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9 Panel discussion: the prospects for international economic policy coordination

WILLIAM H. BRANSON – *Chairman*

To conclude the conference we have chosen four distinguished panellists, who will place the proceedings in perspective, or as Dick Cooper said 'make statespersonlike pronouncements on the proceedings'. The panel consists of Richard Cooper from Harvard, Michael Emerson from the European Commission, Louka Katseli from the Centre of Planning and Economic Research in Athens, on leave from Yale, and Stephen Marris from the Institute for International Economics in Washington. I'd like to introduce the discussion with a quote which Jeff Sachs somehow missed. It is from the 19th Century American expert on time consistency, Ralph Waldo Emerson, who said 'A foolish consistency is the hobgoblin of little minds, adored by little statesmen and philosophers and divines' (my thanks to Joan Pearce for identifying the source). I'll leave it to the conference to decide into which category the disputants from this morning's discussion should be put.

RICHARD N. COOPER

Today we have a new perspective compared with policy discussions ten or twenty years ago. It is that governments can be viewed as economic agents that respond, like firms and households, to the economic environment in which they operate. A government is not a deus ex machina which can just do anything that is technically possible. Viewing governments this way raises a host of questions that economists have asked about firms and households, concerning the existence and nature of what might be called a 'policy equilibrium'. That is to say, does the collection of actions of interdependent nations settle down to an equilibrium as soon as the environment settles down? My own answer to that question is negative

because the preferences of governments are ever-shifting. That is a point to which I want to return, but let us waive it for the moment.

If policy does settle down to an equilibrium, then we can ask questions about its efficiency. Is it Pareto-optimal or not? If it is Pareto-optimal then the question of cooperation, the topic of this conference, is moot. It is worth noting that only economists would even think of looking at things this way. The layman would take for granted that cooperation between governments would surely make things better than they otherwise would be. That does not mean that cooperation is easy or that it will necessarily take place, but surely it would make things better. But the economist's stock-in-trade is to point out that there are circumstances under which a system of highly decentralized decision-making is socially optimal – that was Adam Smith's great insight. It is at least a logical possibility that a series of decentralized independent decisions by governments – taking into account the environment in which they operate – will settle down into a position that is socially optimal. Max Corden has written that the policy equilibrium might have this property, and in a different context I made a similar observation in my Wicksell Lectures ten years ago.

We therefore have to ask: what is the case in principle for policy coordination? To continue the analogy with firms and households, we have the same kind of case that we do for private markets. I would identify four reasons for coordination.

The first is the existence of public goods – that is to say, an expenditure or activity which would benefit all but which without conscious coordination will not be supplied at all, or will be under-supplied, because of the free-rider problem, the possibility of benefiting without paying the costs that is the nature of a public good.

The second, closely related, reason is the presence of externalities of some kind that are not transmitted entirely through the 'market' as it bears on the decision-makers. Much of what we have seen talking about here falls into this category – externalities, spillovers from the action of one government to the environment of another, operating in most cases through the international terms of trade, but one can imagine other kinds of transmission as well.

Third, the world of governments hardly fits the model of atomistic competition that we typically use for households and firms. There are only about 160 governments in the world, of very unequal size and influence on their environment. The assumption of 'other things being equal' that is usually plausible for households and sometimes for firms is not at all plausible for the ten to twenty governments in which we are most interested. They usually dispose of some monopoly power over at least

some of their international transactions, and attempts – even frustrated attempts – to exercise this power will in general assure that the policy equilibrium is not socially optimal.

Those are the three standard cases of 'market failure' to come out of microeconomic analysis. I would add a fourth one in the case of policy coordination. Even in the absence of public goods, externalities, and monopoly power there might be a case for policy coordination because of time lags in the system and the fact that as a practical matter decision-making cannot be taken continuously, particularly as regards fiscal policy. As a consequence, a sequence that we are confident ultimately will settle down to an equilibrium that would be Pareto-optimal may nonetheless take a long time to reach if there is no coordination. There are therefore avoidable costs to not coordinating. If the system as a whole is impacted by disturbances all of the time, on average it will always be farther away from policy equilibrium than necessary. Because of the lags and the iterative nature of the policy process, avoidable losses can be reduced through coordination. So I would add that as a fourth circumstance under which we might want policy coordination.

Now let me shift course and say something about the kinds of coordination that we have actually observed, successful examples of international cooperation in historical experience. A leading example is the adoption of the metric system – an international decision, stimulated, it is true, by the imperial ambitions of France in the early 19th century, but it stuck. Britain did not join until over a century later, and the United States is still only inching toward it. A second example, of which 1984 is the centenary, is the adoption of Greenwich Mean Time, the world's time system, and the closely related geographic grid system. Both of these have the attributes of public goods. It needed conscious effort and coordination to adopt them, and to get the full benefits from them.

An example which is more interesting from our point of view, and which I want to come back to, is international public health. Around the turn of the century, there was a major breakthrough, after over a half-century of attempts, in establishing an international regime for the containment of contagious diseases. We can draw some illuminating lessons from that.

There are more specialized examples: the International Telegraphic Union took responsibility for the allocation of the electro-magnetic radio frequencies spectrum; ICAO, the International Civil Aviation Organization, which is concerned not only with civil aviation safety standards but also with air traffic control. Once again, standardization, an international public good, is crucial.

We can turn to the domains which are closer analytically to the topic

of this conference. There was the Bretton Woods Agreement, which was a framework agreement for monetary cooperation; the GATT; and I put in this category also the Non-Proliferation Treaty. All of these have the feature that the Nash non-cooperative equilibrium appeared to the participants to be far inferior to a cooperative solution. The non-cooperative approach resulted, the Bretton Woods architects thought, in mutually disadvantageous competitive currency devaluation. In the case of trade, the world was riddled with trade restrictions which analysts realized was a sub-obtimal equilibrium. GATT was really a tariff disarmament regime. The Non-Proliferation Treaty, although non-economic in content, displays a similar analytic structure; it is a GATT before the event, so to speak, designed to prevent a world in which the Nash uncooperative equilibrium involves the proliferation of nuclear weapons.

We also have the various international fisheries agreements, which involve stock depletion externalities which can be beneficially limited by some cooperative regime. More recently we have the International Energy Agency, which has been at least partially successful as an exercise in international cooperation. In the macroeconomic area we have the efforts at coordination by the OECD and, in the last ten years, by the economic summits; in my judgement they have been less successful.

What generalizations can one make from looking at this list? – and this list could be greatly augmented. The first is that international coordination of national policy is in fact possible. We have been talking here about macroeconomic policy, but if we look over the whole domain of international cooperative activities there are a number which have been highly successful. I would conjecture that when they are successful it is because the benefit-cost ratio is high and – this is very important – is manifest. It must be high and manifest – clear, not just to technicians, but to a wider public as well. That condition is necessary to overcome the temptation to become a free-rider, or the irritation at those who remain free-riders.

Another lesson we can learn from this historical list is that there are many forms of coordination. We should not speak of coordination as though it is a well-defined thing. It can mean literal harmonization of policies – the extreme case would be adoption of common standards, the metric system or the Greenwich Mean Time System. It can mean joint expenditures – for example, to maintain the international air-traffic control system. It can involve, thirdly, a rule-based framework, where nations remain free to make their decisions autonomously but within an environment which involves agreed rules. Fourth, it can involve a virtually continuous exchange of information, which would not take place without an institutional mechanism. That was especially important in the public health case, and it is in my view especially important in macroeconomic matters.

Finally, what we most often have in mind when we speak of policy coordination, it can involve continuous joint decision-making. But it is worth emphasizing that that is only one form of coordination, and probably the most difficult form of cooperation for nations to undertake.

We have experienced difficulties in macroeconomic policy coordination, and the reasons for those difficulties are worth enumerating. I will return to public health to provide contrast. The first is that there is typically – not always, but typically – a disagreement on the economic outlook, the prognosis for the future. Those disagreements often reflect deeper biases in the observers. Without agreement on the economic outlook, it is difficult to coordinate policy actions.

Secondly, there is often no agreement on objectives. That is worth developing a bit because literal agreement on objectives is not necessary to enjoy gains from cooperation. But where there are deep philosophical differences on such matters as the role of government, or on the degree of interference that is acceptable in private markets, then cooperation becomes especially difficult among governments. More serious even than disagreement on objectives is that governments do not actually know what their objectives are until they have to make decisions involving choice among difficult alternatives.

Robert Putnam, a Harvard political scientist who has done a careful study of the economic summits, makes the interesting observation that the most successful summits, including the Bonn summit and the moderately successful Venice summit, were the summits when there were substantial disagreements within governments – not between governments, but within governments – that went to the summit. That made it possible to form coalitions across governmental lines, among various parties within each government, in order to push a particular line. In contrast, on those occasions when governments held well-defined views about what they wanted, it was very much more difficult to get agreement among governments. That is an interesting and astute observation. A more general observation is that governments do not know what their objectives are until they are forced by circumstances to make decisions.

Third, what is a special challenge to the economics profession, there is no agreement on what I would call means-ends relationships, or the 'technology' of policy, the mechanism by which pulling a particular policy lever influences a particular ultimate objective. We are more at sea now than we were ten years ago in macroeconomics. We heard yesterday Pat Minford's view of how economies work, which is radically different from other views on how economies work. Economists these days sometimes cannot agree even on the sign of the effect of a particular policy instrument on target variables, much less the magnitude. These sharp disagreements

on means-ends relationships make macroeconomic policy cooperation impossible.

I draw your attention to an interesting recent exhibit of our uncertainties here: a description by Henry Wallich, a full-fledged member of our profession, a professor of economics for many years, now a decision-maker who sits on the US Federal Open Market Committee. He recently described how monetary policy works in the United States today. Wallich ought to be as informed as anyone is; he has considerable talent and professional expertise at his disposal, including some of those here. And yet his statement is suffused with uncertainty and agnosticism. The slippage between what the trading desk can do and the effect on our ultimate economic objectives, the uncertainty about means-ends relationships with which we are operating, is just enormous. That leaves enormous scope for disagreement even between people who share prognosis and who share objectives.

Finally, there is always disagreement on the distribution of gains from cooperation. Every negotiation is, at its core, a zero-sum game, even when there are substantial mutual gains to be had from it. If the mutual gains are obvious, the negotiators quickly take those for granted, and the bargaining immediately focuses on the distribution of gains. While analysts, standing away from the problem, can draw a sharp distinction between zero-sum and non-zero-sum games, every negotiation is actually a zero-sum game, because the gains – assuming they are quickly recognized, which is not always the case – become taken for granted and the negotiation becomes one over the distribution of gains. The free-rider problem is of course a special example of that, where every country wants the world to go ahead with a recognized public good, and they want the United States to bear the cost. We see that phenomenon again and again, whether one is talking about NATO or reduction of world inflation.

For all of these reasons, since the topic of this afternoon's discussion is the prospects for economic cooperation, I think the prospects in the macroeconomic area are rather dim. I said I would come back to the question of international public health because that experience is extremely illuminating. Today we take for granted the desirability of some kind of international regime to prevent the spread around the world of contagious diseases, which is especially important with as much travelling as occurs these days. We do not want cholera showing up in Philadelphia or London. We have a regime to make sure that does not take place. The interesting historical point is that it took over fifty – 50 – years from the first identification of contagious disease as an international problem, with a cholera epidemic in London in the 1840s which it was assumed was imported from the Far East, to the time at which the beginnings of a

satisfactory regime for quarantining and for the containment of the spread of contagious diseases was established. I would hypothesize that the principal reason that it took half a century was the enormous ignorance that prevailed throughout most of that period on the nature of contagious diseases – how people were infected, how diseases were transmitted, how long their incubation period was, and so forth. Those disagreements left every party free to choose the scientific hypothesis that imposed least costs on him, even with a widely shared objective that disease should be controlled. It was not until the 1890s and the emergence of solid scientific knowledge on the transmission of contagious diseases that the whole field of hypotheses for each disease collapsed to a single one, at which point it became possible for each disease to say 'the incubation period is x days, the quarantine period need not be longer than x days, you do not have to burn all the merchandise on the ship, etc.' Only then did we get agreement on an international regime. Technical information then became meaningful, it was quickly transmitted, and countries acted on it.

Unfortunately, in the macroeconomic area, we are still back in the 1840s; maybe the 1850s. I will resist the temptation to offer my view on the contemporary macroeconomic counterpart of the phlogiston theory.

MICHAEL EMERSON

This is the moment when we have to draw conclusions on whether the international coordination of economic policy can really be a beneficial activity, or one so riddled with difficulties to be just an illusion. The latter view is being heard these days from many voices on the other side of the Atlantic, and even from some on this side. My remarks basically support the former view, that coordination can be really beneficial. It is a sign of the times that this view has to be defended.

The minimal efficient agenda for coordination

Recently some senior representatives of the US administration have been arguing that the realistic agenda for international economic coordination has four main points (i) trade rules for the world community, (ii) a sub-set of rules circumscribing trade in strategic goods with Communist countries, (iii) international debt management problems and (iv) rules for the international respect of private property rights. Macroeconomic policy – monetary, exchange rates, budgetary – is off the agenda.

I would put the point of view that this list is inadequate. For who, one may then ask? For Europeans in their more interdependent regional affairs, yes, almost all would agree. For the international community of industrialised countries also, I would argue that this agenda is insufficient to be efficient. It is doubtful whether this limited agenda can stand the test of time. The trade and debt repayment systems are already cracking, to say the least. I would speculate that the US and Japan at some stage will find it be in their interests in due course to participate more actively in macroeconomic and monetary cooperation in order to support other parts of the international system, and for this I will describe one possible scenario in a moment.

Having made one point addressed to other countries, I would readily balance it with another addressed to the Europeans, a point which came out clearly in this conference. If the US is to be interested in coordination it has to have someone to coordinate with, and a large collection of medium-sized or small countries arguing different positions is a sure formula for getting nowhere. Thus Europe needs to get its act together. This is gradually taking place, but at times it appears to be progressing at the speed of an Alpine glacier. But we have at least moved beyond the stage of debating whether better EC coordination is in competition with the pursuit of better international coordination. There is, I think, now widespread recognition that an EC organisation of coordination, mixed with elements of integration, is a natural feature of a multi-tiered world system. The special case of the EC warrants may be spelt out more explicitly.

Some particular features of coordination in the EC

The special features of the EC case are that:

- first, relatively explicit objectives are recognized for both 'nominal' and 'real' convergence of economic performance of Member States, and
- secondly, coordination is one technique of collective action that fits in with a fairly extensive array of legal and financial instruments of common policy. Macroeconomic policy is a subject of coordination, with the European Monetary System standing as its centre piece. Microeconomics and supply side policies are the subject of many legal and financial instruments of common action.

I will illustrate this outline a little.

Monetary convergence and coordination

The European Monetary System is addressed to the objective of nominal convergence and stabilisation. The system appears to have become accepted – by private economic agents as well as governments – as a permanent institution. Credibility and stability appear to be reinforcing each other increasingly. During the first three years of the system's life one might well have been disappointed at the rather sparse evidence of improved convergence in supporting budgetary policies and in the evolution of wage incomes. In the last two years, though, this convergence has become clearer, in particular with widespread budget policy initiatives in the direction of what in Germany is called 'consolidation policy', and incomes policy initiatives in several countries (for example to suspend or change wage indexation conventions).

Real convergence and market integration

It is an old proposition of economics that if you open markets for goods, services, labour and capital you will increase efficiency, put downward pressure on prices, improve the volume versus price mix in nominal GDP, and tend to achieve an upward equalisation of the productivity of the factors of production, – which is the Community objective of 'real convergence'. It is a new experience that Europe has seen its volume versus price mix develop poorly, especially relative to the US which has seen its mix evolve recently in a very favourable way. Is this due in some degree to the more open and flexible US economy, with possibly a new structural effect of recent deregulation and supply side measures? Alongside its justified grumbling about US macro policy, Europe seems to be concluding that there is a lesson here for European market rigidities (national and cross-country). A new momentum in favour of internal (EC) market liberalisation for goods, services and capital markets, together with national reforms of labour market law, social regulations etc. appears to be building up. In order actually to deliver internal market liberalisation, you certainly need more than coordinated action – you are in the business of EC legislation, which in turn becomes a matter of voting rules and behaviour in the Council of Ministers. Here too there are signs that political leaders in the EC are prepared to look again at the rules of majority versus unanimity voting in areas of clear Community jurisdiction. So there is a possible model here of synergy between cooperative macroeconomic policy moves. They can support each other, and indeed either could be difficult to advance without the other.

Redistribution

Even the strongest enthusiasts for open markets know that in reality there will be problems of speed, smoothness and evenness of distribution of the gains from market liberalisation. This problem is obviously of concern to Ireland, the south of Italy, parts of the United Kingdom, Greece and even more for Portugal and Spain to come. There are also therefore triangular links in the policy system between monetary stabilisation, liberalisation of markets and regional transfer questions. The European Community budget has various financial mechanisms aimed at these problems. For example Italy and Ireland's adhesion to the European Monetary System was conditioned on a five-year package of investment subsidies and loans from the Community, and these have been implemented.

Coordination around the US–Japan–Europe triangle

Macroeconomic coordination is not very impressive between these regions at the moment. The question here is whether we are likely to return to a situation in which the gains for coordination appear to be big enough to justify coordinated policy initiatives. I will argue that the answer could become 'yes', at least for some episodes in economic cycles, and possibly even 'yes' to the point of inducing more systematic changes in the rules of the game – the main candidate here being the exchange rate.

I will illustrate my point with some remarks on the prospects for 1985 or 1986, in particular the risk that the process of correcting the US financial policy mix could lead to a dangerous situation for the world economy, such that the US would look for supportive action in the rest of the industrialised world alongside its own policy adjustments.

There must be at least a possibility that the US could make a rough job of its policy adjustments in 1985 or 1986, in the sense of suffering for a period a rather sharp stop to growth and imports while real interest rates remain very high. With sluggish growth in Europe and Japan, there could be very serious problems again with the world indebtedness problem. The exchange rate of the dollar could also become highly unstable at some stage with a large fall potentially causing serious inflation problems in the US. In this case, notably in the event that the US might embark upon a significant fiscal contraction, the US might well need to look to Europe and Japan to support world trade demand and possibly the dollar's exchange rate also.

It would well be then that Europe and Japan should respond. There could in fact be a special problem to look after here in the triangular relationship, which is on the balance of payments side. Someone will have

to take over a part of the present US deficit, but Europe is unlikely to be the major volunteer, because the present imbalance is largely a Pacific affair. This obviously means that there would have to be an explicit differentiation between the European and Japanese policy reactions, presumably using the exchange rate as well as domestic financial variables for this purpose.

In short, there could well be future episodes for achieving a substantially better outcome from a coordinated solution; maybe, to hazard a guess, as much as 2–4% of world GDP as the difference between an unsuccessful non-cooperative versus successful cooperative management of a given cyclical episode. The case for episodic cooperation from time to time is not so difficult to identify, even outside Europe.

Finally on systems and targeting principles, and speaking quite personally, I would want to encourage the efforts of Professors McKinnon, Meade and Williamson to define principles for soft exchange rate policy between US-Japan-Europe combined with domestic policy management rules. These may seem long-shots as of today, but the capacity of purely discretionary policy convergence and surveillance to deliver results is not so impressive. There is a choice, then, between episodic cooperation 'on' and 'off' for specific moves in given situations, and these other ideas for rules. There should be a future for one or the other. A permanently non-cooperative system in macroeconomic affairs is likely to inflict heavy costs on all parties.

LOUKA T. KATSELI

Thank you Mr Chairman,

I would like first to focus on some issues that concern 'spillover effects', and especially on the point raised by Matt Canzoneri regarding the sign and symmetry of spillover effects. Secondly, I would like to talk about some aspects of coordination which we haven't touched in this conference.

Regarding asymmetries in spillover effects, it's important to recognize that there exist asymmetries not only of the effects but also of the origin of specific shocks. More importantly there also exist asymmetries regarding the monitoring of outcomes and policy design.

During the last decade most of the shocks in the international economy had to do with input prices. Partly as a result of the increasing strength of unions, we experienced sharp increases in labour prices especially in Europe. The 70s were also characterized by sharp increases in the oil price. More recently we have seen high nominal and real interest rates largely

connected with US policy. Shocks that are 'demand shocks' for some countries become 'supply shocks' for others, since countries are linked both through trade in final and intermediate products and through financial transactions. It would be interesting to study if in fact disturbances exhibit systematic properties as to their origin and if not what type of insurance scheme could protect a country from random external disturbances. For example recent proposals in international debt negotiations to put a cap on interest rates could be analysed as an effort by borrowing countries to insure themselves against future fiscal or monetary policy by their creditors.

The origin of the shocks is important even if shocks are in fact internal. Whether a shock originates from a country's government, from its labour unions, from its exporters, or from its asset-holders, has important implications as to the likely response and reaction of governments as well as to the likely success of efforts to coordinate economic policy.

Moving now on to the effects, it is widely known that there are asymmetric effects of policies across countries as a result of differences in labour market structure, differences in the composition of trade, differences in financial market behaviour and finally differences in institutional factors. As this is an area of extensive and well publicized research I'm not going to dwell on this point.

The third area of asymmetries concerns monitoring. We talked yesterday about time-consistency in policy. It should be noted that there exist both regional and functional inconsistencies in the monitoring of policies. For example an institution like the IMF applies different rules for monitoring LDC debt and their fiscal and monetary policies, as opposed to industrial countries facing similar domestic or external imbalances. It is interesting to quote a small passage from the recent report of the UN's Committee of Development Planning. It writes, 'improved international cooperation requires effective surveillance of national policies. They must not be inconsistent with accepted common objectives nor have negative repercussions on other countries.' It then goes on to say that the seal of approval, which is provided by the IMF and which is decisive for other resource flows to developing countries makes such surveillance even more intense and controversial. 'The surveillance of surplus or reserve currencies which is also stipulated for the Fund is at present neglected which makes the situation asymmetrical, unbalanced, and inequitable'. One should look more carefully at what is the source of these regional inconsistencies.

I would also stress 'functional' inconsistencies, that is between lending or borrowing countries or between labour and capital within a given country. I've seen many discussions on rigidities of wages, but little has been said about rigidity of profits.

Looking now at the institutional apparatus for coordination, one notes hierarchical structures of decision making which might be inappropriate for the outcomes that are sought. Within these hierarchical structures there exists a compartmentalization of decision making both within and between groups. Each of the important international committees such as the G-10 or G-20 etc. maintains almost complete control over specific areas and issues. Furthermore the existence of a hierarchical structure for decision making creates incentives for the delegation of authority to other groups higher up the scale. When players know that there exists another forum which is likely to make decisions that suit better their own interest, they are prone to delegate that decision to that forum and to block its resolution within the existing one.

Let me give you an example. Four days after the Contadora resolution, in an important committee of the EC there was no talk whatsoever about the possibility of debt repudiation by these countries and the desirable response by the EC community. When these issues were raised, the response from more than one participant was that these issues are discussed in G-10 and not within the EC. At the same time, everybody agreed that such discussion would be both interesting and beneficial to the promotion of EC interests. The delegation of decision-making to other groups in order to ensure particular outcomes is quite usual and could be appropriately modelled as a 'game'.

Apart from decision-making there also exists compartmentalization of issues. There is a lot of pressure for example to limit UNCTAD's activities to particular trade issues as opposed to financial or monetary conditions which are resolved in the IMF.

In conclusion, it seems to me that there exist basic asymmetries not only in structures but also in policy prescriptions, in monitoring and decision making. In my view these asymmetries are connected with the international institutional framework and the way it was originally set up.

Speaking now about coordination per se it is important to provide an answer for at least three questions. First, who are the agents who come together? Secondly, why do they choose to coordinate their activities? Thirdly, what are the likely outcomes?

When we talk about coordination it is important to make distinctions between governments, central bankers, labour, industry etc. The characteristics of games and outcomes will differ quite substantially depending on the group and the time profile in which it is operating. The time consistency of policy actions will be different if you talk about governments, bankers or other agents. One could look for criteria that would determine 'optimum coordination areas', as we do with criteria for 'optimum currency areas'. These could include political, economic or functional

characteristics. My guess is that the type and the likely outcome of the game we set-up in our theoretical approaches will be largely influenced by these criteria.

Why now do actors come together? Apart from the reasons that have already been expounded by Dick Cooper, i.e. the public good and the externalities aspects of coordination, there are four other important reasons which should be considered. These include: (a) the legitimization of public policy at home especially where there is internal opposition to specific policy measures, (b) enforcement of a national position to a larger set of players which becomes feasible if there is asymmetric market power among them, (c) enforcement of a group position on individual actors (reparation payments, debt rescheduling etc.) and finally (d) reduction of uncertainty which might have to do with the sharing of information, or the development of common policy objectives as a form of mutual insurance.

The underlying reason(s) why actors come together, is an important determinant of the likely outcome. It will determine for example the probability of a minimum consensus scenario, or of outcomes with a specific national, regional or ideological bias. There is probably a mapping between the composition of a group of actors, the ultimate purpose of their coordinating efforts and the likely outcome of this process.

In conclusion it seems to me that there are two important aspects of coordination. The first has to do with the feasibility and optimality of different coalitions and the second with the appropriateness of the institutional structure for the promotion of common objectives.

STEPHEN MARRIS

During most of my previous incarnation as an OECD official I used to be rather critical of my academic friends because they did not seem to be working much on what was our primary concern – the international coordination of macropolicies (it's called 'cooperation' in official circles). I was therefore delighted to find, when I left the official world a year ago, that quite a number of academics – most of whom are gathered here – had developed a keen interest in the subject.

After listening to the proceedings over the last two days I have somewhat more mixed feelings. I had assumed that this renewed interest in the subject had been stimulated by the fact that over the last few years we have been witnessing a marvellous (un?)controlled experiment in *uncoordinated* macropolicies. I now find, however, that another reason for this academic

interest is that technological advances have made it possible to make empirical use of the elegant tools of game theory and control theory quite cheaply and quickly – and that this is a subject to which they seem to apply rather nicely.

At the technical level, I am not qualified to judge whether the use of these tools has yielded new insights. Coming from the world of policymaking I was encouraged to find that such concepts as Nash and Pareto optima and time consistency are definitely very relevant to the problems of real world policymaking. But looking at the results of attempts to apply them systematically and empirically most of the substantive results achieved so far seem to me to be either rather obvious or rather obvious nonsense.

One main thread that runs through the substantive results is the Prisoner and his Dilemma. Following the 'weak currency crises' of the Lira, the French Franc and Sterling in 1975–76, the phenomenon of overshooting was formalized by the academic profession. It had two implications for international macropolicy. Any country wanting to expand was, with flexible rates, confronted with a significantly worsened split between increased output and increased inflation, especially in the case of monetary expansion. Equally, any country wanting to reduce inflation had a strong incentive to do so through monetary contraction. Thus a prevailing theme in the literature, much in evidence over the last few days, has been the danger that, with flexible rates, rational behavior by individual countries could impart a deflationary bias into the system as a whole.

My own feeling on this is that events have now moved on. First, as far as the late 1970s and early 1980s are concerned, I would tend to accept Ken Rogoff's point that since there was probably an inflationary bias in domestic monetary and fiscal policies, this international deflationary bias may, at the time, have been a good thing. Indeed, there was more to it than this. I would argue that after the second oil crisis economic cooperation actually itself introduced a deflationary bias into the system. What happened was that the major powers became convinced – in my view rightly – that they had to do something decisive about inflation. So whenever they met together they tried to bolster each other's courage to do it. It was not that they were Prisoner Dilemmaed, they were deliberately and collectively summoning up the courage to put us through the worst post-war recession – and most (but not all) of them knew what they were doing. So if we want to analyze this period with our nice new tools one should introduce a shift variable for this change in the major powers' preference function – which they then effectively imposed on the rest of the world.

It becomes more complicated if we try to carry on using this same model to bring the story up to date. As the major countries moved successfully

down their steepened anti-inflationary preference curve we might have expected the Prisoner's Dilemma to re-emerge. And indeed the French government provided a vivid reminder of how adverse the trade-offs had become for an individual (socialist) country which wanted to expand. It was not obvious that we would have found another expansionary candidate had it not been for the apparently accidental combination of two remarkable people, Ronald Reagan and Paul Volcker.

What happened next may not have been entirely the result of an historical accident. Most of our models tell us that the United States is the one country that can obtain a distinctly favorable combination of expansion and low inflation through a combination of expansionary fiscal and contractionary monetary policies. More generally, it was perhaps inevitable that as the whole world was put through the wringer of disinflation, it would turn out to be the most powerful and creditworthy country which took the expansionary lead because it was the only one which could get away with it.

Thus Oudiz and Sachs, in their Brookings paper (1984), made an extremely ingenious effort to show that the present concatenation of divergent fiscal and monetary policy can be explained in terms of rational behavior by governments with different preference functions working within a common framework of understanding about how the world works. The fact is, however, that there is a much more plausible explanation of what has happened, namely that the major countries are now basing their policies on quite *different* models of how the world works.[1] What I find so frustrating is that, as set out in my Graham Lecture,[2] it should be obvious to all reasonable economists that there is something profoundly wrong with the national and international mix of monetary and fiscal policies currently being followed by the major industrial economies. And yet – despite the renewed academic interest in macropolicy coordination – the work done so far seems to have confused the issues as much as it has clarified them.

Where does this leave us as far as the application of our nice new tools? My feeling is that it should lead us back to having a further look at the models themselves. There is really not much point in playing around with optimization techniques when, as Matt Canzoneri pointed out, both academics and governments disagree not only about the magnitude but also often about the signs of the spillover effects of different policy actions in multi-country models.

Three quick points about the models. First, they are still not tracking exchange rates at all well over the time horizon relevant to macropolicy making. Moreover, I suspect that the potential for stabilizing speculation with respect to the sort of 3–5 year cycles we are seeing is diminishing. If

so, it follows that exchange rates are likely to move more in response to given changes in monetary and fiscal policies than in the past – and hence by more than suggested by our models.

Second, the models need to deal more explicitly and empirically with debt accumulation, both national and international. How far can a government pile up debt domestically before this puts upward pressure on real interest rates? How far can a country pile up external debt before this exerts downward pressure on the exchange rate? In many cases, e.g. the United States, we tend to assume that these causalities lie outside the time horizon of the policy simulations. But although this may be true in the sense that the lags are long, it is surely unwise to ignore them in exercises directed toward the optimization of national and international macropolicies.

Third, I am suspicious of models which suggest that it can pay off for a country to export inflation now through an over-valued exchange rate and then later re-import it when the rate has to come back down to its equilibrium level. I strongly believe that this underestimates the irreversible damage done to the structure and dynamics of the economy concerned by prolonged periods of misalignment.

Apart from improving the models, what else could be done? It might be fun to play around with a system in which different countries are basing their policies on *different* models, and then see what happens to each country's welfare according to its own preferences depending on which model turned out to be right. Second, it might be useful to extend Sachs' work on countries' revealed preferences to test how time consistent they are and what is the minimum necessary level of international consistency (all countries cannot have a shadow price for foreign exchange above one – at least not for long). Work along these lines might at least help to demonstrate how inherently unstable the present constellation of policies really is. But surely the longer term objective should be to develop more realistic models of how the world works, to impose on them a sensible preference function in terms of shadow prices for growth, inflation and foreign exchange (allowing for differences in national tastes so long as they are internationally consistent) and *then* use optimization tools to show that there are important gains to be obtained from macropolicy coordination.

This may sound implausible, but I am less gloomy than Dick Cooper – for a rather gloomy reason. My own reading of the future is that, to use his analogy – we are headed for a rather serious epidemic of economic cholera. If I am right, this could mean that the work we are doing could turn out to have much more practical relevance than seems likely at the moment. The United States is headed for trouble, and is going to discover that it is much more dependent on the rest of the world than it presently realizes.

And history teaches us that it is only when the United States becomes convinced that there is something wrong with the international economic system that things actually begin to happen.

NOTES

1 See my comments on Oudiz & Sachs (1984), 68–71.
2 See Marris (1984).

REFERENCES

Oudiz G. and J. Sachs (1984). 'Macroeconomic Policy Coordination Among the Industrial Economies', *Brookings Papers on Economic Activity*, 1, 1–64.
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