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## Sonderforschungsbereich 178 "Internationalisierung der Wirtschaft"

Diskussionsbeiträge



Juristische Fakultät Fakultät für Wirtschaftswissenschaften und Statistik

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Is there a Need to Coordinate Fiscal Policy among Large Industrial Countries?

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### IS THERE A NEED TO COORDINATE FISCAL POLICY

#### AMONG LARGE INDUSTRIAL COUNTRIES?

Bernd Genser (University of Konstanz)

#### Summary

International policy coordination has been one of the fastgrowing research topics in open-economy macroeconomics in the eighties. Recommendations of economic theory towards coordination of macropolicy at a supranational level, taken up as a guideline in the negotiations of the leading economic powers in the annual summit meetings of the Group of Seven, have been mainly based on game theory. Although the theoretical base for these arguments is widely accepted, the resulting policy cooperation scenario has been questioned recently by an increasing number of economists, who regard international coordination as an expensive and even harmful device in stabilization policy. The paper surveys the basic arguments in these international discussion and weighing the pros and cons shares the position of the opponents to a supranational stabilization policy. But at the same time the need for cooperation among souvereign governments is stressed in the fields of international allocation and distribution.

#### Zusammenfassung

Die internationale Kooperation in der Wirtschaftspolitik ist eines der makroökonomischen Forschungsgebiete, das in den achtziger Jahren in das Zentrum der internationalen Fachdiskussion gerückt ist. Wirtschaftstheoretische Empfehlungen zugunsten einer supranational akkordierten Stabilisierungspolitik, die insbesondere die Verhandlungen in den jährlichen Wirtschaftsgipfeln der (Gruppe der Sieben) führenden westlichen Industriestaaten der maßgeblich beeinflußt haben, basieren vornehmlich auf spieltheoretischen Modellen. Obwohl die theoretische Basis dieser Argumentation weithin akzeptiert wird, mehren sich insbesondere in den letzten beiden Jahren kritische Stimmen, die diese Politikempfehlung im Hinblick auf das Stabilisierungsziel als teuer und volkswirtschaftlich bedenklich ablehnen. Die vorliegende Arbeit gibt einen Überblick über die zentralen Argumentationsmuster dieser internationalen Diskussion und unterstützt in Abwägung der Pro- und Kontraargumente die Position der Kritiker an einer supranational abgestimmten Stabilisierungspolitik. Gleichzeitig wird aber der Bedarf an internationaler Zusammenarbeit betont, die auf Gebieten der internationalen Allokations- und Distributionspolitik ökonomisch unverzichtbar ist.

#### 1. Introduction \*

For a public finance economist the problem of coordinating fiscal policy measures among governmental authorities is not an unfamiliar one. Within a national economy it is the task of fiscal federalism to assign stabilization policy to the most suitable level of government in a multi-level federal system.

The usual textbook recommendation would be as follows. Communities and states in federal systems are perfect open economies without any restrictions on commodity, factor and financial transactions. A local fiscal impulse will therefore be associated with high import leakage, the efficacy of local stabilization policy with respect to local targets will be reduced. As the local fiscal multiplier of governmental expenditures or tax reductions is rather low, there will be little incentive to finance stabilization measures at the local or even regional level. On the other hand local authorities will find it very attractive to act as free riders in stabilization policy as they will always benefit from expansionary measures in their neighbourhood without sharing the costs. This disincentive to engage in local stabilization rationalizes the economic recommendation to attribute stabilization policy to the central governmental level. (In Germany this recommendation is embodied in the German stabilization law of 1967).

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This line of argument also applies to international stabilization issues, because leakage effects tend to reduce the efficacy of fiscal multipliers in open national economies. Increasing interdependence of international markets gives rise to incentives also to national governments not to engage in fiscal policy and to act as free riders. If stabilization

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policy is undersupplied international business cycles will cause higher and longer lasting fluctuations in output gaps and prove more harmful.

Since centralization has reached its constitutional limit at the federal level, the only possibility to avoid welfare losses caused by delayed or lacking stabilization policy is to induce international fiscal policy commitments through voluntary negotiations. The objective of international fiscal policy is thus to overcome national free riding and to diminish national welfare losses due to unemployment, inflation and stagnation.

The question arises whether this fiscal federalism view of stabilization is adequate for the world economy and we could therefore agree on international centralization of fiscal policy by cooperation commitments at least among the leading industrialized nations.

The rest of the paper ist organized as follows. Chapter 2 gives some empirical evidence on rising economic interdependence and on historical attempts to cope with these interdependences through coordinated policy measures. Chapter 3 provides the standard game theoretic arguments recommending international cooperation to avoid welfare losses, when independent national policies lead to a Pareto-inefficient Nash equilibrium. In chapter 4 these game theoretic arguments are questioned. In chapter 5 some further arguments in favour of fiscal policy coordination are presented and confronted with challenging views. Chapter 6 brings in a political economy view of international fiscal policy coordination. The final chapter 7 tries to answer the question pro and contra coordination, considering public sector activities in a wider sense. The conclusion is that international cooperation among industrialized countries is highly desirable with respect to important issues of public finance, but that coordinated fiscal policy should not be regarded as a major point in the agenda of international negotiations.

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## 2. Some Empirical Evidence on Interdependence and Cooperation

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Postwar development in the fifties and sixties was characterized by an international coordination of monetary policy via the Bretton Woods system of fixed exchange rates. There was no agreement on fiscal policy, but at least to a certain extent global harmonization of fiscal policy was favoured by the widespread acceptance of Keynesian demand management as well as by the necessity to reconstruct economies after the damages of the war in Europe and Japan.

The disturbances in the world economy since the breakdown of the Bretton Woods regime and the first oil shock have led both academic economists and national policy makers to call for international cooperation in monetary and fiscal policy. Shrinking national products, stagflation and the high volatility of interest and exchange rates have also led the OECD to recommend an internationally coordinated course to promote stabilization, structural adjustment and growth (cf. Artis/Ostry 1985, Fischer 1987).

Attempts to follow such a coordinated macropolicy have been undertaken. The Carter administration favoured a common strategy for global economic recovery in the seventies, which is known as the "locomotive approach". The leading economic powers were called to expand and to end the global recession after the oil shock. This strategy was accepted at the summit meeting in Bonn in June 1978. The major industrialized countries agreed to

- correct the unbalanced growth between the US and Europe
- to reduce the imbalances between the US deficit on current account and the Japanese surplus
- to reduce the international dependence on imported oil.

Coordination of fiscal policy comprised a reduction of the fiscal impulse in the US as well as a modest tightening of

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monetary policy to bring down the high rate of inflation. On the other hand global demand was stimulated by expansionary measures in Germány (fiscal impulse +1% GDP), Japan (+1%) and France (+0.5%). The result of this policy was a slow-down of US growth (5.2% in 1978 to 2.0% in 1979), whereas the other large industrial countries caught up by keeping their growth rate of 1978, which generally turned out considerably higher than expected before the summit agreement. (cf. Bean 1985)

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The economic performance was regarded as a success by OECD officials, who found the composition of GNP growth significantly improved in the OECD area and advocated further cooperation. Nevertheless, the long run success of the summit measures could not be proven since coordinated policy ended when the second oil price shock occurred in 1979.

In the early eighties, real interest rates rose to unprecedented high levels in all industrialized countries and moved down again after having reached their peak in the third quarter of 1983. Real exchange rates showed fluctuations of a similar kind. After its bottom touch in 1980 the value of the US-Dollar rose dramatically and reached its peak in the beginning of 1985. When the US relaxed their tight monetary course and interest rate reductions had been approved in monetary summits (Plaza agreement in September 1985 and Louvre agreement in February 1987) the US-Dollar depreciated rapidly. On the other hand inflation rates moved down in the eighties whereas unemployment rates increased even further and economic growth rates remained below those of the sixties and the seventies.

In the eighties, fiscal policy in the industrialized nations showed a rather different pattern. Whereas the US followed a policy of tight money and fiscal expansion, fiscal consolidation dominated in Europe. Since the international transmission of these fiscal policies is intensified by increasing global trade in goods and financial assets despite tendencies towards a neomercantilistic, protectionist trade

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policy, Frenkel and Razin (1986, 1987) explain the undesirable economic performance of the world economy as a consequence of the different patterns of fiscal policy in the large industrialized countries, thus leading to an implicit recommendation for international coordination.

As a matter of fact the political result of all the summit meetings in the eighties (including the last three in Tokyo 1986, Venice 1987, Toronto 1988) was a general but noncommittal declaration of the large industrialized countries to try to improve the global economic situation by cooperative measures. Thus there is some evidence that national policy makers are willing to sacrifice at least some of their independence in national fiscal policy by accepting supranational priorities.

## 3. Welfare Losses as a Result of Uncoordinated Fiscal Policy

Game theory provides a sound theoretical framework to analyse policy decisions in a multi-country model. Consider two countries A and B, which influence their respective domestic demand by fiscal policy measures  $G^A$  and  $G^B$ .

To keep the model as simple as possible, we assume all behavioural relations to be linear and interest rates and exchange rates to be fixed and concentrate on the goods market exclusively. The equilibrium level of national income y<sup>A</sup> in country A is then determined by

 $y^{A} = (c_{0}^{A} + c^{A} y^{A}) + (i_{0}^{A} + i^{A} y^{A}) + G^{A} + (e_{0}^{A} + e^{A} y^{B}) - (m_{0}^{A} + m^{A} y^{A})$ 

where the terms in the brackets are the components of aggregate demand: consumption, investment, public consumption, exports (consisting of endogenously specified imports of country B and exogenous exports to the rest of the world) and imports. A symmetrical equation determines national income y<sup>B</sup>

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in country B. The reduced form of the equilibrium income levels in both countries can thus be written

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 $y^{A} = a_{0} + a_{1} G^{A} + a_{2} G^{B}$  $y^{B} = b_{0} + b_{1} G^{A} + b_{2} G^{B}$ 

with  $a_1$  and  $b_2$  being the domestic fiscal multipliers and  $b_1$ and  $a_2$  capturing the cross-border multipliers of foreign demand management.

Furthermore we define the trade balance Z=X-M for country A and country B, which are also linear functions of  $G^A$  and  $G^B$  due to the model specification

 $Z^{A} = \alpha_{0} + \alpha_{1} G^{A} + \alpha_{2} G^{B}$  $Z^{B} = \beta_{0} + \beta_{1} G^{A} + \beta_{2} G^{B}$ 

For each country we postulate a trade-off between the two domestic target variables national income y and trade balance Z which is captured by a preference function of the national policy maker (e.g. a benevolent dictator) and which is assumed to be quasiconcave and monotonically increasing in both arguments

$$\begin{split} & \mathsf{W}^{\mathsf{A}} \;=\; \mathsf{W}^{\mathsf{A}} \left( \begin{array}{c} \mathsf{y}^{\mathsf{A}} \;, \hspace{0.5mm} \mathbb{Z}^{\mathsf{A}} \; \right) \;; & \mathsf{W}^{\mathsf{A}} \;_{\mathsf{y}} \; > \; 0 \;, \; \mathsf{W}^{\mathsf{A}} \;_{\mathsf{z}} \; > \; 0 \\ & \mathsf{W}^{\mathsf{B}} \;=\; \mathsf{W}^{\mathsf{B}} \left( \begin{array}{c} \mathsf{y}^{\mathsf{B}} \;, \hspace{0.5mm} \mathbb{Z}^{\mathsf{B}} \; \right) \;; & \mathsf{W}^{\mathsf{B}} \;_{\mathsf{y}} \; > \; 0 \;, \; \mathsf{W}^{\mathsf{B}} \;_{\mathsf{z}} \; > \; 0 \end{split}$$

The decision problem of the fiscal policy maker in country A is thus to maximize the objective function  $W^A$  subject to the model constraints and the fiscal policy decision of the foreign country  $\widehat{G}^B$ .

$$\widehat{W}^{A} = \max W^{A}(Y^{A}, Z^{A}) = \max F^{A}(G^{A}, \widehat{G}^{B})$$

The decisions of the two countries are interlinked and correspond to a two person game. The locus of optimal decisions of the two players can be illustrated graphically (fig. 1) by reaction functions in the  $(G^A, G^B)$  plane. The reaction functions of country A and B are determined by the first order condition  $dF^A/dG^A=0$  and  $dF^B/dG^B=0$ , respectively. The point of intersection of the reaction functions is the Nash non-cooperative equilibrium N, which is characterized by vertical and horizontal slopes of the indifference curves and thus will clearly not be Pareto optimal. Any coordinated expansion which leads to a point inside the shaded area of fig.1 would make both countries better off, but is no equilibrium, since both countries have an incentive to deviate and to increase their respective welfare further by reducing public expenditures. The game turns out to be a prisoners' dilemma game: the two countries are trapped in a situation of low demand and unemployed factors.

To characterize the set of Pareto-optimal solutions one has to consider the capacity constraints, which limit the national income levels. In our model these capacity constraints are linear

 $y^{A} = a_{0} + a_{1} G^{A} + a_{2} G^{B} \leq \overline{y}^{A}$  $y^{B} = b_{0} + b_{1} G^{A} + b_{2} G^{B} \leq \overline{y}^{B}$ 

To give these constraints a useful interpretation we must consider what will happen if country A has already reached its full employment level and export demand increases further due to foreign fiscal expansion. We assume that this excess demand cannot be met or, the other way round, that export demand is crowded out by domestic demand if domestic supply has reached full employment output. Then the indifference curves are kinked at the border line representing the domestic capacity limit and run horizontally or vertically indicating that the target values and the respective welfare levels remain constant.

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Figure 2

In fig. 2 capacity limits constrain the set of Paretoimproving expenditure measures. The set of possible cooperative solutions may be reduced to the core solution, i.e. the set of Pareto-efficient allocations, which guarantee both countries a welfare level that is at least as high as the level they can reach without cooperation. If we assume the capacity constraints to be binding, i.e. we exclude Paretoefficient allocations within the shaded area of fig. 2, then the core can be graphically illustrated as the set of the two line segments QP and PR of the joint capacity frontier<sup>1</sup>. In our example any interior point of QPR might be chosen as a cooperative solution and will improve welfare in both countries.

How much the non-cooperative Nash solution deviates from the core solutions depends on the relative welfare weight posed on trade imbalances. If both countries concentrate on full employment exclusively  $(dW^A/dZ^A, dW^B/dZ^B = 0)$  then the countries' reaction functions will coincide with their capacity constraints and the Nash solution will be Pareto-efficient: nothing will be lost by independent policy decisions.

Welfare gains from cooperation seem obvious in the symmetric two country framework sketched in the simple example. Things become more complicated however, if more general models and games are considered (cf. Hamada 1976, 1979; Johanson 1982, Oudiz/Sachs 1984, Cooper 1985), but basically the result is maintained that the noncooperative equilibria are Paretoinefficient.

Nevertheless an economic advice for policy coordination must balance cooperation costs with potential welfare gains. So quantitative estimates of the welfare losses due to

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<sup>1</sup> Johanson (1982, 260f.) introduces a more sophisticated, although not very convincing mechanism to catch the consequences of national capacity limits leading to a joint straight-line capacity constraint in his two country world.

noncooperative policy strategies are needed. Gilles Oudiz and Jeffrey Sachs (1984) have tried to estimate the gains from cooperation based on two different large-scale econometric models - the Japanese Economic Planning Agency Model (EPAM) and the US Federal Reserve Board's Multicountry Model (MCM) for the three economic powers US, Japan and Germany. They based their quantitative results on revealed preferences for three national targets: gross national product, inflation rate and current account for a three years estimation period 1984-1986.

It turns out that all countries gain by a coordinated policy of monetary expansion and fiscal contraction (cf. Oudiz/Sachs 1984, 45 ff.). Due to both models coordination proves most beneficial to Japan but nevertheless the welfare gains are rather small as compared to the optimal uncoordinated Nash policy benchmark.

#### Table 1:

National welfare gain<sup>a</sup> from policy coordination

Model	US	Germany	Japan
мсм	0.17	0.33	0.99
EPAM	0.03	0.03	0.37

<sup>a</sup> measured in equivalent annual percentage changes of GNP Source: Oudiz/Sachs (1984), 45 ff.

As a second extension the game theory view has to be applied in a dynamic setting, which introduces important further aspects on the cooperation advice (cf. Miller/Salmon 1985, Oudiz/Sachs 1985, Pohjola 1986). First, the national welfare gains look different in a long-run perspective, where secondary responses have to be taken into account. An example is the short-run price-stabilization effect of an exchange rate appreciation brought about by tight money. This effect is likely to be reversed in the longer run when the exchange rate depreciates and inflation is reimported. Thus "beggar-thy-neighbour" policies lose some attractiveness as soon as the planning horizon is enlarged.

Second, national governments are known to think and to plan in incumbency periods. National policy goals will be chosen to maximize the probability of reelection more likely than to maximize long-run national welfare. Though election cycles comprise more than one year, there might be a bias towards a political business cycle in national policy. International coordination might be regarded as a possibility to constrain a purely election oriented policy and to improve long-run national welfare.

A third problem arising in a multiperiod setting is the time consistency of future policy decisions. Since Kydland/Prescott (1977) a huge variety of papers have dealt with the consequences of inconsistent policy plans, which occur if governmental decisions for some current period t deviate from the efficient plan for period t chosen in period (t-1).

Oudiz/Sachs (1985) have studied the coordination problem in a two country model with perfect capital mobility and rational expectations of the private agents. To overcome the time inconsistency and the creditibility problem in this policy setting the authors compared noncooperative and cooperative equilibria assuming intertemporal policy commitments (open- or closed-loop strategies) as well as time consistency. Their results show that noncooperative behaviour generally leads to less desirable over-contractionary policy compared with the social optimum, and it turned out impossible to rank precommitment vs. time-consistent noncooperative policies.

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Using a similar model Miller/Salmon (1985) arrive at the characteristic but still puzzling result that timeinconsistent noncooperative equilibria turn out welfare superior to open-loop time-consistent ones.

Although empirical research in dynamic policy coordination models has only started dynamic game theory in general seems to support the conclusion of our simple static model that international fiscal policy coordination offers potential national welfare gains. The decisive game theoretic argument in favour of international policy coordination is to overcome the "beggar-thy-neighbour" incentive which leads to an inefficient prisoners' dilemma equilibrium.

## 4. The Game Theoretic Case for Fiscal Policy Coordination

Although the game theoretic conclusion that the Nash noncooperative equilibrium will, in general, be Paretoinefficient and thus uncoordinated national policy measures bring about a welfare loss which might be avoided by applying cooperative strategies seems inpeccable within the framework of the multicountry models used, nevertheless some further considerations must be added.

Whether or not the Nash solution is inefficient depends on the model structure of the multicountry problem, on the number and efficacy of the instruments at disposal and on the objective functions which guide national policy.

A first objection against a coordinated policy is that national policy is oriented towards some external target which should not be regarded as a final target in determining national welfare. There is rising criticism as to regard the exchange rate as a useful target variable (cf. Vaubel 1985, 232 f.; Feldstein 1988, 4 ff.). Since the exchange rate in a market system is a price variable, which is responsible for

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equilibrating the countries' demand and supply decisions, there should be high reluctance to accept social loss functions in which this mechanism is hampered by explicit policy targeting. Martin Feldstein (1988, 5 f.) argues that the situation is even worse, as economic agents, aware of this targeting, have an incentive to orientate their financial decisions to expected policy interventions in exchange rates and this behaviour is a source of synchronized activities which may end in severe disequilibrium and financial crises. The stock market crash of October 1987 might serve as a good example illustrating the dangerous consequences of misguided targeting.

A similar view is stressed by the simple static model above, where trade balance targeting based on the assumption of fixed exchange rates turns out to be responsible for the inefficiency of the Nash non-cooperative solution, whereas the inefficiency is reduced and even vanishes if the trade-off between national employment and trade imbalance is lowered.

A third argument against cooperation, especially among the industrialized nations, is that the outcome of such.a collusion might prove harmful for the rest of the world. As long as the cooperative solution does not take into account the welfare positions of the rest of the world, there is high probability that welfare gains to the colluding partners, distributed in the bargaining process, are connected with welfare losses due to the international transmission effects of coordinated measures. This intuitive view might nevertheless be misleading as Turnovsky (1987) has shown recently. In a static three-country trade model he arrives at the result that fiscal policy cooperation between two countries turns out beneficial to the noncooperating third. Nevertheless further welfare gains are available if cooperation is extended to all three countries.

A fourth objection to policy coordination is the "Rogoffparadox" (cf. Rogoff 1985). Rogoff has shown in a model that

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cooperation may even be associated with efficiency losses, if coordinated policy influences the behaviour of economic agents. In his model domestic wage setters, who in perfect foresight anticipate higher inflation as the result of cooperation, raise nominal wages, and so actually depress national welfare. Although Rogoff's result must be regarded as a very special example, it severely questions the general game theoretic arguments of a superiority of cooperative solutions. It should serve as a warning that the methodology of differential games, revealing the problems of time inconsistency and credibility of precommitments influencing the behaviour of economic actors must be seen as a serious impediment against a general recommendation of negotiated policy.

A final point to question results of coordinated policy recommendations is the implicit assumption that the model of the world underlying the analysis is correct. But as an inspection of different large-scale econometric models used for policy analysis in industrialized countries shows, these models differ in their explanations how the world economy works. Jeffrey Frankel and Katharine Rockett (1988) have checked international policy recommendations using ten leading multi-country models, and the result was disillusioning. In about 45% of about 1000 simulation runs the coordinated policy advices which promised a welfare gain to the US due to a certain model showed a welfare loss, if the same policy was analyzed in a competing model. About the same results turned out for the other OECD countries. The results also did not change for an extended policy coordination using more instruments. Moreover, Frankel (1988) extends those results and hints at further obstacles to international cooperation via uncertainties about the correct initial position of the national economy, and uncertainties about the correct welfare weights attributed to the policy targets.

The confidence in coordinated decision making decreases all the more as modern macroeconomic theory seriously doubts the

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adequacy of traditional macroeconometric models, especially in the long-run perspective (cf. Mankiw 1987). It is therefore questionable whether policy coordination will prove fruitful even if all cooperation parties agree on a model and a coordinated policy programme, but a wrong one.

#### 5. Some Further Arguments in Favour of Coordination

Whereas the inefficiency of the Nash noncooperative equilibrium is the impeccable basis of coordination recommendations from a rigorous theoretical point of view there can frequently be found other arguments in favour of negotiated policies.

A first line of argument is based on assignment theory. Cooperation according to these considerations is advocated, because

- economic targets might be conflicting among nations and thus any attempt to approach these target values by independent policy would be both in vein and harmful to all participants,
- stable global equilibria might not be attained because domestic instruments should be assigned to foreign country targets, which will not be done if countries consider only their own targets,
- welfare costs of approaching a feasible international optimum might be higher with decentralized decision-making since it may take longer to arrive at the desired "bliss" point than by choosing a coordinated strategy from the beginning.

Although all these arguments have some appeal (cf. Vaubel 1985 for a detailed collection of arguments) they should not be accepted as decisive to give up decentralized policy making. Conflicting targets (obvious examples are of course exchange rate or current account balance targets) are less harmful if national policy follows a flexible-target approach (Theilapproach) instead of a fixed-target approach (Tinbergenapproach). The trade off between national target deviations will in general (although not always, e.g. if there are limitational constraints which a country is not willing to exceed in the trade-off) allow to reach an international equilibrium and to escape a disastrous depreciation run.

The comparative advantage of cross country targeting cannot be excluded theoretically, but the importance of the argument has to be qualified empirically.

Finally, the efficacy of independent national policy depends on its timing and implementation compared with an efficient centralized policy. If national policy makers are well informed about the state of international economies and their policy decisions, then there is no reason to maintain that decentralized decisions should be generally ill-timed and biased in comparison to internationally coordinated ones.

A second strand of argument considers uncoordinated fiscal policy as an externality phenomenon, which creates market failure. To justify that view one has to show that the international transmission of fiscal policy does not only give rise to demand and supply effects which are equilibrated by international price changes and thus must be regarded as Pareto-irrelevant pecuniary externalities but that there are additional real externalities.

It might be argued that Pareto-relevant real externalities are present if prices cannot do their job, but are sluggish as macrotheory assumes for commodity prices and wages in the short run. Vaubel (1985, 231) holds against this view that the adjustment lag may stem from rational behaviour of economic agents to adjust their plans only if real changes have proved to be permanent. Thus only price rigidities due to institutional barriers hamper market adjustment and cause efficiency losses. But even then policy coordination would only be a second best response since first best policy would be to improve the flexibility of prices and competition.

Another kind of externality occurs if fiscal measures in a country bring about real spillovers (traffic, trade, pollution etc.). These transnational externalities can usually only be internalized via direct negotiations. But it must be stressed that the case for negotiations is not the stabilization target, but rather the definite use of public funds providing goods which imply this transnational collective consumption property and distort the efficient allocation of resources.

Roland Vaubel (1980, 18 ff.) even turns the argument upsidedown and postulates the desirability of uncoordinated macropolicy referring to Friedrich Hayek, who stresses the role of competition not only as a mechanism of allocation but also as a mechanism of discovery. If governments are forced to find out the best of all policy mixes at their disposal, national experience with successful and harmful policy programmes will contribute to the common knowledge and will improve the informational base of national policy makers in all countries. International policy arrangements in Hayek's sense will also push up the danger of a country being trapped in internationally coordinated fiscal misconceptions.

It must be noted however that the idea of perfect competition in fiscal policy is misleading, if one expects competitive fiscal policy to converge towards Pareto-efficiency for an increasing number of small countries. As Patrick Kehoe (1987) has shown the strategic trade argument for optimal tariffs does not have an analogue as regards fiscal policy and in an atomistic many-country world noncooperative government spending will usually remain too high or too low depending on the transmission effects of macropolicy between the countries.

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Being aware of the objections there does not seem to exist a compelling support of internationally coordinated stabilization policy by either assignment theory or externality theory. Nevertheless the discussion very clearly reveals the importance that governmental authorities keep in touch with each other, be it to provide an adequate information base for independent fiscal policy decision in open economies or be it to improve international allocation by negotiations on Pareto-relevant spillovers.

## 6. A Political Economy View of International Fiscal Policy Coordination

Up to now we have regarded policy makers as benevolent dictators, who value national targets according to an agreed national welfare function and choose instruments to reach the optimal outcome for their citizens. But public choice theory argues that the purely instrumental view of policy makers is inadequate, and policy makers should be treated as rational individuals who try to follow a policy which is most profitable for themselves, e.g. to secure majority assistance to win the next election and to stay in charge.

There is considerable theoretical and empirical support for policy models which explain the behaviour of politicians to increase their power, their staff, their budget, their wealth, their prestige as much as is compatible with majority assistance.

If governments use macropolicy measures to increase the probability of their reelection, political business cycles should be identified. How does the international policy cooperation fit into this "new political economy" picture?

Successful and credible policy coordination can only be made by the leading national politicians, e.g. in summit meetings. Although summits have been organized annually since 1975, they still attract high attention in press and TV and thus increase the national prestige of the incumbent politicians. So policy makers are interested in keeping discussions on macropolicy coordination going on to secure the economic justification for regular summits. International reputation by summitry gives them an advantage over their less reputable competitors in national elections.

Unpopular fiscal policy measures - usually expenditure cuts or tax increases to keep the budgetary constraints - which jeopardize government popularity might be mitigated, if they could be justified through international commitments. So international cooperation might be regarded as a rather comfortable way for an incumbent politician to evade domestic criticism and political responsibility.

Cooperation agreements in fiscal policy serve as an excuse against criticism on lacking political activity and poor economic performance of the domestic economy. Politicians will succeed in qualifying undesirable situations as short-run harms of a policy programme which will prove advantageous in the long run the more if there exist long-run international commitments. There is some recent evidence in Germany to justify higher excise taxes and higher deficits by additional financial pressure of the European Community.

Moreover, international coordination of fiscal policy will offer an extended playing field for rent-seeking activities, especially for lobbies who operate internationally. By coordination the returns on rent-seeking investments may increase considerably if an advantageous policy can be achieved, not only in the home country but also abroad.

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#### 7. Is There a Need to Cooperate in Fiscal Policy?

Summing up the theoretical and empirical arguments in favour of fiscal policy coordination among large countries, one has to weigh the pros and cons.

Although game theory is able to provide impeccable support to switch from independent to coordinated macropolicy within a multi-country model economy, obstacles based on practical problems of coordination design do not recommend international cooperation as a promising fiscal policy scenario. This judgement might seem pessimistic and regrettable to everybody inclined to give cooperation a positive valuation per se. But I think the negative judgement is compelling if one takes into account the potential shortcomings of the cooperation device.

Costs of cooperation will be high, according to disagreement on the explanatory power of global models, according to disagreements on the international distribution of expected welfare gains and costs, and according to rigidities imposed on national policy making by coordination rules. Moreover, these costs have to be weighed against global welfare gains through coordination, which first empirical analyses estimate to be rather small.

Assignment or externality arguments do not provide convincing support for policy coordination, but offer useful insights to avoid obstacles to more successful national macropolicy.

To question the efficacy of institutionalized international cooperation in fiscal policy does neither mean to dismiss multilaterally coordinated policy measures in certain economic situations (e.g. between highly interdependent countries) nor to discredit cooperation among governments with respect to policy objectives besides fiscal stabilization. There is no disagreement among economists that international cooperation is indispensable to avoid global welfare losses associated with international public goods or with international externalities or with the international distribution of income and wealth. Furthermore there is no disagreement that an improvment of the information base of national policy with the help of the exchange of statistical data on economic performance, on national targeting and on policy programmes is desirable. Compared with these substantial requirements for international cooperation, fiscal policy coordination is but one minor point in the agenda of multilateral negotiations and economic summits.

Nevertheless it must be stressed that a firm recommendation towards a centralization of fiscal policy might not only be useless but even counterproductive at least for two reasons.

The politicians of the leading nations should not be offered the opportunity to shift political responsibility for fiscal policy to some international authority and supranational stabilization targets. Macropolicy must remain a pre-eminent issue of national economic policy in every single country and must remain subject to democratic control in national elections.

Disagreement on institutionally coordinated fiscal policy measures as well as a loss in credibility, if countries depart from internationally agreed policy programmes, are most likely to arise. But fiscal policy should not be come the stumblingblock which jeopardizes economic cooperation in those fields, where coordination is economically indispensable and truly essential.

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