

Siebert, Horst

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Horst Siebert

Environmental Policy and European Integration

1. The Harmonization Issue

The upcoming completion of the Single Market has induced a debate about whether differences in national institutional settings can be allowed to exist, or whether, and to what extent, the institutional arrangements of the various countries in the EC need to be harmonized.

In the realm of social security, the debate is being waged among those who would like to see the same level of social security everywhere in Europe and those who point out that an identical social security level will necessarily imply either a high level of unemployment in the developing regions in Europe's periphery or a massive redistribution scheme that cannot be financed. In the realm of labor market regulations, a similar discussion is going on, the subject of which has ranged from health conditions at the work place to regulations directly affecting the demand for labor, regulations such as lay-off constraints.

Consumer protection is another area where the centralists would like Brussels to step in by defining a uniform level of consumer protection all over Europe, whereas others prefer to rely on a decentralized approach stressing consumer sovereignty and therefore leaving judgements on product quality, at least in some areas, to the individual consumer.

In the monetary realm, the debate has been about three different strategies: the disciplinary role of an anchor currency, competition among currencies, and a new institutional setup for a European monetary authority in charge of the money supply and price level stability. A European Central Bank represents a common institutional arrangement, whereas currency competition and an anchor system are based on decentralized decisions in the national central banks and by individual households and firms.

As concerns government activity, the debate relates to regulation, for instance, the regulation of industries such as natural monopolies (electricity generation and transmission), service industries with "consumer protection" (regulation of the insurance sector) and externalities (regulations to prevent bank runs) as well as public procurement. The harmonization issue has also been discussed with respect to the revenue and the expenditure side of public budgets. The fear has been voiced that differences in national tax systems may bring about market segmentations in

the Single Market or create allocative distortions. And it has been proposed that budget deficits that have been monetized in some countries by taking recourse to the central bank should be limited in order to prevent a moral hazard problem for a new European monetary authority.

Competition policy, i.e., opening up markets and safeguarding against the erosion of competition by cartels and mergers, is an area in which the conflict between a European dimension and a decentralized approach is being discussed.

Last but not least, environmental policy is another field in which the issue of European harmonization or decentralization has been heavily debated. Should environmental policy be undertaken mainly by Brussels or can it be delegated to the national governments?¹ This is the issue I discuss in this paper.

In Section 2, the role of environmental policy in a market economy is sketched out. Section 3 examines the argument that firms need a level playing field in a single market, and that environmental policy has to be harmonized. In Section 4, the claim that the divergence in the environmental policy between nations implies ecological dumping is studied. Section 5 examines whether institutional competition and the subsidiarity principle can be applied to environmental policy in Europe and whether environmental policy can be decentralized. In the remaining sections, the limits of decentralizing environmental policy are discussed. These limits relate to international spillovers (Section 6) and to product norms and liability rules that are interlinked with environmental protection and market segmentation (Section 7).

As in the other policy areas, the issue of centralization versus decentralization refers both to the final institutional arrangement of the EC as well as to the period of transition. In the transitional period, the question is to what extent institutional rules should be harmonized ex ante or whether competitive institutional arrangements can be allowed, eventually bringing about a de facto harmonization resulting from arbitrage by consumers, producers and voters.

2. Environmental Policy in a Market Economy

It is well established that environmental pollution represents an externality arising from consumption and production. Thus, the traditional production possibility frontier of an economy should be adapted to include, besides private output, the public good "environmental quality" or the public bad "pollution" [Siebert, 1987a]. If this is done, the opportunity costs of production are indicated by the loss of environmental quality, and at the same time, the opportunity costs of improving the quality of the environment are denoted by the loss in private production. When no price is charged for environmental quality, there is a distortion and misallocation of

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This has been the topic of debate in a task force of the EC Commission [Task Force, 1990].

resources: the pollution-intensively produced good has too low a price, attracting a too high demand and binding too many resources. Private and social costs diverge. The solution to the environmental problem must lie in an internalization of environmental costs. This eliminates the divergence of private and social costs and the misallocation of resources.

One approach to the internalization of environmental costs is to establish property rights. Property rights can be interpreted as an institutional device by which the benefits and the opportunity costs of an economic decision are attributed to one agent. The individual household or the individual firm calculates its benefit from using a specific good or a resource and compares its marginal benefit with its marginal opportunity cost. Such a calculus is the essence of all optimality conditions in microeconomics. Markets ensure that the opportunity costs of using a good or a resource within a decentralized unit is determined by not using it elsewhere in the economy. This calculus implies efficiency and it allows decentralization.

In the case of the environment, the creation of property rights can relate to two different aspects: the environment as a consumption good and as a receptacle for wastes. There are competing uses between these two roles of the environment. One strategy to solve this problem is to define property rights and give the property title for both functions to one owner. Assume that the user of the environment as a public consumption good were identical to the user of the environment as a receptacle of wastes, then the marginal benefit of enjoying environmental quality and the marginal cost of polluting will be balanced in the individual calculus, and the environmental allocation problem will be solved in a decentralized way. Although this view of how to attack environmental problems may be surprising and unusual, one should realize the potential of this approach, in which the environment can become a private good. In such a context, the public good aspect would disappear as a result of privatization. Besides a Tiebout World of fiscal equivalence, a case in point is establishing private property rights using Coase's [1960] evolutionary approach of a bargaining solution to allow these rights to be established slowly over time in a learning process in which transaction costs are reduced.

The alternative approach consists in treating environmental quality in its capacity to be consumed as a public good. This implies that the environmental quality to be attained, i.e., the target, must be determined in a political process. Allocation efficiency requires Samuelson's [1954] summation condition for the provision of public goods: the marginal cost of producing the public good must balance its marginal value, i.e., the sum of the marginal rates of substitution. Incidentally, another approach to determining the quality of a public good, namely, equalizing the marginal cost and the marginal benefit in cost-benefit analysis, leads to the same implications.

Whereas the target is fixed by the political process, the implementation of the target requires that the right to use the environment as a waste receptacle be

established as property rights. These property rights could take the form of a multitude of institutional solutions: emission taxes, emission norms for specific facilities, transferable licenses, etc. The basic purpose of all these forms is to make the polluter aware of environmental scarcity.

In the following analysis I treat the environment as a public good, with the target being determined by the political process and abatement and pollution prevention being steered by the "correct" incentives and by the institutional arrangement. I apply this approach to the issue of how environmental policy can be implemented in the European Single Market.

3. Leveling the Playing Field?

An argument heard very often in the public debate is that firms need the same starting conditions in order to compete and that different national environmental regulations would distort competition. The argument is phrased as requiring the same frame of reference for private decisions or demanding the same institutional arrangement. In the European Single Market, therefore, firms should face the same environmental regulations. This argument for a leveling of the playing field is, however, fallacious.

In order to disentangle from its economic core the political demand that firms should have the same conditions everywhere, let us differentiate between environmental quality and environmental policy instruments.

First of all, determining the desired environmental quality is a national choice problem. This statement clearly depends on the spatial dimensions of environmental systems. If the environment as a public good is of a European size, requiring the same environmental quality everywhere, environmental policy must be determined by a European political process. However, if environmental media can be interpreted as national public goods, for instance, a river system specific to one country, or a regional or national air shed, the target can be determined on the national level. The trade-off between environmental quality as a public consumption good and as a receptacle for emissions is then a purely national problem. Then, the national policy process can evaluate the trade-off between the benefits and costs of preventing pollution. Environmental quality may differ among countries, and environmental policy instruments may differ as well.

Second, a specific question is whether Europe needs a common minimum quality of the environment. It seems to me that in the case of emissions arising from economic activities, it can, in principle, be left to the European nations to specify the environmental quality that they would like to have in their regions. It should be noted that even assuming identical ambient quality standards, the policy instruments are not necessarily identical. Different explicit or implicit prices for environmental

use reflect different scarcities of the environment. For instance, a heavily polluted area requires higher emission taxes.

If one decides in favor of the lowest common denominator for environmental quality in Europe, the individual country still must have the option to strive for an environmental quality higher than the common European minimum level. Clearly, the policy instruments used in such a case by the individual nations will differ.

Third, there is the question of the extent to which environmental policy instruments such as emission taxes or pollution licenses should be uniform. These policy instruments represent a cost factor and can be interpreted as a production tax for pollution-intensive activities. The country implementing an environmental policy will negatively affect its comparative price advantage and its absolute price advantage. Clearly, the loss of comparative advantage represents an opportunity cost to the country implementing the environmental policy. It can be left to the political preferences of the individual European country to determine the extent to which it wants to reduce its absolute and comparative price advantage. The principle of the country of origin can be applied [Siebert, 1987a, Ch. 10]. Like land and most types of labor, the environment is an immobile factor of endowment. It is quite normal for prices of immobile factors to differ between countries. This economic reasoning in terms of allocation theory is consistent with the subsidiarity principle.

Fourth, the argument for leveling the playing field contains a grain of truth for the Single Market, where national markets should not be segmented by environmental policy. Segmentation of markets runs counter to the principle of integration. The advantage of prices for emissions is that differing prices for immobile factors do not erect market entry barriers. It is quite normal for prices for an immobile endowment factor to differ between countries. And different prices for an immobile factor of endowment do not require harmonization.

It is, however, a different story if, instead of using prices, a regulatory approach such as a licensing procedure is used, as in air quality management in most countries. In such a regulatory approach, a license is granted if ambient standards are not violated by a facility and if state-of-the-art abatement technology is applied. If such a regulatory approach is applied on a national scale, it necessarily defines the market entry obstacles protecting the existing firms and hurting the newcomer, if licenses are not transferable. If this is the case, markets will be segmented. Moreover, the technological state of the art has to be defined by government, whereas in a market economy, it is the role of the entrepreneur to search for new technological solutions. Last but not least, end-of-pipe technology and product norms for investment goods are favored. With such an approach, European harmonization is needed in order to avoid market segmentation; but harmonization implies the Europe-wide definition of the technological state of the art — which is clearly an inefficient approach. Since the Single Market initiative intends to reduce national entry barriers, price instruments of environmental policy, such as emission

taxes or transferable permits, are preferable to regulatory procedures in a European setting.

Emissions from stationary sources in the case of consumption activities (heating homes) can be treated analogously to emissions from production. However, since the amount of emissions at the individual source is relatively small, emission taxes and transferable emission licenses may be impracticable due to high monitoring costs. Emission standards specifying the tolerable quantity of emissions per time unit, for instance, in the case of chimneys, may be used. Emission norms are better than product norms (for the gas or oil furnace) because product norms create trade barriers if they differ between European nations. Consequently, if product norms are applied, there is a need for harmonization and the country-of-origin principle cannot be applied.

4. Ecological Dumping

Whereas industry is demanding a leveling of the playing field, environmentalists fear ecological dumping if environmental policy is delegated to the national political process. The argument goes as follows: If environmental policy is delegated to the individual country, locational arbitrage — an important ingredient in the making of the Single Market — implies that pollution-intensive producing firms will move to the country with lower environmental restraints, increasing the environmental stress there.

The same implication holds even if firms do not move. Countries with a strict environmental policy will increase the costs of production in the pollution-intensive production sectors forcing them to reduce their output. Thus, the pollution-intensive production sectors in a country with a less strict environmental policy will improve their comparative advantage (relative to the pollution-intensive sectors in the countries with a strict environmental policy). This reallocation in the Heckscher-Ohlin context has been labeled "Pollute thy neighbour via trade."

However, the relocation of firms or the reallocation of factors 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 implement an environmental policy. Moreover, the countries attracting new industries can be expected to 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 optional 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.

The locational arbitrage of pollution-intensive firms will thus imply a harmonization of the level of environmental policy instruments by a competitive political process. Either emission taxes will rise in areas attracting pollution-intensive activities or licenses will be harder to obtain. Thus, the incentives to avoid emissions will tend to become similar in Europe. This also holds if there are strong differences in environmental preferences between European nations.

5. The Subsidiarity Principle and Institutional Competition

Decentralizing environmental policy is in line with the subsidiarity principle, which requires that economic policy be implemented at the level that can solve a problem most efficiently. The subsidiarity principle is an aspect of fiscal or regulatory federalism and fiscal equivalence [Olson, 1969]. The issue is to find the appropriate institutional level for policy. The subsidiarity principle and fiscal federalism are the principles guiding the organizational structure of society. In addition, there is the issue of which process can bring about institutional integration. Here, institutional competition is a device for integrating different national institutional arrangements.

The completion of the European Market is not being attempted using prior harmonization of national regulations as the guiding principle, but rather by using a competitive process among national institutional settings. The main reason for the open-ended competitive approach is that prior harmonization has proven to be impractical in the past. Moreover, a competitive process between national regulations is expected to be more imaginative than a planned process of harmonization.

For the commodity markets, the 1979 Cassis-de-Dijon verdict of the European Court has set the stage for a competitive process. A product legally brought to market in one country can be sold in any other country. The country-of-origin principle not only relates to the licensing of products. It can also be used in a wider sense. Thus, it can be applied to the market entry of firms. A firm licensed in one nation is allowed to operate in other nations as well. This country-of-origin principle will be extended to the service industry (banking, insurance, transportation). A firm in the service industry which is allowed in one market will then have access to the other national markets. This means that the regulations in the country of origin are applied to a firm operating in another country.

The advantage of the country-of-origin principle is that households and firms will react to differences between national regulations. The Single Market will provide many opportunities for arbitrage, for instance, for consumers having the option to buy in different countries or for the location of firms. Arbitrage, however, will put pressure on national regulations to be revised and to be harmonized in an

open political process. Arbitrage by households and firms is an important ingredient in the process of institutional competition. Harmonization will not be planned *ex ante* but will be brought about *ex post*.

The subsidiarity principle is consistent with the polluter-pays principle in allowing a national evaluation of environmental damage and determining the trade-off between environmental damage and costs of abatement. Also, the prevention principle can be clearly applied by the individual countries.

In applying the subsidiarity principle as an organizational device for society and the principle of institutional competition as a process of integration consistent with subsidiarity, two specific issues arise for environmental policy in the Single Market. First, international spillovers raise the issue of the extent to which the costs of pollution can be internalized by individual nations (Section 6). Second, in the Single Market, the subsidiarity principle should not be allowed to lead to a new market segmentation. After all, the purpose of creating the Single Market is to eliminate borders and to reduce national barriers to entry (Section 7).

6. International Spillovers

Quite a few environmental problems caused by stationary sources are transfrontier problems (Rhine pollution, air pollution, such as SO_2). In such cases, there is a clear "externality." Consequently, institutional competition and the country-of-origin principle cannot be applied. The originator of damage shifts the costs of abatement to the country receiving the emissions and thus enjoys an artificial comparative advantage. Clearly, transfrontier pollution represents a distortion.

One approach to the transfrontier pollution problem is to reduce pollution in Europe in general in order to tackle the diffusion problem irrespective of whether the country is the originator of pollutants or the receiver. An example of this is a reduction of pollution by x percent. This is a rather coarse approach implying a more centralized orientation of environmental policy. Assume, for instance, one were to raise emission taxes for SO_2 in Europe in general in order to reduce the level of pollutants in the ambient environment and thereby reduce the transfrontier problem. Then, abatement clearly would not be cost minimizing, and the costs of environmental quality would be too high. Even less efficient would be an approach whereby the whole of Europe applied the same state-of-the-art abatement technology in order to reduce pollutants and indirectly reduce the transfrontier pollution.

Another approach is to define the total level of emissions in Europe and then to grant transferable emission rights. The merit to this approach is that it guarantees the cost minimizing reduction of the total quantity of emissions. However, this again affects transfrontier pollution only indirectly by bringing down emissions in general and — as a secondary effect — by reducing transfrontier pollution.

In the sense of causal therapy, a solution must deal with transfrontier pollution directly. Conceivably, if property rights could be clearly established, allowing liability claims, transfrontier pollution could be solved. Property rights and the right to go to court could be allocated to the country or even to individuals. Although it is well known that court legislation is a time-consuming process, the European Court of Justice might still play an important role in defining guidelines for solving transfrontier pollution.

In order to attack transfrontier pollution directly, I propose specifying the allowable level of an international spillover, that is, establishing an international diffusion norm. A transfrontier diffusion norm specifies the ambient quality of an environmental system (air, water) when it crosses the border.

Diffusion norms have been used in national water quality management, for instance, when the water quality of a tributary (in Germany the Emscher) is specified where it enters the main river (the Rhine). Thus, Germany has practical experience with interregional diffusion norms that can easily be extended to the European setting. Measurement problems of pollutants in the environment "at the border" can be solved. This also holds for air pollution.

The diffusion norm limits the permissible volume of pollutants being exported from a country. Pollutants therefore must be measured at the border of the pollution-exporting country. This procedure prevents the political debates on the origin of pollutants that would arise if the diffusion norms were defined at the border of the receiving country. For instance, for a country not adjacent to all sources of pollution (Denmark), the problem would be to determine where pollution is coming from. Admittedly, monitoring the pollution transfer at the border of the pollution-exporting country may give rise to moral hazard problems, since the pollution exporters have an incentive to understate their pollution exports.

Once an agreement is reached, it can be left to the national governments to determine what type of policy instruments they would like to use in order to meet the international diffusion norm. International diffusion norms therefore are instrumental in decentralizing environmental policy in Europe.

Agreement on international diffusion norms requires a cooperative solution with side payments. The diffusion norm is determined by the equality of the marginal benefit of the pollutee and the marginal cost of the polluter. The pollutee has to make a transfer to the polluter to induce him to abate pollutants. Thus, some type of a victim-pays principle is applied and the polluter-pays principle cannot be used. Moreover, the countries truly have to reveal their preferences and provide the correct information.

Agreement on international diffusion seems extremely difficult to reach in practice, as the discussion on solving the transfrontier spillover in the Rhine shows. We have the typical free-rider behavior of the upstream polluter (or of the polluter in the upwind location) making it hard to find a cooperative solution. Strategic

behavior of the upstream polluter overstating the abatement costs and of the downriver pollutee overstating the damage can usually be observed. Thus, there is the problem of establishing incentives to reveal true information.

Diffusion norms could be linked to transferable emission rights if emission rights could be defined for emissions that cross the border. This, however, would require that countries be able to identify emissions that cross the border as a result of diffusion processes, e.g., emissions from border regions or emissions containing specific pollutants that travel long distances. Emission rights of this type linked to transfrontier pollution would differ from the emission rights for emissions in general that were discussed above.

In the case of international public goods such as the North Sea or the Mediterranean, environmental quality of the international environmental system has to be interpreted as a public good that, in Samuelson's [1954] definition, is consumed in equal amounts by all nations. Diffusion processes within the public good are a minor issue. A cooperative solution requires an agreement on the quality of the public good and an agreement on national permissible discharge quantities.

In order to determine the optimal quantity of such a good, countries must reveal their true preferences and their willingness to pay has to be aggregated. This implies that the individual countries should not behave as free riders. Once the quality target is fixed, one has to agree on the national discharge quantities. Note that an agreement on national permissible discharge quantities is analogous to establishing international diffusion norms.

7. Product Norms and Liability Rules

Besides environmental pollution from stationary sources, there are other cases of environmental pollution requiring different types of solutions. Emissions from nonstationary sources (transportation) are especially relevant because nonstationary sources can move across borders. The deregulation of the transportation industry in the Europe '92 initiative and the resulting traffic flows will aggravate the problem. It may not be unrealistic to assume that in the future we will be able to reliably monitor car and truck emissions at reasonable costs. Then, emission taxes could be used, and these emission taxes could diverge between nations if the mobile sources did not move across national borders too frequently (tourism). If, however, the sources moved frequently, as in the case of trucking, emission taxes would have to be harmonized. Thus, as long as monitoring costs are too high, product norms for transportation equipment are the relevant policy means.

Apparently, nationally differentiated product norms for cars and other mobile sources of emissions would introduce trade barriers. Therefore, product norms have to be harmonized within Europe in order to prevent market segmentation. However,

in addition to harmonized product norms in Europe, national taxes for pollution-intensive products (or national subsidies for ecological products) cannot be excluded if national preferences are accepted as a basis of a federalistic structure. Note, however, that national taxes or subsidies only influence the stock of national transportation equipment and cannot affect the movement of vehicles across borders.

Pollutants may be contained in products to be consumed; then, third parties are not affected and we do not have the case of a technological externality but rather a merit argument. In that case, product norms often are used for consumer protection. Here, the potential for decentralization depends on the confidence in consumer sovereignty and on the evaluation of the pollutant contained in the consumption good. Let us consider the following cases:

- In quite a few cases, we can rely on consumer sovereignty. If a consumer is well informed and if we can leave it up to the consumer to be informed on product quality over the full range, we do not need product norms. Then, pollutants are basically a private good (or bad) and the *Cassis-de-Dijon* verdict can be applied. We leave it to the German consumer to drink beer not produced according to the German Purity Law of 1517. Why worry about nonpurities in other goods? Labeling can be used to support consumer sovereignty. Information on the pollution content may be sufficient to warn the consumer.
- Toxic pollutants and pollutants causing severe health damage are another story. Here product qualities have to be established in order to protect the consumer unless one takes the position that it is the consumer's problem to be informed on such pollutants. Product norms represent market segmentation, and they have to be harmonized throughout Europe. Again, the issue of a minimal quality in Europe and of a national deviation in favor of a higher product quality arises.
- The importance of product norms can be reduced if liability rules can be established. With liability law, the consumer affected by pollutants in a product can go to court and court decisions will be anticipated by the originator of damage. Moreover, an insurance market will develop; thus, incentives will be introduced to prevent damage. However, transaction costs of liability rules are high [Siebert, 1989]; harmonization of liability law in Europe seems to be necessary in order to prevent market segmentation, and this may prove to be extremely difficult.

Hazardous products that enter the market as new products (chemicals, pharmaceutical products) are subject to some form of national licensing. This licensing process has to strike a balance between the protection of individual health and environmental quality on the one hand and incentives for innovation on the other

hand. Applying the Cassis-de-Dijon verdict and allowing different national licensing procedures to coexist for some time may be an option, but with respect to the Single Market, problems similar to those in the case of product norms arise. If protection of the consumer or the environment requires that the country-of-origin principle cannot be accepted by a country, we have a market segmentation. This is inconsistent with the Single Market. Harmonization of licensing is required.

Environmental accidents (Seveso, Bhopal, Sandoz) represent another case in the casuistry of environmental problems. In this case, liability issues are involved [Siebert, 1987b; 1989]. If environmental accidents only had a national dimension, they could be left to national environmental policy. However, one aspect of environmental accidents is that they tend to have international repercussions. Thus, some form of harmonization of liability rules including compensation procedures becomes relevant.

8. Summary

The main thrust of the discussion of policy instruments is that the environment is a scarce good and that environmental policy instruments must express environmental scarcity adequately, defining incentives to use the environment economically. When the appropriate incentives are specified, environmental use can be steered by decentralized decision making.²

Besides adequately specifying incentives, environmental policy in an integrated market has to prevent market segmentation arising from border controls, but more importantly also from market entry barriers due to regulation. Most environmental policy instruments define market entry conditions such as licensing of facilities, licensing of products and land use planning. It is necessary to realize that price instruments such as emission taxes, effluent fees, and transferable discharge permits as well as strict liability reduce the role of regulatory procedures and thus make market entry easier. From the Single Market perspective, price instruments therefore have the appeal of reducing market barriers and segmentation. Regulatory approaches such as licensing, however, tend to introduce new barriers even if they are harmonized in Europe. Prices for environmental use do not introduce such barriers, and it is quite normal that prices for environmental use differ among European countries because the environment as a receptacle of wastes can be

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If environmental scarcity is correctly signaled to the subsystems of an economy, economic growth and environmental degradation will be uncoupled. This is analogous to the uncoupling of GNP growth and primary energy demand that seemed to be an iron law in the sixties and that then was the basis for capacity planning in the electricity sector.

viewed as an immobile factor of endowment and we are accustomed to the idea that prices for immobile factors differ between different regions.

When the environment is considered as a national public consumption good and as a recipient of wastes, environmental policy can be decentralized in the European Single Market. Differences in environmental endowments and in political preferences will be reflected in different prices for environmental services.

If the dominating policy instrument is permit licensing, national differences in licensing will establish new market entry barriers and will segment the market for abatement as well as production activities. If prices for environmental services (emission taxes, transferable discharge permits, prices for disposal activities) are used, markets will not be segmented. The only price difference is for an immobile factor of endowment. Thus, European integration implies an advantage of market incentives in environmental policy relative to regulatory instruments.

Transfrontier spillovers can be controlled by transfrontier diffusion norms specifying the ambient level of pollution at the border. This allows a decentralization of environmental policy in Europe.

When product norms are the relevant policy instrument because monitoring costs are too high and when the Cassis-de-Dijon philosophy cannot be applied due to externalities or due to a strong merit argument such as toxicity, harmonization on a European scale becomes necessary.

The subsidiarity principle and fiscal federalism are two principles guiding the organizational structure of society. Given these principles, the issue is which process is best capable of bringing about institutional integration in Europe. In this context, institutional competition is a powerful device for bringing about an ex post harmonization.

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