structure to cope with the new shape of the policy organism took some time to occur.

However, by 1986, the incipient problems of surpluses and escalating budgetary spending had emerged in the cereals sector, where the adaptation of supply control was both less well suited to the structure of the sector than for dairy and also potentially more far reaching, given the place of cereals in the farm sector organism's 'food chain'. Furthermore, there was a growing ecological dimension to the political climate, manifesting in a variety of different ways throughout the Community depending on local terrains, and including rural community as well as natural ecosystem concerns. This ecological climate influenced the budgetary aspect, eroding the primitive concern over the size of the budget to reveal a (possibly more fundamental and impermeable) concern over 'value for money'. The increasing persistence of the ecological climate had also exposed considerable internal difficulties for the policy organism which seemed likely to promote internal (though variegated) reforms in time.

¹³ In which the point is made that national interests remained largely satisfied through the common policy, though common interests could be considered frustrated or at least inefficiently met.

¹⁴ The UK's opposition was to be expected from the evolutionary perspective. Considering the UK policy organism as a 'cell' in the larger EU animal, neither the UK's parentage and history (genotype) nor its micro-climate and terrain (phenotype) were at all well adapted to supply control.

Against this background, it is not surprising that the policy organism sought relief in international negotiation, 'seeing' an opportunity to change the nature of the terrain (world prices) and thus ease the threats of the micro (domestic) environment. In other words, the argument is that the EC was willing to sign up to the Punta del Este declaration partly (and perhaps primarily) as a means of resolving internal farm policy difficulties, rather than as a response to either external pressure or a conception of the wider benefits of a new multilateral trade agreement. Once entered, however, the macro-climate of international negotiation became a major part of the organism's environment. An immediate (though perhaps not well appreciated) consequence of this environmental change was the addition of (or at least added weight to) a new set of policy options — especially those of the US: set-aside and acreage-restricted deficiency payments.

The organism's behaviour during the early phases of the GATT negotiations (e.g., see IATRC 1994) clearly supports the proposition that it was seeking to change the environment to suit itself rather than willing to adapt itself to a new environment. How long and to what extent it might have been able to continue this trajectory is now unclear, because in 1989 the organism's immediate environment suffered the cataclysmic shock of the collapse of the Berlin wall. This 'earthquake' fundamentally altered both the terrain and the political climate surrounding the CAP. Immediate absorption of East Germany into the organism was a near inevitable consequence, and added to the strong climatic pressure to prepare for the absorption of siblings elsewhere in Central and Eastern Europe.

The outcome was the agreement to the 1992 reform package, incorporating, as far as cereals policy is concerned, two major policy changes: a) the replacement of isolated and internally supported market prices with price reductions and (area-related) compensation payments; b) the requirement (for larger producers) to set-aside of areas planted in order to receive compensation payments. This package constitutes a radical change in policy direction, notwithstanding a substantial weakening of the initial proposals in the final agreement (see Table 2).

The influence of the GATT negotiations in encouraging semi-decoupled compensation and set-aside seems clear and is typically well-acknowledged, including the assertion by the European Commission that the new lower intervention price is set at a world free-trade level.¹⁵ While a strong supply control policy (presumably through set-aside or similar form of area control) might have seemed a viable response to GATT pressure for CAP reform in the early stages of the negotiations, the lack of progress on a 'managed world market' agenda must have provided the European Commission with strong signals that the GATT environment

¹⁵ '100 ECU represents the expected world market price on a stabilised world market', The Development and Future of the CAP, Com (91) 258 final/3, Brussels, 22 July 1991, p.9, para. B.1.a.1.

TABLE 2
Progress of MacSharry Reform Proposals, EC

Commodity	Measure	Draft Proposal January, 91	Final Proposal July, 91	Agreement May, 92
Cereals	Target Price	100ecu/t	100ecu/t	110ecu/t
	Intervention Price	90ecu.t (from 155ecu/t)	90ecu/t	100ecu/t
	Threshold Price	ns	110ecu/t	155ecu/t
	Co-responsibility	abolished	abolished	abolished
	Set-Aside	≤ 30ha: 0; 31 - 80ha: 25% > 80ha: 35% (rotational)	≤ 20ha: 0; > 20ha: 15% (rotational)	≤ 20ha: 0; > 20ha: 15% (non-rotational allowed at higher rate; + regional base)
Compensation Payments:				
Price:				
		≤ 30ha: full; 31 - 80ha: -25% > 80ha: -35%	full	full
Set-aside:				
		none	≤ 50ha: full; > 50ha: none	full
Oilseeds & Protein Crops				
		as for cereals	as for cereals	as for cereals
Milk	Quota:	cut by 4.5 to 5% (with 'extensive' modulation)	cut by 5% (inc. 91/2 price agreement cut of 2%)	cuts to be determined later
	Prices: Target:	reduced by 10%	reduced by 10%	none
	Butter	reduced by 15%	reduced by 15%	reduced by 5%
		SMP	reduced by 5%	none

(Table 2 continued)

Compensation Payments		≤ 15 cows (≤ 1LU/ha) 45 ecu/cow	Quota: 100ecu/kg over 10 years as a bond Price: 75ecu/cow, ≤ 40cows s.t. stocking rates	none
Co-responsibility		abolished	abolished	retained
Beef	Intervention Price:	reduced by 15% with safety net	reduced by 15%	reduced by 15% with safety net (lq restricted)
	Compensation:			
	male beef premium:	raised by 80ecu/hd. limited to 1LU/ha, ≤ 90 LUs	raised by 140ecu/hd. ltd. to 1LU/ha, ≤ 90 LUs	raised by 140ecu/hd. ≤ 2LUs/ha.; ≤ 90 LUs?
	suckler cow premium: special premia:	no change in rate; limited to 1LU/ha, ≤ 90 LUs none	raised by 35 ecu/hd. ltd. to 1LU/ha, ≤ 90 LUs none	raised by 80ecu/hd. ≤ 2LUs/ha; no headage limit i) early season slaughter ii) Extensive (≤ 1.4LU/ha) 60ecu, 30ecu/hd respectively
Sheep	Ewe Premium:	≤ 350 hd. (750 in LFAs)	≤ 350 hd. (750 in LFAs)	≤ 500hd. (1000hd. in LFAs) 50% premia payable over these limits.

Notes:

The Draft proposal, January, 1991, was not officially released but was reported, inter alia, in *Agra Europe*, January 18th, 1991.
 The Final Proposal: European Commission: Development & Future of the CAP COM (91) 258 Final, 22.7.91, a follow up to the Reflections Paper (COM(91) 100, 1.2.91, which contained no specific proposals for levels of support, rather concentrated on the framework for reform.
 The Agreement was reported in *Agra Europe*, 22.5.92, followed by various regulations in the EC Official Journal (eg cereals – OJ No. L 181/p12 – 39, 1.7.92). Only full post-transitional changes are recorded here.

would not permit such an option to survive. Once this 'fact' had been assimilated, only two courses were then viable: an effective blocking of an agricultural agreement under the GATT (on the precarious assumption that other countries would eventually allow the rest of the agreement to go through without agriculture); or acceptance that internal market support prices would have to be reduced. The latter option required some form of compensation payment scheme to make it acceptable to the farm lobbies and their supporting governments. It is argued here that this acceptance was substantially assisted (if not actually pre-conditioned) by the liberalisation of the FSU and CEE countries.¹⁶

Given the compensatory nature of the new payments, it seems almost inevitable that these payments should be linked to areas of cereals. The requirement that producers should plant their land in order to obtain payments can be explained as a 'natural' evolution from the previous market-based support system and an unwillingness of the political decision makers to live with a complete de-coupling of payments immediately.¹⁷

The inclusion of set-aside in the package is more difficult to reconcile with most logical analyses of the policy options. However, within the evolutionary framework, this part of the reform can be seen as: (a) mimicry of an apparently acceptable policy option used by the other major negotiator — the US, and thus defensible within the GATT negotiations; (b) a potential negotiating weapon, as evidence of the EU's willingness to make a 'down-payment' on the objective of stabilising world cereal prices at a competitive level; (c) a 'throwback' to the genotype of supply control, countering the illogical but pervasive view that price reductions alone would not be sufficient to remove the surplus production problem.

Central and Eastern European liberalisation also appears to have been a strong influence, though this is not supported by reports of the policy-making decisions.¹⁸ However, it does seem clear that the only basis on which the CEE agriculture sectors can be admitted to an EU free-trade area without compromising the CAP is if the latter is reformed so that internal market prices are close to their free-trade world competitive levels. In addition, the substantial reduction in the internal EU price (so long as the EU remains on a net-export basis) is a necessary improvement as far as internal ecological considerations are concerned, reducing the incentive for intensive (high input) production techniques and allowing if not encouraging the 'development' of land use in more environmentally friendly ways.

¹⁶ In particular, the attitude of FRG to reform and evolution of the CAP has altered substantially as a consequence of unification.

¹⁷ However, an initial proposal for reducing dairy support included a lump-sum payment through a 'CAP bond' for a 5% cut in quota, might indicate that complete de-coupling was at least considered seriously in some quarters.

¹⁸ See, for example, Franklin and Ockenden (1995).

The recent history and latest reform of the policy thus appears broadly consistent with the evolutionary 'model'. While it is also consistent with the major thrust of neo-classical analysis — that support prices should be reduced to world competitive levels — the timing and direction of the reforms have not been well-predicted by any neo-classical or conventional public choice analysis.

Comparative Assessment

Munk (1994) presents one of the few and recent attempts to integrate the public choice and public finance approaches in a quantitative explanation of the farm policy of (*inter alia*) the European Union, complete with a brief but comprehensive account of many of the theoretical issues associated with such explanations. Munk develops a quantitative model of farm support (measured as the OECD's Producer Subsidy Equivalent — PSE) where the level of support across countries and over time is hypothesised to depend on the difference between average agricultural incomes (per head values added in agriculture relative to per head GDP in the whole economy) and on 'net export intensity'. The latter variable is a reflection of the fact that the larger the export share of domestic production the more costly (to taxpayers) is it to support domestic agriculture and typically the lower is the level of support. Thus, although Munk does not interpret the model in this way, it can be thought of as an approximation to the 'clearinghouse' framework (MacLaren, 1992), in the sense that the relative agricultural income variable reflects the essence of the Policy Preference Function while the export intensity variable proxies for the Surplus Transformation Curve, at least as perceived by Treasuries. This model is estimated over 11 OECD countries (treating the EU as a single country) over the period 1979–90. Munk's European Union results are shown in Figure 1.¹⁹

Munk's model incorporates a 'partial adjustment' mechanism. When allowing for gradual adjustment of support to 'equilibrium' levels and also for country-specific relationship differences, this model accounts for 95 per cent of the total variations in PSE over time and between countries,

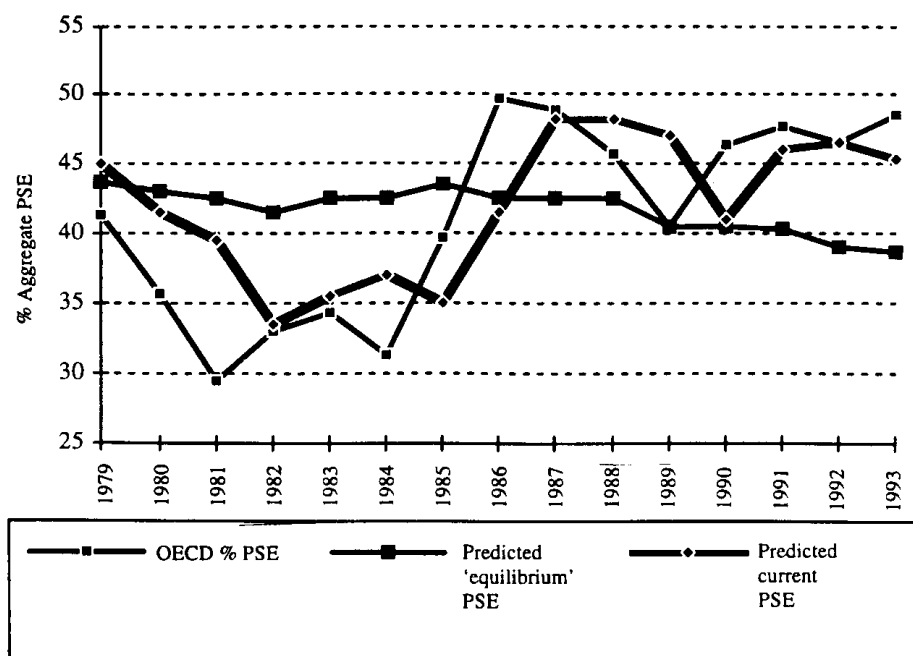
¹⁹ In Figure 1, the results reported in Munk, 1994, have been extended to include both 1979 and 1991–1993. This has been done here by employing the estimated coefficients in Equation (9) of Munk, 1994, p 115: $PSE(t) = 92.1 - 55.6RI(t) - 22.5EXP(t) - 0.76(PSE^*(t) - PSE(t-1)) + E(c) + E(t)$

where PSE is taken as being the OECD aggregate % PSE as reported in the OECD PSE tables (available in diskette form from OECD); RI(t) is the current value of the ratio of the share of agricultural Gross Value Added in the EU economy to the share of civilian employment in agriculture in the EU, as reported in the European Commission: Agricultural Situation in the Community (annual); EXP is farm production value less consumption value expressed as a ratio of production value (data from OECD PSE tables); E(c) is a country-specific term, here estimated from a calibration of the above equation to the specified data; and E(t) is a time-specific error term, here taken to average zero. Given this calibrated equation, it can be applied to data outside the estimation period as shown in Figure 1 for the years 1979 and 1991–1993.

with 74 per cent of the variation being accounted for by differences in export intensity and agricultural relative income (the remainder being accounted for by the country-specific term — possibly reflecting omitted variables).

Two major features of this political economy model are apparent. First, from 1986 onwards the model suggests that the general level of agricultural protection in the European Union, as measured by the PSE, is expected to be adjusting downwards towards a gradually declining equilibrium level of protection (particularly as export intensity tends to increase throughout this period, since relative agricultural incomes as measured in this model are not generally improving). Second, as Munk admits, the 'complicated adjustment process' of PSEs over time is not well captured by this model.

FIGURE 1
Actual and Predicted European Union % PSE, 1979-1993



Source: OECD PSE tables, 1993, Munk (1994) and author's estimates

Of course, characterisation of the CAP simply as changes in PSE is fraught with danger, while attempts to reduce the policy process to a simple linear equation driven largely by two highly simplified variables is heroic. It says much for the Munk model that it performs as 'well' as it does. Notice, however, that this model holds out little prospect for an early reduction in the level of agricultural protection, and certainly offers little clue about the need for or fact of the 1992 CAP reform package. However, it could be interpreted as capturing the major trend in the socio-economic environment facing the CAP.

Implications

The CAP an Endangered Species? Some Symptoms

Following the protracted and enervating negotiations over the MacSharry reforms and the GATT agreement, policy makers are entitled to a certain lethargy in the face of calls for further reform. Similarly, it is understandable that the outgoing Commission should hold a somewhat complacent view of the compatibility between the 1992 reforms and GATT commitments. It is not difficult to understand a view of the medium-term future of the CAP which holds that there is neither sufficient political pressure nor enough social gain to make pro-active effort for further reform presently worthwhile.

However, the 1992 CAP reforms are far from perfectly fitted to the new policy environment, suggesting that even the reformed CAP is endangered, if not destined for extinction. A number of unresolved issues appear to be likely to cause serious discomfort for the present policy organism, among which the most obvious are as follows:

- the compatibility of the 1992 reforms with GATT commitments, especially on subsidised cereal exports;
- the political sustainability of government cheques (the compensation payments) both as line-items in government budgets and as payments for ill-defined and increasingly questionable non-market benefits from commercial agriculture;
- increased regulation and control over farming (especially the set-aside controls), seen as inconsistent with the development of a competitive agriculture by commercial farmers and as costly and subject to considerable fraud and policing costs by the bureaucracy;
- the continued lack of integration of the policy with either the growing ecological concerns or with continued concerns over rural development and the threat of rural 'desertification' with removal of farm support;
- incompatibility between the reformed CAP and prospects of CEE enlargement;
- unexplored but potentially damaging incompatibilities between the reformed CAP (especially quotas, including those established for cereal and livestock compensation payments, and set-aside) with the concepts and spirit of the Single European Market and European unification;
- related questions about the necessity for 'financial solidarity' under which the European Commission is responsible for 100 per cent of the budgetary costs of the market support policy (and hence for the full cost of the compensation payments).

Evolutionary Pressures and Mutations

From an evolutionary perspective: (a) the policy environment has now changed fundamentally; (b) the new policy framework and process (organism) is undergoing inherent change and adaptation. Whilst the pre-

vious policy of isolation from world markets and single-minded focus on agricultural issues was a stable and broadly acceptable strategy so long as it remained undisturbed, recent events have destroyed this balance while a new homeostasis is far from being established.

An evolutionary perspective strongly suggests that the environment within which the future policy organism will develop now entails a substantially different terrain and climate than pre-1992. There are three major dimensions of this change — two environmental shocks and a mutation — echoing some of the ‘superficial’ dissonance between the current policy and its environment outlined above, and affecting the future evolution of the policy in important and conceptually distinct directions.

Two Environmental Shocks and a Mutation

- (i) The processes of GATT/WTO (including the formal review of the agriculture part of the agreement in 1999) and prospects for enlargement to include CEE countries represent new and substantial external regulation of the current policy trajectory, well-described as a substantial shock to the political climate surrounding the CAP. The presumption must be that the CAP can only comply with this international government through a reduction of internal EU prices to demonstrably competitive world levels. In addition, the design and implementation of compensation payments is substantially restricted by this regulation. The passing of the present compensation arrangements as within the ‘green’ box, and thus non-trade-distorting, is widely understood to be a convenient fiction for the purposes of the current agreement only. Future negotiations, which must be presumed to be on the planning horizon, will have the clarification of non-distorting measures at the top of their agenda. The definition of such measures has already been agreed in principle — that they should neither be related to product *or to production*. Furthermore, the entitlement of CEE producers to compensation payments is both logically questionable and subject to severe budgetary limit, further reinforcing the conclusion that these payments must become fully decoupled for the policy to survive.
- (ii) The partial de-coupling of farm support from market prices and the replacement with compensation payments has opened up a ‘Pandora’s Box’ of debatable issues concerning the reasons for and legitimacy of farm support, none of which are satisfactorily (that is politically sustainably) resolved under the present policy, though none were seriously open to debate (and thus influence on policy direction) under the previous incarnation of the CAP. This is a major example of policy change generating internal mutation within the policy organism.

Farm prosperity is now increasingly widely understood to be unsustainable through market price support, and only achievable through an internationally competitive industry. Farm incomes, or even farm revenues, are recognised as being insufficient to secure rural economic health or envi-

ronmental sustainability, and perhaps not even necessary. It follows that reliance on line-items of the budget for support or compensation entails a concomitant responsibility among recipients to justify that support through delivery of socially desirable products and practices which would not otherwise be forthcoming through the market mechanism. Meanwhile, compensation implies a distinct and finite sum, reflected in the concerns the present commercial farming sector in the EU has about the future of annual payments as well as about their distribution.²⁰

This growing dissatisfaction of the commercial sector of European agriculture appears quite different from the stance the industry was able to take under the previous policy environment, and much more likely to generate further policy evolution. An obvious direction is towards lump-sum payment of compensation (a bond scheme, following Tangermann (1991), at least made available on a voluntary basis. Such a further reform would protect farmers from the continual erosion of their compensation payments (justified in exactly the same way as redundancy payments and pension enhancements in other declining industries), and would also save the bureaucracies considerable and ongoing implementation and policing costs, which would be incurred once-and-for-all.

Once accepted, lump-sum compensation for removal of market price support raises the question of whether long adjustment periods to the new regime are now needed for the commercial sector. Since most of the adjustment problems concern the devaluation of the asset base and consequent re-adjustment of the fixed cost structure of the farm business, a lump-sum compensation payment might well provide a sufficient adjustment cushion to allow very rapid transition to the new regime.²¹

There are, of course, competitors to these arguments. Political decision-makers are likely to be unwilling to relinquish their control over annual payments, in turn promising continued political support in return for the dependence. Similarly, politicians are reluctant to consider the lump-sum payment on the grounds of cost, neatly identifying an unstated intention to reduce the level of annual payments more substantially in the future than they are presently prepared to admit. However, as soon as these competitors are discussed, their double-edged natures as far as commercial farmers are concerned are brutally exposed.

²⁰ Witness, for example, the English NFU's publication (1994) of a fundamental re-consideration of the role of farm support in commercial agriculture and serious consideration of the options available, beginning a continuing internal debate which is qualitatively different from any such debate in the recent past. Similar new debates are now beginning elsewhere in Europe.

²¹ A genuine free market in EU agriculture, as well as elsewhere, will of course raise the latent issue of market stability once again. It is to be expected that this issue will rise up the agenda for future rounds of GATT negotiations, as will international competition policy.

- (iii) However, a more legitimate reason for the persistence of annual payments results from the second major shock in the policy environment — budgetary value for money, opening up new territories for the CAP organism. It may be recognised that farm support payments are not sufficient to ensure the sustainability of either rural economies or natural environments. Nevertheless, this is not the same thing as arguing that withdrawal of support (even with lump-sum compensation) might not harm the ability of the farm sector to contribute to both sustainabilities. Indeed, if there are real social benefits from a more economically-secure ‘farming’ population than the free-market would provide (as there may be, though this is substantially under-researched), then some annual payments might well be justified. The two possible grounds would be: i) the contribution of agricultural ‘surplus’ to the economic development of rural areas; ii) the necessity of paying for ecological and landscape aspects of the natural environment (christened Conservation, Amenity, Recreation and Environmental — CARE — goods, McInerney (1986)) over and above the payments a competitive market might provide or to which society might be reasonably entitled as of right.

Two new territories for farm policy and required adaptations

- (i) The rural development territory (ground) has potential implications both for the geographical and individual distribution and for the method of providing compensation. Since compensation is a monetary equivalent of those resources which are ‘surplus’ to competitive requirements in the farm sector, there is some argument that it would be in society’s interest to encourage retention of such a surplus within some rural areas, logically involving some annual and conditional payment stream.
- (ii) The environmental protection ground is more problematic²² In essence, however, social values (positive or negative) over and above those signalled to land users through free market prices have to be reflected back to these users, either through (annual) taxes and subsidies or through regulation, to fulfil the engineer/doctor function of government. The central importance of social values, which include for these purposes concerns over animal welfare, health and safety, raises a number of fundamental issues for the evolution of the CAP. The requirements for both locally differentiated policy settings and for local determination of rural social and environmental values undermine both the case for a rigid ‘common’ policy with common settings and implementation, and for common financing of measures solely from the European Budget. These characteristics point to potentially rapid and far-reaching meta-morphosis of the European Union’s farm and rural policy organism in two major directions.

²² Discussed, for example, in Harvey (1991) and Harvey and White (1994).

Two Evolutionary 'Predictions'

- (i) The spatial dimensions and differentiation of the new policy environment appears to require a spatially differentiated policy response, strongly echoing some arguments for a re-nationalisation of the CAP,²³ but going further to involve substantial regionalisation and localisation of the ecological and rural development aspects of the policy, and thus involving a cross-fertilisation of the CAP with the increasingly important European Regional and Social Funds. There appears to be a powerful set of constituencies in favour of a more equitable distribution of economic activity between favoured and less favoured areas than would necessarily be achieved through the unhindered operation of market forces, and there has also been in the past a presumption in favour of a larger agricultural sector than would be the consequence of an unhindered market-place. It is implicitly assumed that the latter presumption has been simply a reflection of the socio-political concern over security of food supplies, and that since this is presumed to be of merely historical interest, it is the geographical distribution which is of major concern as far as farm policy is concerned. In this case, conventional economic analysis suggests that policy concerns will be about the provision of an adequate infrastructure of communication and transport links, and of a pattern of communal and social services, sufficient to support sustainable local rural economies.

This development however, raises the considerable problems associated with appropriate definitions and enforcements of 'level playing fields' within the European Union, with potential ramifications to the international arena. The 'level playing field' concept does *not* mean that trading nations (or regions) should have identical environmental conditions or identical social valuations (and hence opportunity costs) of environmental assets, any more than it means that they should have identical costs of land, labour or capital. Indeed, it is regional and national differences in these resource endowments, capabilities and social valuations which provide the very basis for economic gains from trade. Thus, the extension of European Competition Policy to embrace agricultural and land use policy also becomes a major part of the environment with which the evolving CAP must come to terms.²⁴ In turn, this puts the development of the Single European Market, and also of the European Union itself, next to be discussed at the 1996 Intergovernmental Conference, in a central position in the evolution of the policy.

However, it is also plausible that there is a concern over an 'optimal' structure of agriculture — in terms of farm sizes and types — in particular regions, both as this contributes to a socially acceptable and desirable

²³ For a recent account of the major arguments, see Kjeldahl and Tracy (1994).

²⁴ An interesting discussion of some general issues associated with European Competition Policy can be found in Woolcock (1994).

landscape as well as the (arguable) contribution to the pattern of rural employment, activity and social structure. Encouragement of such an ill-defined optimal structure, loosely characterised as the preservation of the 'traditional family farm', may also be an effective force in favour of more or less traditional forms of farm support (even if barely justified on rational or logical grounds). Nevertheless, the co-existence of such concerns within the constellation of other political environment characteristics points to specific locally targeted policy instruments rather than to the universal support characteristic of the current CAP's ancestor.

- (ii) The more fundamental implication of these political environment changes concerns the internal structure of the policy organism — its decision-making and implementation institutions (organs). In this new environment, a key role is played by social valuations of, especially, ecological and countryside aspects of agriculture and land use. These social valuations are critical to the future legitimacy of differentiated 'intervention' in agricultural markets and are also crucial to the implementation of appropriate policy instruments. Yet they are fundamentally local in character, depending on the characteristics and environmental potential of the local land base and ecology, as well as the largely local population interested and thus willing to pay for the conservation of this base.

It might be administratively convenient if there were a clear correspondence between the politically necessary compensation payments and payments necessary to encourage CARE good provision. But there is no logical connection between the two payments, either in total amount or, *a fortiori* in distribution. There is no reason to suppose that compensation payments can be appropriately determined or directed to achieve desirable levels of CARE goods. The distribution of compensation payments will be quite different from that of necessary CARE good payments. The clear implication is that concepts of 'cross compliance' — where receipt of compensation payments should be conditional on the provision of an appropriate package of CARE goods — has no logical support.

Hodge (1988) has suggested that Conservation, Amenity and Recreation Trusts (CARTS) may prove a useful mechanism for solving the twin problems of how much people are willing to pay for various elements of the natural environment and of providing the instruments through which such environments can be encouraged and paid for, simultaneously providing for the legitimising of the payments. The central idea is that there already exist a number of voluntary institutions concerned with the preservation and enhancement of the natural environment. These institutions depend on there being a public willingness-to-pay for CARE goods through membership subscriptions and donations, and have evolved to implement a variety of schemes (varying from direct ownership and management of land through negotiation of land use practices) to provide these goods for their members (and, of course to 'free-riders' who choose not to join).

As Hodge (1988) notes, the literature suggests that the free-rider problem will typically lead to an under-provision of public goods through the voluntary club route. Some public support is, therefore, justified. A more general application is suggested by Hodge to involve a public subsidy to such CARTS in proportion to their membership income, taken here as an indication (though biased downwards because of the free-rider problem) of the public's willingness-to-pay. Such a mechanism would provide for the continual demonstration of the legitimacy of the 'policy', while also allowing individuals (through their membership rights) to actively participate in the determination of the types and varieties of CARE goods provided. While this specific policy development may or may not prove a viable direction for a CAP organism to take, it is consistent with the evolutionary pressures facing the organism, and points to markedly different institutional structure than has been evident in the past, and serves as a useful example of possible future developments.

Conclusions

In conclusion, these arguments strongly suggest that we are entering a new era of policy development and evolution within the European Union. This is markedly at odds with both the historical development of the policy pre-1992 and with the opinions of some commentators both within and outside the European policy process. It is also significantly at odds with previous public choice accounts of potential policy development, for example, Nedergaard (1994), who 'forecasts' growing bureaucratisation of the policy, or Moyer and Josling (1990), who 'forecast' continued crisis management (and short-term response) and continued monopolistic farm pressure groups, leading to a strong presumption in favour of the *status quo*. The arguments here suggest that a fundamental change is now inevitable, though its precise form remains a mystery.

It has to be admitted that the evolutionary story is, at this stage, no more than a parable, though this feature alone certainly does not distinguish the 'theory' from its competitors. Nevertheless, the parable is metaphorically rich, incorporating much of the 'conventional' wisdom about policy developments. It also seems amenable to a modelling approach, at least in principle. As a final conciliatory remark, it is worth noting that arguments in favour of an evolutionary approach do not (at the policy level) necessarily entail the denial of neo-classical theories and approaches — these must stand or fall on their own merits and may well provide workable models of economic mechanisms as relationships between *homo economicus* and the political environment.²⁵

²⁵ Indeed, the arguments here are capable of much wider integration than simply within the narrow philosophy of economics. It is not beyond the realms of possibility that it could provide a framework for the eventual development of that chimera — a unified social science. However, before any reader gets carried away with this pipe-dream, a careful reading of Issac Asimov's Foundation Saga in five volumes (Grafton Books, London) is in order. On the other hand, Boulding (1991), for one, appears to share a similar dream.

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