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Prior Agreement or a Competitive Process?

by

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**The Harmonization Issue in Europe:
Prior Agreement or a Competitive Process?**

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Establishing the single market in Europe raises the question to what extent Europe needs a uniform institutional arrangement in which private decisions take place. A basic issue is whether uniformity in the institutional arrangement is needed at all and whether institutional variety is not a merit per se allowing individual and national preferences to play.

Besides this issue of the role of the subsidiary principle or a more centralized versus a federal structure with some European skeleton law, the problem of institutional uniformity or variety relates to the time dimension of integration. Does the single European market require ex-ante harmonization of national policy instruments and of national institutional arrangements or can harmonization be delegated to a competitive process between the institutional arrangements of European nations?

The strategies of ex-ante versus ex-post harmonization have an important feedback on European integration. If ex-ante harmonization is the appropriate approach, the institutional arrangements of the twelve European countries have to be adjusted by a bargaining process in Brussels. If a competitive process is relied

upon, harmonization will occur over time, and the solution will not have to be found right away. Moreover, the extent of harmonization will be determined in a decentralized process of private decisions and national policy choices.

In comparing the two approaches of ex-ante and ex-post harmonization we simplify the issue of the correct organizational layer of economic policy in a European setting. For instance, the European level itself has developed different forms of legal acts which have different implications for the member countries (Emerson, 1989). In EC law, a regulation is binding for the member states (trade policy law). A directive specifies a target, but implementation, more specifically the form of implementation, is left to the member states (legislation in financial services). A decision is binding for those to whom it is addressed (subsidies). Coordination is voluntary (monetary policy). Mutual recognition is a national policy act, but it is enforceable under EC law. Besides these forms of legal acts, harmonization at the EC level is influenced by the interplay of the commission, the council, the parliament, the court of justice and the committees.

In this paper, we study the two approaches of ex-ante and ex-post harmonization. In Section I, we look at the country-of-origin principle and the resulting arbitrage of households and firms. In Section II, the problem is analysed whether institutional competition leads to zero regulation or whether there are some lower limits below which government activity will not fall. In Section III, we discuss areas in which institutional competition cannot or may not be applied.

I. The Country-of-Origin Principle and Institutional Competition

1. Market Segmentation

The basic strategy of creating a single market in Europe is to abolish or reduce market segmentations that still exist. Segmentations imply that a party on one side of the market cannot contract with all potential parties of the other side, at least not without substantial costs. Arbitrage is restricted.

Market segmentations still prevail in the form of border controls, market entry barriers, to some extent in quota systems (national "grandfather" quotas in automobile imports, multifiber quotas, agricultural quotas), and in distortions due to national subsidies.

Border controls are due to statistical purposes, to differences in indirect taxation and to the enforcement of national regulations. With the principle that the value added tax is levied in the country of destination (country-of-destination principle), reimbursement for intra-European exports requires the statistical monitoring of exports if the tax rates differ as they do (Table 1).

Market entry barriers arise from differences in national regulation, mainly from product norms and licencing of production or servicing activities. Product norms such as technical standards may be the outcome of voluntary decisions of private agents, and they may be the result of legislation (product norms for

pharmaceutical products and hazardous material, licencing of new products in the chemical industry, environmental product standards). Market entry (and exit) conditions for firms are the result of licencing processes (land use planning, activities with environmental impacts, airline industry, banking and insurance). Entry barriers are not only influenced by the system defining entry per se, but also by national regulations on the conduct of business such as the licencing of freight rates, insurance rates and conditions of the banking industry. Barriers to market entry may also be due to specific forms of property rights as in common

Table 1: Rates of the Value Added Tax (1989)

Country	Reduced Rate	Normal Rate	High Rate
Belgium	6 and 17	19.0	25 and 25 + 8
Denmark	0	22.0	-
Fed. Rep. of Germany	7	14.0	-
France	2.1, 5.5 and 7	18.6	28 and 33 1/3
Greece	3 and 6	16.0	36
Ireland	2.4 and 10	25.0	-
Italy	4 and 9	19.0	38
Luxemburg	3 and 6	12.0	-
Netherlands	6	18.5	-
Portugal	8	17.0	30
Spain	6	12.0	33
United Kingdom	0	15.0	-

carrier problems (electricity). Finally, public procurement is a reason for severe entry barriers (postal services, telecommunications).

2. The Philosophy of the Country-of-Origin Principle

When the Common Market was established in 1958, the approach was to create a common European institutional setting by explicitly harmonizing the legal systems of all European countries. In the last years, this approach has lost ground due to the experience that an ex-ante harmonization proved to be impractical.

In its "Crème-de-Cassis" ruling of 1978, the European Court of Justice established that a product legally brought to market in one country of the EC can automatically enter the markets of the other countries. Thus, in trade of products, it is not the regulation of the country of destination but of the country of origin that applies. By mutually recognizing the institutional arrangement of the country of origin, ex-ante harmonization is not required. The commission is determined to extend this principle to the service industry: a service allowed according to the rules of one country is allowed in other countries under the norms of the country of origin.

An important ingredient of the country-of-origin principle is the arbitrage of households and firms. With markets no longer being segmented, households and firms can take advantage of price differentials in the commodity and factor markets. Households will buy the commodity with the lower value added tax or they will

shop in the country with the lower indirect tax rate. Trading houses, direct mailers and wholesalers will have scope for arbitrage between different countries. Firms will exploit price and factor price differentials and differences in regulation. Location arbitrage will be the reaction to differences in production and business taxes, in market entry regulations, in environmental policy, in wage rates and labor market conditions and in price differentials of other immobile factors. Firms will migrate, at least with their expansions, to the most favorable location.

Location arbitrage results from the interplay of mobile and immobile factors of production and endowment. Immobile factors, including the institutional setting, determine the price of the mobile factors before arbitrage takes place and thus influence the attractiveness of a region (nation). After arbitrage, prices for mobile factors should be equal.

The arbitrage of consumers and firms will show which national regulatory system is best in the eyes of the consumer or the producer: national regulation has to pass a litmus test of private agents voting with their purses and with their feet. Apparently, there will be pressure on national regulations to adjust over time.

The advantage of the country-of-origin principle and of institutional competition is that harmonization is an open-ended process, the results of which are not known ex-ante. Thus, institutional competition can be interpreted as an exploratory device in the sense of Hayek (1968). Another advantage is that harmoniza-

tion is not undertaken ex-ante at the political bargaining table under the influence of the interest groups, but it follows from an anonymous market process in which the power of interest groups evaporates, at least to some extent. This relates to issues of taxation, product standards which no longer can be defended by a national interest group, and market entry conditions. Moreover, a competitive process may prevent rent-seeking in regulation at the European scale.

3. Applications of the Country-of-Origin Principle

Typical examples where the country-of-origin principle can be applied are different value added tax rates, market entry conditions for products and firms and regulation of the service industry.

In actual practice, the value added tax is paid by the final consumer in the country of destination. Tax receipts accrue to the country of destination. Without border controls and with the country-of-origin principle, the value added tax will be put on sales and will be collected from the seller (who shifts it to the buyer). The tax is received by the country of origin. The Commission (1985) proposes that the value added tax paid by the buyer should be deductible irrespective of the country in which the tax was paid. Thus, private agents of the importing country would deduct the tax levied by the exporting country, but the importing country would not receive the tax levied by the exporting country. Therefore, the Commission proposes aligning tax votes within certain boundaries and establishing a clearing system whereby the

exporting country would transfer some of its receipts to the importing country. This would imply that high rate countries pay a transfer to low rate countries. Such an arrangement seems impractical.

The alternative is either to harmonize the tax rates ex-ante which again seems to be difficult or to apply the country-of-origin principle. The country-of-origin principle would allow different tax rates to exist; they would induce arbitrage by households and firms. Eventually, if arbitrage of households and firms leads to results that the policy maker dislikes, differences in tax rates will be reduced. Note that different rates can be partly compensated by a realignment of the exchange rates (see below).

In the case of taxes on labor or capital income or on business activities, the need for harmonization again depends on the potential for arbitrage. Labor - except high skilled labor - may be regarded as immobile, so that income taxes may differ unless these taxes influence the supply of labor and unless they are shifted to the firms where location arbitrage is possible.

There is scope for arbitrage in the case of capital income taxation. Corporate tax rates vary among European countries between 56 percent in Germany and 35 in Britain (10 in Ireland); these differences influence the location of firms and investment (Giovannini, 1989). However, if tax rate differentials mirror differences in the supply of public goods (that are relevant for firms), firms will not migrate to low tax countries. With that

qualification, we can expect countries to lower the corporate income tax if they lose too much investment.

Individual capital income tax rates differ among European countries; such differences influence the location decision of managers and consequently the location of headquarters. Individual income tax rates also influence the mobility of portfolio capital (of savings). As a rule, the residence principle is applied where domestic residents are taxed on all their capital income including foreign source income. This seems to be analogous to the country-of-origin principle. Even neglecting informational problems with respect to the foreign source income, differences in personal capital income taxes would imply arbitrage in the relocation of residents; if informational aspects are included individuals will be able to exit from the national regulation.

Product norms represent another potential application of the country-of-origin principle. According to the Crème-de-Cassis ruling, the product norm established by one country is not mandatory for other countries. Mutual recognition of norms makes ex-ante harmonization unnecessary. The sovereign consumer can be assumed to be well informed. Also, one can rely on individual interest in reducing transaction costs, for instance by establishing technical norms.

Only when the sovereign consumer cannot be relied upon because information costs are excessive and the risks of non-information are too high (health hazards) may product norms be called for. Product norms may also be relevant when a consumption good gener-

ates pollutants when being used so that the individual agent can behave as a free rider. National product norms represent barriers to market entry. In order to prevent segmentation of the single market, ex-ante harmonization may be in order. Apparently, it is not easy to draw the line between products where one can rely on the sovereignty of the consumer and where this is not possible (Siebert, 1989a).

National barriers to market entry arise from regulations that are intended to protect the consumer (insurance rates), to prevent a breaking down of the banking system (bank regulations), to protect a specific sector (railroad relative to trucking; the national airline) or semi-governmental organizations (postal services, public television). Here the country-of-origin principle would allow a firm to enter the market of another country under the regulation of the country of origin. The abolition of market entry barriers by a competitive process between the national regulations may be the most important mechanism to give a stimulus to the single market. Admittedly, where semi-governmental organizations are involved, the competitive process may not be allowed to play.

4. Arbitrage and Exchange Rate Effects

A potential for arbitrage of households and private firms may exist for a specific commodity or for a specific industry or it may relate to a rather broad category of cases. For instance, the value added tax refers to all commodities, a business tax affects all sectors. In these cases where national regulations affect a

broad range of commodity or factor prices, location arbitrage can be reduced by a realignment of the exchange rate.

Consider differences in the value added tax rate among countries. Take a German export good at the net price (value added) of 100 DM which costs $100 \text{ DM}/w_0 (1 + 0.22)$ in Denmark when the principle of destination is applied. $1/w_0$ is the exchange rate dkr/DM and 0.22 is the Danish value added tax rate. When the country-of-origin principle with the German rate is used, the German good will only cost $100 \text{ DM}/w_0 (1 + 0.14)$ dkr at the prevailing exchange rate, and arbitrage induces an increase in German exports. Such a rise in German exports will be completely offset by a new exchange rate w_1 , that is by a depreciation of the Danish Kroner. The necessary change in the exchange rate, \hat{w} , is given by¹⁾

$$\hat{w} = 0.14 - 0.22w_1/w_0$$

or in general form

$$\hat{w} = t - t^*w_1/w_0 \tag{1}$$

where t , t^* are the tax rates of the home and the foreign country, respectively. Note that the appreciation of the DM exactly offsets the change in the tax rates applied so that the price in Denmark does not change.

For a German import from Denmark, the same story holds. With the destination principle, a Danish product with a net price of 100 dkr costs $100 \text{ dkr}w_0(1 + 0.14)$ in DM, and with the principle of

origin it costs $100 \text{ dkrw}_1(1 + 0.22)$. An identical price in DM again requires the same condition as above. An appreciation of the DM will completely offset the difference in the rates of the value added tax leaving the price in Germany unaffected. Thus, if the realignment of the exchange rates is taken into consideration, a once-and-for-all realignment is sufficient to allow differences in the tax rates.

Assuming a balance of trade of zero, neither the Danish nor the German tax receipts from the value added tax are affected. Denmark exports and imports the same volume, X and M respectively. The net price of the German export good p in DM and of the Danish export good in Danish Kroners, p^* , is given. Denmark taxed its imports and loses taxes of Mp^*/w_0 , Denmark did not tax its exports, and it now has a tax revenue of Xp^*t^* . The change in tax income is equal to

$$dT = t^*(Xp^* - Mp/w_0) = 0$$

for a zero balance of trade. Similarly, Germany has the same tax income.

In the above analysis we have assumed a uniform tax rate for all commodities in each country. Consequently, the results are somewhat affected if different rates apply for different categories of commodities. However, tax rates differentials for non-tradables will not have a direct impact on the exchange rate. Reduced rates of the value added tax tend to apply to non-tradables where arbitrage and exchange rate effects will not arise.²⁾

It should be noted that this exchange rate effect is operating in other important cases as well, albeit imperfectly. Thus, an increase in wage costs implies a depreciation of the currency which restores overall competitiveness while not completely offsetting the loss of comparative advantage for labour-intensive goods. Or a stricter environmental policy will reduce the comparative advantage of pollution-intensively producing sectors and will imply a depreciation of the home currency. Note, however, that depreciation now has a sectorial impact in favoring those sectors that are not labor or pollution-intensive.

5. Harmonizing Differences in Endowment?

International trade and arbitrage in a single market is a reflection of differences in endowment between countries or regions. Sometimes the debate on harmonization is misunderstood as harmonizing differences in endowment. This is not possible. A single market has to take advantage of differences in endowment with respect to climate, land, capital and labor. Thus, prices for immobile land (including location space and housing) will tend to be different because factor price equalization cannot be expected to work all the way in reality. This also holds for wages, if specific types of labor are immobile.

It can be expected that wages and the social security system will differ for a long transitional period. After all, the different countries are in different stages of development. If wages and social security arrangements were harmonized up to the level of France and Germany, the comparative cost advantages of the Medi-

terranean countries and Ireland would disappear, unemployment would result and these structural problems could never be financed by an intra-European transfer mechanism.

II. Institutional Competition to Zero Regulation?

Does the country-of-origin principle not imply that regulation including taxation will be competed down to zero? If so, the competitive process may not be attractive to quite a few people.

In order to answer that question, let us describe a very simple, but at the same time a very general structure of the problem of optimal government activity in the two-country case. Consider a public good U and national output Y consisting of private goods only. Then total output of the economy is an index composed of the public good U and private goods Y , where the index may represent the utility function of the policy maker (or the utility function arising from an aggregation procedure such as voting).³⁾

$$W(U, Y) \tag{2}$$

Using a policy instrument α , the government can provide the public good U with

$$U = U(\alpha) \quad \text{with } U_{\alpha} > 0, \tag{3}$$

but not without opportunity costs in terms of Y

$$U = G(Y) \quad \text{with } G_Y < 0, \tag{4}$$

where equation 4 represents the transformation space.⁴⁾

In this approach, U may represent such public goods as infrastructure capital, environmental quality, price level stability, prevention of contagious diseases as well as merit goods. Conceivably, U may not be a public or merit good at all, but a target variable of the policy maker such as protecting a specific industry.

The policy instrument α may denote the level of policy instruments such as expenditure and taxation, regulatory measures, emission taxes or the money supply. Together with the constraints 3 and 4, the utility function determines the optimal level of both U and Y and of the associated policy instrument α .

A richer structure of the problem has to specify the restraints more carefully, for instance identifying the policy instruments⁵⁾ and modelling the transformation space between U and Y more precisely.^{6), 7)}

Figure 1 illustrates the optimality condition for the two targets. Curve TT is the transformation function between U and Y , specifying the marginal rate of transformation of two policy targets. II is the indifference curve.

Figure 1

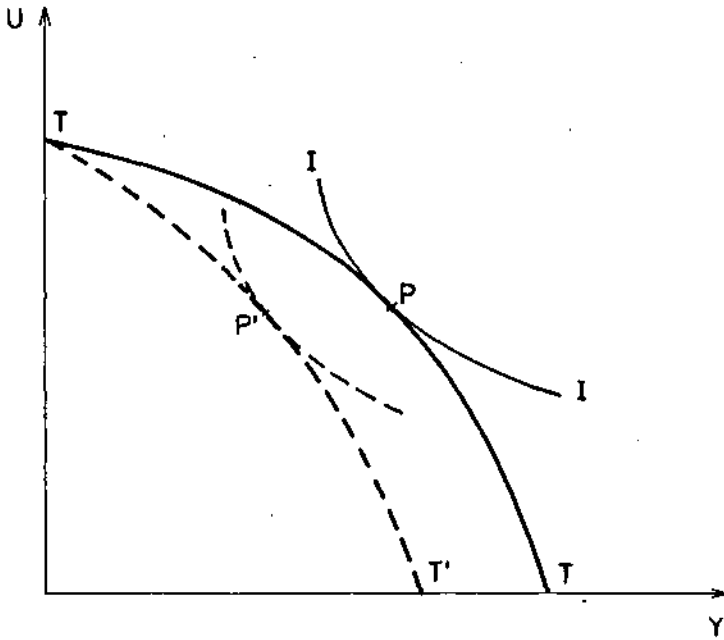
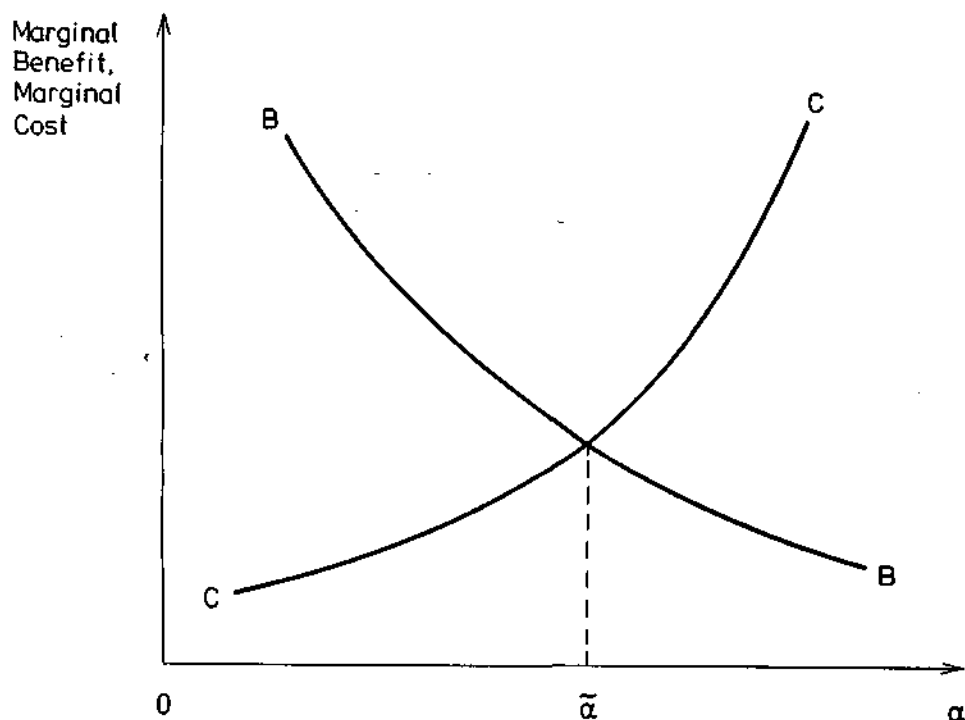


Figure 1 may be translated into the usual cost-benefit diagram (Figure 2). The curve BB denotes marginal benefit of different policy levels α in terms of the public good U and curve CC indicates marginal costs in terms of Y. The optimal policy level is determined at α . In technical terms, marginal benefit is defined as the rate of substitution between Y and U.

$$-\frac{dY}{dU} = \frac{\delta W / \delta U}{\delta W / \delta Y}$$

which is falling with U (and α). Marginal cost is the rate of transformation $dY/dU = -G_Y$ which is increasing with U (and α).

Figure 2



Under the conditions of a single market with institutional competition, both U and Y not only depend on the policy level at home but on the policy level α^* abroad, so that we have

$$U = G(Y, \alpha^*) \quad (5)$$

The transformation space of the home country is affected by the policy instrument in the foreign country, α^* .⁸⁾ For instance, environmental quality U may depend on the level of environmental regulation abroad, α^* . Take the case where firms relocate to a country with a less strict environmental policy. Assume a less strict environmental policy abroad. Then the foreign country may attract resources from the home country and the home country's output may fall. At the same time, reduced production in the home

country improves environmental quality there. Thus, the transformation function 5 of the home country will shift with a change in the policy parameter α^* of the foreign country. In Figure 1, a bias in the shift to the favor of the public good has been assumed. The competitive use of the mobile factors may exhibit a zero-sum property of location arbitrage, but other interlinkages may exist as well. Economic growth in one region may represent a demand pull for the other area, and an increase in intra-industry trade may benefit the other area as well. In these cases, a positive sum game exists.

Institutional competition means that countries compete with their policy instruments. Does this competition imply that the process will reach a level of government activity of zero? The answer is no, because there are opportunity costs. Let us consider the foreign country reducing its activity level α^* . The foreign country incurs costs in terms of the public good foregone. On the margin, these opportunity costs are rising progressively. For instance, a country weakening its environmental policy instruments will experience an increase in marginal damage. Thus, there is a brake on a downward process.

Another case in point is the difference in the rates for the value added tax. Does institutional competition not imply that the tax rates will be driven down to zero? Granting that a country can improve its competitiveness by reducing its tax rate on the value added if the country-of-origin principle is applied, opportunity costs are involved in reducing the tax rate. Lower tax receipts will imply an increase in non-value added taxes or a

reduction of government spending for public goods or for social policies. Thus, there must be a point where the marginal benefit of reducing tax rates is offset by the opportunity costs. Consequently, a competing down to zero taxation will not take place.

An additional argument is that both national output Y and the public good U in the home country may be affected if α^* is reduced according to equation 5. Consider a shift of the transformation space to the left. Then, apparently, the home country will have to choose a new optimal point P' . Note that in Figure 1, for a given α (and U), the marginal rate of transformation, that is opportunity costs, is lower so that the marginal cost curve CC in Figure 2 shifts downward. The marginal damage curve in Figure 2 will shift, too, because for a given α (and U) Y changes. Thus, the lower limit of regulation and the policy level will not only be influenced by the rising opportunity costs of the country taking action, but also of the type of shift of the transformation space of the other country. A competing down process implies that the transformation space of the affected country can be reduced considerably.

The lower limit of institutional competition depends on the nature and the extent of the arbitrage potential. More specifically, if individuals can exit from a national regulation without high costs the lower limit of policy instruments (taxation) may indeed be zero. In cases where individuals can evade taxes without foregoing the consumption of tax-financed public goods, institutional competition will lead to sub-optimal tax rates and an insufficient supply of public goods. Consider the case of portfo-

lio capital where the monitoring of foreign capital income matters. Then the costs of taxation may be high for a large country (France) losing portfolio capital. A small country may actually have benefits from not requiring capital income taxes (Luxemburg). Also note that in the end immobile factors will be taxed, but there may be a limit of acceptability.

Exit from a regulation is not a problem if regulation can be treated as a private good where the benefits and costs of a regulation are specific to an individual and where his or her marginal willingness to pay can be determined. It is only when regulation involves a public good and the individual behaves as a free rider that exit creates a problem.

Institutional competition can be viewed as a strategic game where the optimality condition from maximizing equation 2 subject to the restraints 5 and 6 yields an implicit relation between the policy level α and α^* . This is the reaction function $\alpha = \emptyset(\alpha^*)$ of the home country. An analogous reaction function can be obtained from the foreign country. It would be interesting to study non-cooperative and cooperative solutions in such a framework.

Such an analysis may yield results on the merit of some form of cooperation. For instance, we know from the strategic trade literature that two countries both exporting to a third country can benefit by a mutual arrangement of their export subsidies (Siebert, 1988, p. 570). However, strategic game models very often have extreme assumptions that make them rather irrelevant as a practical policy guide. I here leave open the question to what

extent game theory may suggest some rules for institutional competition in a single market in order to get closer to a cooperative solution.⁹⁾

III. Limits of Institutional Competition

Even without game theory we know that competitive processes require some conditions in order to function. This has been stressed by the Freiburg School of Ordnungspolitik. One such condition is the existence of clearly defined property rights. Another one is that institutional arrangements are available by which externalities can be internalized. Finally, the issue of constancy in the institutional framework including monetary stability arises. In this section, we study areas in which institutional competition may be questioned and we indicate conditions when institutional competition cannot be applied.

1. Property Rights

Competition in a market necessitates clearly defined property rights. Such property rights may evolve in a market process, but in the regulatory environment of some industries in Europe, the creation of new property rights cannot be the result of the market process. Thus, in order to foster competition in the single market, new property rights may have to be established. A specific case in point are "natural" monopolies caused, for instance, by granting exclusive licences for the running of a common car-

rier (electricity, telephone lines). Here political decisions have to be taken.

2. Competition Policy

In an integrated European market, a competitive process between national competitive policies does not work. For most products, the relevant market is no longer the national but the European and the world market, so that a national competition policy is not a meaningful concept. Consequently, it cannot be left to national competition policy to check monopolies, mergers, cartels, etc., on a European level. Thus, competition policy must relate to the European market, and it cannot evolve from competition among national competitive policies. Only for products with a national distribution can a national competition policy in the sum of the subsidiary principle be applied.

In the interpretation of the Commission, competition policy overlaps with industrial targeting in the high tech area. Here a severe risk of ex-ante harmonization becomes apparent. The sectorial structure will be distorted: large firms in selected industries, benefiting from the single market due to economies of scale and the size of the market, will receive special treatment relative to the small and medium-sized firms. Once an industry is chosen for some form of subsidy and permitted to cartelize, the political process is under a self-imposed pressure to make its decision appear to have been right. Moreover, it is doubtful how the policy maker obtains the information on which sector should be treated more favorably. In order to avoid distortions, it

would be much better not to use a sector-specific approach, but to improve conditions for research and development in general.

3. Environmental Disruption

Environmental problems represent an important example of externalities. Since externalities are in contrast with a competitive process, we have to look for an answer in more detail (Siebert, 1989).

As far as the environment can be treated as a purely national good - for instance a river system specific to one country - the country-of-origin principle can be applied. The trade-off between environmental quality as a public consumption good and as a receptacle of emissions from production is then a purely national problem similar to the endowment with other factors of production. Then, environmental qualities may differ among countries, and environmental policy instruments may differ as well.

Environmental policy instruments such as emission taxes or pollution licences represent a cost factor and can be interpreted as a production tax for pollution-intensive activities. The country undertaking environmental policy will negatively affect its comparative price advantage for pollution-intensively produced goods. Clearly, the loss of comparative advantage represents an opportunity cost to the country undertaking environmental policy. It can be left to the political preferences of the individual European country to what extent it wants to reduce its comparative price advantage for specific products. The principle of the country of origin can be applied. (Siebert, 1987, Chap. 10).

Location arbitrage - an important ingredient of the single market - implies that pollution-intensively producing firms will move to the country with lower environmental restraints increasing environmental stress there. However, the relocation of firms will not imply a competing down of environmental quality for a number of reasons. The nation negatively affected in its environmental quality by attracting industry can use environmental policy instruments in order to protect its environment. Since marginal damages rise progressively with the level of pollution, the country will quickly have an incentive to undertake environmental policy. Moreover, the countries attracting new industries should prevent the mistakes that were made in the polluted regions. For instance, a country may not fully utilize the assimilative capacity of its environment in order to allow the location and expansion of firms in the future. Thus, it may place an option value on assimilative capacity, not being used at a specific moment of time. Finally, countries would be well advised to explicitly consider the risk of environmental degradation including irreversibilities in the sense of a preventive principle.

Moreover, the location arbitrage of pollution-intensive firms will imply a harmonization of the level of environmental policy instruments by a competitive political process. Emission taxes will rise in areas attracting pollution-intensive activities or licences will be harder to get. Thus, in the long run the incentives to avoid emissions will tend to become similar in Europe. This also holds if there are differences in environmental preferences between European nations.

The subsidiary principle is consistent with the polluter-pays-principle allowing a national evaluation of environmental damages and determining the trade-off between environmental damages and costs of abatements. Also, the principle of preventive policy can be clearly applied by the individual countries.

One argument made in favor of harmonizing ambient quality targets in the case of continuously flowing emissions is that the political process of revealing national preferences in individual countries is deficient. It has been claimed that the European Community would have to take care of national interests. Europe would thus paternalize the national interest in case of a national policy failure. This argument is not too convincing. The presumption would be that a European approach prevents the policy failure.¹⁰⁾ Another argument is to be taken seriously. Over time, environmental quality in any European country may be of concern to the median voter in Europe, for instance with an increased mobility of people. Then, harmonization of ambient quality levels will evolve in the political process.

Many environmental problems caused by stationary sources are transfrontier problems (Rhine pollution, air pollution like SO₂). Then, unidirectional or two-directional interactions between countries exist. In the case of international spillovers, we have a clear "externality". Consequently, institutional competition and the country-of-origin principle cannot be applied. The originator of damage shifts costs of abatement on the country receiving the emissions and thus enjoys an artificial advantage. Clearly, transfrontier pollution represents a distortion and environ-

nator of damage shifts costs of abatement on the country receiving the emissions and thus enjoys an artificial advantage. Clearly, transfrontier pollution represents a distortion and environmental policy in Europe has to establish an incentive mechanism that takes account of international spillovers.

Institutional competition also cannot be relied upon in the case of international public goods or common pool reserves such as the North Sea or the Mediteranean. A cooperative solution to an international public good requires an agreement on the quality of the public good and an agreement on national permissible discharge quantities.¹¹⁾

4. Competition and Currencies

An intellectually fascinating problem is whether the country-of-origin principle can be applied to the institutional arrangement for currencies. National monies would be mutually recognized as a means of payment and would then compete against each other. Currency substitution is yet another example of arbitrage by individual agents. In the long run, the national currency will win that is accepted by the individuals.

For political reasons it may not be acceptable that a national currency is driven out by another national currency. Alternatively, one may attempt to make a European currency unit such as the ECU harder over time so that it may drive out all the national currencies including the most stable one. This, however, is only possible if the supply of the European currency is controlled sufficiently and the basket concept is given up.

Competition among currencies has the advantage of allowing realignments. Changes in the exchange rate make the harmonization of the value added tax rates unnecessary. They also alleviate structural problems among European countries by allowing depreciation for deficit countries, thus serving as a shock absorber. In that respect, a realignment reduces the political demand to reduce developmental or structural imbalances between European regions. A realignment would also weaken the role of a transfer mechanism. This becomes evident when we consider irrevocably fixed exchange rates. Assume labor to be immobile and assume conditions of the labor market are harmonized throughout Europe. Then structural balance of payments and unemployment problems will arise, and there will be pressure for a political transfer mechanism. Apparently, institutional competition and realignment are interlinked. Realignments represent a substitute for harmonization in the real sector of the economy.

Summary

The country-of-origin principle in the Crème-de-Cassis ruling of the European Court of Justice may prove to be a powerful institutional device for harmonization in Europe. By mutually recognizing the institutional arrangements of the country of origin, harmonization can be delegated to a competitive process between institutional arrangements. This process will be open ended, and harmonization will occur only ex-post. An important ingredient of this process is the arbitrage of households and firms taking advantage of institutional differences and thus establishing political pressure for harmonization.

The main role of the country-of-origin principle will be to open up markets in the case of national product norms and - most importantly - in the case of market entry barriers for firms, for instance in the service industry. Here institutional competition can be expected to reduce the role of regulations.

The harmonization issue should not be confounded with equalizing endowment. Countries are differently endowed with factors of production such as labor, land and nature, and differences in endowment tend to require different prices for immobile factors (unless we are in the Heckscher-Ohlin world of perfect factor price equalization). Institutional competition is about attracting mobile factors of production such as capital to the immobile endowment factor.

Institutional competition will not lead to a state of zero regulation (and taxation) because reducing regulation implies progressively rising opportunity costs. Therefore, there is an endogenous brake on the extent of national deregulation. Only if individuals can walk away from national regulations without costs (exit out of a regulation) will the state of no regulation be reached. Exit from a regulation only is a problem if those who exit are free riders.

Harmonization ex-ante is not necessary when there is no arbitrage potential between countries, when no country-externalities exist and when realignments can be used to offset differences in national arrangements as in the case of the value added tax. Realignments are a substitute for harmonization.

We cannot rely on institutional competition when new property rights have to be established, when externalities are involved such as transfrontier pollution and when a common frame of reference for Europe is needed as in the case of competition policy.

Footnotes

*I appreciate comments from Holger Schmieding.

1) The exchange rate w_1 is determined by setting the price in Denmark equal for the cases when the principle of destination and the principle of origin are applied. We have

$$100 \text{ DM}/w_0 (1 + 0.22) = 100 \text{ DM}/w_1 (1 + 0.14)$$

2) We have only considered the exchange rate between two currencies. The result should also apply to the cross rates in Europe. However, with respect to non-EC currencies such as the US dollar, the DM/\$ rate and the dkr/\$ rate will be affected. Assume this were not the case. Then, by currency arbitrage one would sell dkr (not devalued against the US dollar, but against the DM), buy US dollars, and then buy DM (not appreciated against the US dollar, but against the dkr). Thus, the DM will appreciate against the US dollar and the dkr will depreciate against the US dollar.

3) Note that here we only consider national output Y and not national income of residents. Thus, the relocation of firms generates income for residents owning the mobile factor. To use the domestic income concept could be a more meaningful approach, but it would make the model much more complex requiring a distinction of income for the mobile and immobile factors.

4) Alternatively, equation 4 may be written as

$$Y = Y(\alpha) \quad \text{with } Y_{\alpha} < 0.$$

5) See for instance Frey and Ramser (1986) on the distinction between taxation and regulations.

6) On the transformation space with environmental quality see Siebert (1987).

7) The structure also describes the problem of monetary cooperation with U , U^* representing price level stability in both countries and α and α^* the money supply. Compare Cooper (1985).

8) Instead of equation (5) we may explicitly introduce the following equations:

$$\begin{aligned} U &= U(\alpha, \alpha^*) & U_{\alpha^*} &\leq 0 \\ Y &= Y(\alpha, \alpha^*) & Y_{\alpha^*} &\geq 0. \end{aligned}$$

9) The rules would be analogous to GATT rules modified under the conditions of a single market. A rule banning or limiting subsidies is a case in point.

10) Such a presumption seems to be rather arrogant since the democratic legitimation of European policy decisions is - at the moment - rather small.

11) On product norms see Section I.

References

- Commission of the European Communities (1985), *Completing the Internal Market*, White Paper from the Commission to the European Council, COM (85), 310 final, Brussels, 14.6.1985.
- Commission of the European Communities (1988), *The Economics of 1992*, European Economy, Vol. 35, 1-220.
- Cooper, Richard N. (1985), "Interdependence, Consistency, and Policy Constraints". In: Ronald W. Jones and Peter B. Kenen, *Handbook of International Economics*, Vol. II, Chap. 23, Amsterdam et al. 1985.
- Dicke, Hugo, 1989, *Harmonisierung durch Wettbewerb oder Absprache*, Vortrag vor der 52. Mitgliederversammlung der Arbeitsgemeinschaft deutscher Wirtschaftswissenschaftlicher Forschungsinstitute am 27./28. April 1989.
- Dicke, Hugo (1989), *Das Programm zur Vollendung des Binnenmarktes - Versuch einer Zwischenbilanz*. Kiel Working Papers No. 364.
- Donges, Juergen B. (1989), *Die EG auf dem Weg zum Binnenmarkt? - Erwartungen, Konsequenzen, Probleme*. Kiel Working Papers No. 360.
- Emerson, Michael (1989), "Where to Regulate", Economic Policy Panel, Paris, April 20-21, 1989.
- Eucken, Walter (1952), *Grundsätze der Wirtschaftspolitik*. Bern, Tübingen 1952, Chap. 18, pp. 312-324.
- Frey, Bruno S. and Hans Jürgen Ramser (1986), *Where are the Limits of Regulation*. *Journal of Institutional Economics*, 142, pp. 571-580.
- Giersch, Herbert (1988), *Der EG-Binnenmarkt als Chance und Risiko*. Kieler Diskussionsbeiträge Nr. 147, Kiel, December 1988.
- Giovannini, Alberto (1989), *National Tax Systems vs. the European Capital Market*. Paper prepared for the Economic Policy Panel, Paris, April 19-21, 1989.
- Grimm, Doris, Klaus-Werner Schlote and Peter Trapp, *EG '92: Strategien, Hindernisse, Erfolgsaussichten*. Kieler Diskussionsbeiträge Nr. 151, Kiel 1989.
- Hayek, Friedrich A. von (1968), *Der Wettbewerb als Entdeckungsverfahren*. Kieler Vorträge, Neue Folge 56.
- Helpman, E. and Paul Krugman (1985), *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy*, Cambridge, MA, MIT Press.
- Jacquemin, A. (1987), *The New Industrial Organisation*, Cambridge, MA, MIT and Oxford University Press.

- Pelkmans, J. (1985), *Market Integration in the European Community*, Den Haag, Martinus Nijhoff Publishers.
- Siebert, Horst (1987), *Economics of the Environment*, Heidelberg.
- Siebert, Horst (1988), *Strategische Handelspolitik. Theoretische Ansätze und wirtschaftspolitische Empfehlungen*, *Außenwirtschaft*, 43, pp. 549-584.
- Siebert, Horst (1989), *Außenwirtschaft*, 4. Auflage, Stuttgart, Gustav Fischer.
- Siebert, Horst (1989a), *Europe '92: Environmental Policy in an Integrated Market*. Kiel Working Paper No. 365.
- Siebert, Horst (1989b), *Perspektiven zur Vollendung des europäischen Binnenmarktes*, *Kyklos*, Vol. 42, 1989, Fasc. 2, pp. 181-201.
- Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft (1988), *Stellungnahme zum Weißbuch der EG-Kommission über den Binnenmarkt*, Bonn, 21./22. Februar 1988.