The precautionary principle, the environment and international trade: Sovereignty and collective preferences in question

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Résumé: Le propos de cet article est d'envisager les effets possibles du principe de précaution sur les règles du commerce international. En prenant en compte une interrogation sur la place légitime à reconnaître aux préférences collectives dans les accords sur le commerce, l'ambiguïté des usages du principe de précaution au regard de la coordination internationale et de l'émergence d'un ordre public planétaire est soulignée. Il existe une tension entre les institutions souveraines légitimes en charge de la prévention des risques collectifs et le besoin de coopération internationale pour traiter des risques supranationaux comme le changement climatique et l'érosion de la biodiversité. Au-delà, l'interférence des enjeux du commerce et de la protection de l'environnement sous l'égide du principe de précaution devrait provoquer une différenciation des règles du commerce applicables en fonction de la fiabilité de l'information donnée et des garanties apportées sur les conditions environnementales et sociales de production tout au long des filières de production et de distribution. Ce processus dépend de l'extension effective du concept pertinent de qualité des biens aux yeux des pouvoirs publics et des consommateurs. Ce qui est en jeu est l'ensemble des garanties techniques et de l'information que les producteurs devront apporter pour susciter la confiance et soutenir les relations d'échange.

Abstract: The topic of this paper is to consider the possible impacts of the precautionary principle on international trade rules. In connection with questions pertaining to the legitimate place to give to collective preferences in trade agreements, it will begin by underlining the ambiguity of usages of the precautionary principle regarding the implementation of international coordination and the emergence of a global order. There is first an internal tension between the required sovereignty and legitimacy of institutions in charge of the prevention of collective risks and the need of international cooperation and coordination for supranational risks such as climate change and biodiversity loss. Beyond it can be expected that the coupling of environmental and trade issues under the precautionary principle will provoke a differentiation of rules of trades according to the reliance of information and guarantees on the environmental and social conditions of production all along the production chain. This process depends, as a cornerstone, of an extension of the concept of quality of goods relevant for public authorities and consumers. What is at stake is the whole set of technical guarantees and information that producers should bring to generate confidence and sustain trade relations.

Mots clés : Principe de précaution, Commerce international, Souveraineté, Qualité des biens, Risques

Key Words : Precautionary principle, International trade, Sovereignty, Quality of goods, Risks

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Introduction

The precautionary principle (PP) has been introduced and progressively acknowledged in environmental law for more than fifteen years. However, the level of acknowledgement is not the same in international, European and domestic law. Outside Europe, many countries still refuse to give it a legal force, although a reflection can be found in the SPS agreement[1] and the present way to implement WTO rules (Noiville, 2000). Such reluctance against making this concept a legal norm is expressed in international texts such as the Framework Convention on climate change (FCCC) or the Rio Declaration adopted in 1992: these texts introduced reference to a "precautionary approach"[2], not a "precautionary principle". Within the European Union, the PP has been turned into a legal norm for environmental protection since the Maastricht Treaty in 1992; the EU regulation of food safety in 2002 has confirmed its relevance in the field of public health, which had previously been established by case law. The most prominent judgement of the European Court of Justice has been the 1998 one about the BSE embargo dispute between the UK government and the Commission. In October 2003, the Court credited the PP a status of general principle of European law (Solvay case).

Meanwhile, sound elements of doctrine had been set-up by academic work and by thinking within administrative services, eventually legitimized by official policy statements in Europe. Stepping-stones to this regard are the Communication of the Commission in February 2000 and the Resolution of the European Council held in Nice in December 2000. In France the PP has been incorporated in 1995 into a law aiming at reinforcing environmental protection in this country. Article 2 defines the principles that should inspire environmental protection and management (prevention at source, polluter-pays, participation and the PP[3]). After strong debates in the 2002-2004 period, the PP has received in 2005 a constitutional value, being integrated as one major article of the constitutional Charter of Environment expressing rights and obligations of people and public authorities in that field[4]. With this Charter, environmental protection rejoins major collective interests that are defended as constitutional values in France.

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[1] This agreement is one of the main components adopted when the World Trade Organisation was created in 1994. It covers sanitarian and phyto-sanitarian aspects of international trade and defines the conditions under which national state authorities are allowed to take trade-restrictive measures in order to ensure a satisfying protection of the health of humans, animals and plants.

[2] For instance, the Principle 15 of the Rio Declaration, which is not legally binding, reads: "*In order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation*."

[3] This Law (95-101) defines the PP in the following terms: "*the lack of certainty, under the present state of scientific and technological knowledge, should not lead to postpone effective and proportionate measures aimed at preventing threats of serious and irreversible damages to the environment at an acceptable economic cost*" (personal translation from French).

[4] Following a positive vote of the Congress, on the 1st of March 2005, the President of French Republic promulgated the Constitutional law placing the Charter of Environment into the Constitution of this country. This Charter includes article 5 referring to the precautionary principle and specifying what is expected from public authorities facing uncertain threats of huge and irreversible damage to the environment. It reads: « *When, although uncertain according to the present state of knowledge, a damage may happen and affect the environment hugely and irreversibly, public authorities, within the limits of their competencies, apply the precautionary principle; to this regard they look after the implementation of procedures of risk assessment and the adoption of temporary and proportionate measures to ward off the prospect of damage achievement* » (personal translation from French).

In spite of this acknowledgement, there is still room for questions, debates and investigations on the meaning and effects of this new benchmark for different matters linked to environmental and health issues. The topic of this paper is to consider the possible impacts of the PP on international trade rules. This is concomitant with rising demands that collective preferences should be acknowledged in trade agreements. The departure point to this regard is an observation of the huge ambiguity of the PP regarding the implementation of international coordination and the emergence of a global order. There is an internal tension between the required sovereignty and legitimacy of institutions in charge of the prevention of collective risks and the need of international cooperation and coordination for addressing supranational risks such as climate change and biodiversity loss. Beyond, it can be expected that the coupling of environmental and trade issues under the PP will provoke a differentiation of rules of trades according to the reliance of information and guarantees on the environmental and social conditions of production all along the production chain. This process depends, as a cornerstone, of an extension of the concept of quality of goods relevant for public authorities and consumers. What is at stake is the whole set of technical guarantees and information that producers should bring to generate confidence and sustain trade relations.

1. A slight return on the precautionary principle

The progressive acknowledgement of the PP by EU and French law did not put an end to all sources of confusion and false debates about its content and consequences. Business circles, health care professions, local communities representatives have expressed various fears. They said that the pace and level of technological innovation, economic activity, quality of public decision-making and quality of medical services will be hurt. Some of them feign to believe that the PP will stop all scientific progress, block economic growth, severely damage social welfare and turn upside down basic values of a free society. On the opposite side, some NGOs would have wanted that, under the PP, a more radical concept would have been adopted. I named this alternative concept the 'abstention principle'; it asks to avoid any possible risk for the environment and public health by imposing a shifting of the burden of proof[5]. Total safety of a new product or technology would have to be proven before any authorization could be given. Both sides join in their wrong understanding of the aim and content of the PP, in spite of the existing doctrine developed in official statements since 2000.

The abstention principle

The abstention principle (AP) is very far from the PP indeed. It has often been defended on the basis of the work of German philosopher Hans Jonas (1984) on the 'Imperative of Responsibility' of present generations regarding the preservation of the ultimate possibility to maintain a truly human life on planet Earth. Flawed by logical inconsistency – with a science

[5] Defining the PP by the reversed burden of proof (proving safety and not proving the damage) is the central point of misunderstanding between the US experts and governmental circles on one side and the EU thinking on the other side: whereas the former (Raffensperger & Tickner, 1999; Graham, 2004) think that the PP makes it legally binding to prove harmlessness against all potential hazards, which is quite impossible, the latter consider that, as far as practical matters are concerned, there is no general rule regarding the burden of proof; moreover, what is to be proven is not harmlessness as such, but that a cautious approach has been followed by using existing science, for instance in the framework of procedures of administrative authorisation required to put new products on the market.

permanently in progress but never completed, there is a logical impossibility of proving "there are and will be no harmful effects"- the AP could only lead to an impossible general 'zero risk' norm for potential risks. The moral philosophy of Jonas explicitly targeted potentially apocalyptic events only, those that put into peril the very physical and moral existence of Humanity, but was not supposed to be appropriate to more ordinary human activities that have potentially serious, but non-apocalyptic impacts on the environment or human health. Due to scarcity of public resources and the pressure of other needs, the AP would not only be very costly in welfare terms but unfeasible: zero risk in one potential case would mean more risk in other cases. What would happen in practice would be an arbitrarily selective use of the rule, implying high direct or opportunity costs[6].

The precautionary principle: earliness and proportionality

The PP obliges authorities to take an early account of potential hazards, but it does not ask to block any product, substance, technology or project because a potential hazard has not be demonstrated not to exist. The key idea regarding the type of measures that have to be taken is proportionality: European and French doctrine converge on the idea that the PP asks to take an early but proportionate account of hazards, without waiting their full scientific establishment. It is mainly a norm shifting the moment at which a threat of risk is considered for action. Then authorities can use a large range of measures in the name of the PP, from specific research programmes and information dissemination to incentives, partial restrictions of use, suspension of an authorization, and ultimately strict forbidding. Forbidding a new activity is just one possibility among others and, having extreme consequences, needs strong and specific justifications, having in view the high level of environmental and health safety proclaimed by EU treaties and law texts.

Clearly the PP can do nothing for situations of informed ignorance, i.e. when after having used all resources of existing scientific knowledge it is not possible to give a face to a theoretic possibility that an unknown hazard exists. The PP can only address potential hazards previously identified as relevant hypotheses on a scientific base.

The counterpart of earliness is that adopted measures have to be conceived as provisory; they have to be flexible enough to be regularly revised on the basis of new scientific knowledge and information. Hence the PP reinforces the dynamical links between public decision-making and scientific activity although it gives less critical weight to the stage of scientific proof.

To sum-up, the PP defines the attitude to adopt when facing scientifically uncertain threats. It sets the basis of a new concept of action, one that is flexible, step-by-step, reversible and sensitive to new scientific information as for an experiment. It has similarities with the rationale of the economic concept of quasi-option value in uncertain context with prospect of improving information and various degrees of irreversibility of actions, or consequences of action (Henry, 1974).

[6] For a deeper examination of the Jonas' theory and an explanation of the reason why it could not offer the appropriate conceptual basis for implementing the PP, see Godard (2002) and Godard et al. (2002).

2. An ambivalent use in international contexts

From the viewpoint of international relations, the PP is curiously ambiguous. On the one hand, it has been mobilised to justify huge progress in international cooperation; examples can be found in the main agreements and texts adopted by the international community at the Earth Summit in Rio de Janeiro in June 1992, for instance the FCCC. Here states jointly acknowledged the necessity to take preventive action in spite of remaining uncertainties and settled a common framework of action, from which the Kyoto Protocol (1997) has been derived[7]. On the other hand, the PP has also been used to suspend the effects of international rules previously agreed, specifically trade rules. Typical example in the EU is offered by the mad cow crisis in Europe in mars 1996, when national governments and the Commission decided to put UK beef exports under embargo, a measure that head-on opposed the principle of freedom of circulation of goods within the European space. Another typical case is the dispute opposing the EU to the United States and other countries regarding imports of beef bred with growth-enhancing hormones into the EU territory. Such measures have been justified by the potential threats to human or animal health, although damages envisaged were not at the time fully established by scientific methods. In these cases, the PP is used as a means to justify sovereign unilateral measures, based on unilateral judgements, as an exception to the ordinary regime of agreed rules of trade. In both examples, the disputing parties initiated legal procedures - a suit before the European Court of Justice in one case, a formal complaint before the dispute resolution body of the WTO in the other case -, meaning that views on appropriate conditions of risk management were not shared internationally.

Why such opposite directions for the use of the PP? I think it is not only a matter of different circumstances calling for different solutions. Regarding public goods and still more global public goods, as in the environmental field, the PP is torn between the need of a broad international cooperation, adapted to the very nature of issues, and the deep attachment to assigning responsibility for ensuring safety of persons and the community to politically legitimate sovereign bodies, i.e. to national state governments. For example, the Carthegena Protocol on bio-safety has defined a regime of prior authorization by the importing country for any transaction related to GMOs; it acknowledged the legal capability of the importing country to refuse one proposed import in the name of potential risks not yet confirmed by scientific investigations, including social and economic consequences of possible ecological effects. How should we understand this legal provision? Is it really the best means to preserve biodiversity on Earth, which is one of the main ultimate goals of the Convention to which the Protocol is affiliated, or is it just the acknowledgement of a political space of expression of specific national collective preferences within the international trade rules?

3. On sovereignty and the management of public risks

The standard foundation

Quite evidently sovereignty is a complex multi-dimensional idea. Sovereignty of the nation-state cannot stand alone. For Western thinking it has to be founded on the sovereignty of the people (a community of citizens), which also ultimately refers to the fundamental rights of individuals. The sovereignty of a state is only legitimate if the latter satisfies its obligations

[7] This Protocol entered into force in February 2005, without the participation of Australia and the United States.

towards its citizens. Among them, one of the most important is personal safety as a condition of personal freedom. The state has the duty to protect the citizens as well as it is necessary to organize the state in such a way to protect citizens against threats to be imposed an arbitrary power by it.

The principle of sovereignty of nation-states has been the standard basis of development of modern international law. The nature of the latter differs a lot from the one of domestic law, since international law is built by conventions freely negotiated between parts on the basis of their mutual interest. No world government can legally imposes measures and actions that sovereign states do not want, even if these measures are intended to achieve some common good of Humanity. To this regard the Organization of United Nations can clearly not be seen as playing the role of a world government.

An emergent alternative foundation, still minor but with a growing influence

During the eighties, an alternative foundation of international environmental law began to emerge. It adopted the concept of Common Patrimony of Humanity as a central concept, one that was previously used by UNESCO for the cultural patrimony and by the Law of the Sea for organizing access to deep marine resources[8]. This was potentially something as a theoretical revolution in international law. Humanity was then defined as a collective person, the interests of which had to be defended and having the highest rank among all possible interests, higher than states. This construct allows to reversing the traditional view on states obligations and rights. Individual states would be considered as representatives and guardians of fundamental interests of Humanity, being accountable of their practices and achievements before the community of all states. With this new foundation, asymmetric and uncompensated obligations might weigh on states every time major interests of Humanity are of concern because of their external actions or domestic management.

The development of this alternative foundation of law has paradoxically been stopped in 1992, at the very moment when one expected its consecration, by the Convention on biodiversity. Adopted around the Rio Summit, this convention abandoned the concept of Common Patrimony of Humanity that had been proposed by preparatory works as legal status for genetic resources. Instead, the Convention strongly affirmed the sovereignty of states on the genetic resources present on their territory. The reason is to be found in what was felt as a deception by less-developed countries: access to biotechnologies produced by industrialised countries would have been made costly and limited by rules of intellectual property (patents and other protection means), whereas the access to the natural resources they possess would have been offered for free to anyone because the latter would have been stated a common patrimony! In spite of this sudden stopping, the movement is slowly and indirectly in progress through the extension of human rights (negotiations on new economic and social rights) and the emergence of a doctrine of humanitarian interference in domestic situations. It is also sustained by the action of main international NGOs, the discourse of which is full of references to the rights of all citizens of the world and survival of Mankind.

[8] On this emergence, see Kiss (1989). See also the historical development of international eco-politics described by Le Prestre (2005).

Towards a new hybrid concept of sovereignty

If this new look on states' status and obligations get an extended influence in the future, it would change a lot the approach of international coordination to address global issues such as climate change. For them, the conventional concept of sovereignty locks action in dead-end of free-riding and prisoner's dilemma. The more a coalition include states by numbers, the more outsiders are incited to stay outside since they get the best of both worlds: access to a public good paid by other states without having to pay for it and even taking economic advantage on competitive international markets. The alternative foundation of sovereignty sets a new right of a coalition of "good-willing states for the Humanity's sake"[9] to look after the behaviours of rogue states who refuse to care for the global environment. Working for the common good of Humanity would then create a new right of states that take part to the coalition not to be penalized in economic competition just because they care for common interests of the Humanity. For instance they would be entitled to take measures of economic protection, such as carbon taxes at borders on imports from rogue states that free ride regarding the collective effort of controlling greenhouse gas emissions.

On this basis I suggest a synthesis. States have two types of obligations. The first one is to ensure the safety of peoples and citizens before which they are accountable. Would one rule of trade come into contradiction with this first obligation, there is no doubt that the rule of trade would be ignored or suspended, whatever treaties would have been signed. According to the second one, states are the guardians of common interests of Humanity and, for this, are accountable before the whole human community – not only other states - for what they do at home regarding human rights and the management of common resources and life conditions on Earth.

This is the context in which the issue of collective preferences can be thought of.

4. Links between collective preferences and the precautionary principle

The PP is a norm and a benchmark to address situations of scientific uncertainty on potential damage to health and the environment. At first sight, it is a rather technical and limited norm for specific situations intensely depending on scientific expertise. However, there are also subtle links with the issue of collective preferences. Such links are based notably on the current reference, in the context of discussions on trade and risks to health, to the so-called "other legitimate factors". My overall judgment is that these links are necessary but dangerous, because of huge possibilities of confusion and skidding.

[9] Clearly some cautious procedural rules and conditions would have to be defined to authenticate that some initiatives are really taken for the common good of Humanity: referring to an enforceable multilateral convention (for instance the Kyoto protocol as linked to the UNFCCC); gathering a sufficient quorum of participating states, and so on. However, international unanimity could not be required.

Opening the black box of collective preferences

First of all, it is necessary to open the black box of collective preferences in order to identify what is relevant and what is not. Many different things may be included under this category. I suggest considering a list of couples:

- *Are we talking about preferences on collective rules or for specific goods?* Collective rules belong to the realm of politics and sovereignty to the extent the latter has not been delegated to supra-state levels. Political autonomy regarding rule setting belongs to the core of a democratic life. If parts of sovereignty have been transferred to supra-state bodies for some matters, new democratic procedures should also be put into place at these higher levels to achieve a legitimate equilibrium. The standard accusation against the present state of affairs is that transfers of power and sovereignty to international bodies have not been accompanied by a parallel extension of democratic control on these new bodies. Things being what they are, the emergence of a claim for collective preferences is a means to recall the insufficient democratic legitimacy of international organisations such as WTO, since their governing bodies only represent states and not the peoples.
- *Regarding goods, are we talking of private goods or public ones?* For private goods that do not have a tutelary dimension, competitive markets are the appropriate responses and so-called collective preferences are just then a statistical aggregate of market equilibriums. They offer no basis for state intervention at the borders. There is also no connection with the PP. On the contrary, public goods have to be produced or preserved by public authorities and, whereas economic arguments and calculus are proposed to define their optimal levels of production or protection, the dependency towards public institutions inevitably make those goods enter a public arena that is submitted to political games and public justification requirements. Then the specific procedures and institutions set-up in each country to provide those goods can be seen as expressing a sort of collective preference. They may belong to the block of sovereignty of each country, but some countries may want to change them and agree on new common procedural rules.
- *Are we talking of an aggregation of individual preferences of consumers or truly collective preferences, i.e. preferences of the political community as such?* In the former case, the positive observation of trade relations and market equilibriums has no specific political meaning. There is no reason to interfere with trade rules if they ensure an open choice on competitive markets. If distributive issues have to be addressed, specific means of redistribution have to be considered. In the case of truly collective preferences, we are dealing with democratic and political processes that involve issues of representation and deliberation. The international trade order has to acknowledge and respect the role and place of such democratic processes and of public bodies that bear them, inasmuch the latter respect basic rights of individuals and economic agents.

  With this case, differences are important beyond the use of the same word “preferences”. Differences are not only marking the procedures involved (market on one side, and deliberation, representation, vote and arbitration on the other side) but also the very nature of preferences: individual preferences of consumers express, this

is a tautology, the unique specific preferences of each individual regarding the bundle of goods she wants to consume. Individuals do not have to justify such preferences, expressing personal taste. Quite different is the nature of collective preferences concerning rules or future orientations of a political community. They also depend on a process of aggregation of individual preferences into a collective choice but the raw material is supposed to be the reflexive view that each citizen has on the common good, not his contingent personal taste for private matters. Each individual has then to abstract from personal features and source of attachments (family links, place of childhood, vested interests, and so on) in order to identify what are the best options for the community to which he belongs. This is the reason why Rousseau's approach of general interest commanded to lessen all intermediate communities and guilds, perceived as obstacles on the way towards the true interest of the overall national community. The Rawls' veil of ignorance aimed at achieving the same result of abstraction from individual peculiarities (Rawls, 1971).

The precautionary principle and collective preferences

Let us now consider to which extent the PP is concerned by collective preferences and to which extent it should be maintained at good distance from them. The PP is mainly concerned through the idea of proportionality. Precautionary measures have to be calibrated according to the level of four types of variables: possible damage, safety goals, direct and opportunity costs of measures and, last but not least, the scientific consistency of hypotheses of hazards –the less a hypothesis is scientifically documented and supported, the less stringent can legitimately be the measures, all things being equal -.

The first three variables depend ultimately on collective preferences, under the different forms they can take: for the damage, it is primarily an issue of aggregation of individual (dis)utilities; for the level of safety, this is both an issue of individual choice and collective preference, taking account of important political aspects such as the distribution of threats and exposures to hazards among social groups; the cost dimension involves both private costs, collective costs and the use of public funds under democratic control. There is no reason why different countries would share the same relative values and should make the same trade-off, whatever the differences of their situations. Think for instance of the value practically acknowledged to the loss of a statistical human life…

Regarding the fourth variable, it would largely reflect national specificities in organising scientific expertise and defining patterns of relations between experts and decision-makers; it would also depend on the counter-factual scenario chosen as a reference to assess hazards: for instance are we going to compare GMOs with modern intensive agricultural practices or only with organic culture? According to which one is chosen, GMOs will appear more or less dangerous than the reference. Whereas science is supposed to aim at universal procedures for a universal knowledge, expertise is inescapably influenced by contexts of action, which depend on specific features of public life of each country or international scenes to which expertise is attached. All these elements of proportionality are to some extent affected by the political process determining collective preferences; hence they cannot be detached from the block of sovereignty. So there are good reasons why measures

taken in the name of the PP are not the same from one country to another. And these reasons are not that some countries are right and the others wrong.

This being said, the exact account taken of collective preferences should only be linked to an assessment of environmental and health hazards within the general constraints of proportionality and coherence among measures adopted for similar risks: collective preferences cannot legitimately justify that products generating analogous risks are treated in an asymmetrical way, just because some would be imported and others would be national products. Beyond, collective preferences have to stay apart from the PP. It is with scepticism and reluctance that I consider the ambiguous reference to these "other legitimate considerations" that have been introduced in international discussions in relation to the PP. For instance, should public authorities base the choice of measures on the public perception of risks, or on a scientific assessment? On both of them? Is the matter an issue of risk management or of management of public opinion? It may be legitimate for public authorities to take measures in order to preserve the public order and restore social trust; however the latter should not be permitted to be disguised as safety measures when they do not significantly contribute to improve safety. To this regard the EU Commission has been somewhat too far, introducing confusion in ideas and "good reasons". Such confusion is an obstacle for a larger international acknowledgement of the PP. It is critical for public authorities not to use the PP as a joker to cover a radical lack of scientific justification and disguise commercial protectionist motivations or other preferences not linked to risk management.

5. Which links between trade and environment?

Over the past thirty years, health and environmental protection policies, on the one hand, and competition and international trade rules, on the other, have developed along largely separate lines, in spite of the formulation of principles such as the polluter-pays principle (OECD, 1975). During this period, two parallel developments have occurred: first, the emergence of global environmental problems, such as the hole in the ozone layer, deteriorating biodiversity and the risk of a major change of climate; and, secondly, a gradual liberalization of world trade and growing economic interdependency of activities conducted in the various regions of the world. These two trends have been accompanied by new institutional developments, particularly on the international scene, including the Montreal Protocol, the UNFCCC, the UN Biodiversity Convention and Agenda 21, on the one hand; and the conclusions of the Uruguay Round, notably the SPS Agreement and the creation of the WTO, on the other. Both types of issues imply different equilibriums between state sovereignty and international coordination. Hence growing frictions that the PP amplifies. Hence new questions: which objective should be senior and, consequently, which branch of international law should prevail? Or, put less black and white, how should these two fundamental developments be joined in a coherent and balanced way?

Although development of world trade is not intrinsically incompatible with health and environmental protection, expansion of trade under modern technological conditions undeniably modifies the conditions on which the latter can be provided. There are broad circumstances in which these objectives do not converge easily. Health protection objectives have traditionally prompted governments to impose restrictions on circulation of animals,

agricultural products and foods. Governments may therefore consider themselves justified in limiting importation of products that could affect the safety standards they believe necessary to maintain for local consumers and citizens. Such measures frequently trigger commercial tension, since exporters tend to consider them inappropriate actions and suspect them to protect special commercial interests.

Initial basic distinctions among situations

Certainly clarifying issues by introducing a few basic distinctions regarding environmental issues is useful at this stage. Some issues are local (most water pollution begins by local effects), others are regional (Europe, Asia, Africa); still others are global (climate change). Some issues arise because of production processes and other because of consumption and waste generation.

From a standard economic viewpoint, local environmental problems generated by production activities should be managed according preferences of local groups and population who are affected. Thus there is no point to impose uniform standards throughout the world. When issues are generated by consumption, the same line of argument entitles public authorities of the states in which consumption takes place, or waste management has to be tackled, to take the responsibility of measures chosen on the basis of the preferences of these consumer states. There is no economic reason why these states should renounce to their own authentic preferences and align on the preferences of exporter countries. The only counterweight to a splitting of standards could be brought by the mutual benefits of a standardization of requirements because of economies of scale in production and distribution of internationally traded goods. For instance, take the issue of regimes of packaging waste treatment (selective collection and sorting in view of recycling, reduction at source, disposal in landfills): here, the preferences of the consumer country are the legitimate reference to set up incentives, requirements and standards about packaging use, whatever difficulties it could bring to exporters wanting to enter the market, under the limit of a non-discriminatory approach (Buclet & Godard, 2000; Buclet, 2002).

For a global public good such as climate, the issue is framed differently: ideally a global institutional framework is necessary to set-up a unified economic regime allowing to overcome free-riding incentives and to allocate efforts of abatement of net emissions worldwide cost-effectively. Even in that case, all countries will not be touched by climate change the same way and do not share the same priorities and trade-off between more immediate consumption and protection of the public good. These features make efficiency and distributive justice more entangled than elsewhere: it would not be sufficient to have one unique price for carbon on a world market to maximize the world welfare in connection to climate change; the initial distribution of obligations and rights will also matter to take account of different expositions to climatic hazards and different priorities. Meanwhile, these important distributive issues should not alter the regime of circulation of abatements obligations or greenhouse gas quotas if allocative efficiency is aimed at. For instance, in the context of the implementation of the Kyoto Protocol, a principle of liability of the seller has been adopted, which means that on the paper there is no distinction to be made between tons of CO2, once they have been bought by a country, whatever the seller.

Environmental globalization at work

Basic analytical distinctions being made, we have to go one step further in acknowledging that several processes are putting this intellectual order into question. The distinction between local and global problems, particularly, tends to be significantly attenuated. Globalization is also at work regarding the look cast on environmental issues. We can observe two concomitant mechanisms to this regard. One of the principles underlying action by NGOs devoted to environmental protection is to give the largest possible scope and meaning to local crises and events by including them in issues with planetary significance, such as preservation of biodiversity, prevention of climate-related risks, the fight against encroachment of the desert or growing global scarcity of some critical natural resources (soils for cultivation, water, oil and so on). They also endeavor to give maximum worldwide publicity to certain local practices of international business considered incompatible with what they consider to be the requirements of sustainable development or environmental protection. In response, multinational companies, which need to maintain their reputation and legitimacy, have begun to care about the extra local implications of accidents for which they are liable and of environmental carelessness at their production units, even when their behavior is satisfying local regulations of the host country. For various reasons, most transnational companies have decided to enforce the same level of environmental management rules at their industrial facilities throughout the world. This way, the basis on which environmental policies are based tends to become broader and escape local contexts. It then extends the sphere of relevance of processes of definition of common or harmonized international environmental rules, thereby deviating from a standard economic representation of local individual preferences.

New concerns leading to a broader concept of quality of goods

The growing concern expressed by consumers, NGOs and major retailers, especially in Europe, about the health risks generated by the consumption of certain foods and the environmental impact of the production chain used to extract natural resources and produce goods imported by industrialized countries, has resulted in a new approach to product quality. For instance, suppliers must certify that the wood used in furnishings come from forests managed according to rules of sustainability; they must offer indirect guarantees that beef does not contain prions by certifying that the cattle was raised at a given farm in a given region where no recycled beef waste was incorporated as protein adds to feed them; they must certify that certain peas did not grow in fields fertilized with liquid or urban manure over a period of at least five years, etc. The distinction between process and product is then challenged every time the quality of goods is a critical issue and certification of this quality depends on the capacity to certify the quality of the production chains according to safety and environmental criteria.

This new broader approach of the quality of goods tends to enlarge and get more complex the informational basis required to sustain trade relations. To be internationally traded in the coming era of precaution, sensitive products must be supported by all sorts of information: producing analyses of life cycles, meeting various thresholds standards in relation to the components of a product, mentioning what is in and what is not, producing environmental management certificates and traceability indicators going upwards for an identification of economic and geographical origins. Same sorts of demands of information

also arose regarding social aspects and working conditions at the production place. As an economic institution, the marketplace had often been glorified as an efficient device with minimum informational requirements, with the idea that prices could synthesize all information that buyers could need. To this regard, a standard market can be said an institution of oblivion, a means to put a veil on far distant concrete conditions of production. This is precisely what is being put into question with the emergence of the questions of health hazards, environmental problems and human rights and, as a response, with the symmetrical emergence of new characters of citizen-consumers. For instance the last mad-cow disease crisis in Europe (1996-2000) has been a moment of sharp unveiling, for consumers, of what modern technical and economic conditions for raising cattle and producing food were really made.

Without breaking with the need for a scientific approach, the PP definitely differs from the traditional positivistic approach to scientific proof. Its gradual inclusion in international law will necessarily modify the technical and political foundations of trade, since the various regions of the world will most likely have a different idea of acceptable risks, of a right and well-conducted expertise or even of the very nature of the scientific elements to consider legitimately within such an expertise.

New patterns of trade chains framed by informational constraints and broader quality requirements

For products carrying a health risk or resulting from an environmentally sensitive manufacturing process, trade networks will have to align with the new information requirements and accept either of the following alternatives: either they will have to find ways to provide the information required to certify quality while preserving a mass manufacturing approach based on blending and long trade channels, or they will have to move towards smaller and specialized production and distribution chains with precise specifications, adjusting the size of trade channels to the guarantees they will be able to offer as regards the environmental and health quality of their production chains.

On the basis of the analysis developed in this paper, let me put forward a conjecture: contrary to what is often forecast - a huge process of convergence towards uniform liberal trade rules for all goods on a world market -, I think that the future will bring a differentiation of several regimes of international circulation of goods, at least if environmental and health issues continue to catch interest of consumers and governments. It will add on other “good reasons” to control and restrain trading for certain goods such as defense-sensitive technologies. We may at least identify three theoretic regimes in relation to health and environmental safety:

- ordinary goods showing no quality uncertainty; not being suspected for unknown health and environmental reasons they will be traded according to liberal rules once they meet commonly agreed technical standards (cars, gasoline, computers, books, …),
- specific goods with stringent limitations and controls on trade flows, as in the case of dangerous and toxic waste or protected endangered animal species; restrictions are

then designed to avoid or limit trade on the basis of a principle of geographical proximity,

- goods the circulation of which is profiled by the capacity of producers to bring all the required information and guarantees on the health and environmental aspects of the whole producing chain; these goods crystallize a new broader concept of quality, enlarged to potential risks, having to meet precautionary requirements; different views on acceptable levels of risks will draw circulation areas in which the same level of potential risks are accepted by common consent, as is illustrated by the geographical distribution of areas in which cultivation of GMOs is permitted. In some cases, new opportunities for alternative trade patterns will develop on the basis of short chains of distribution and mutual knowledge of producers and consumers. Beyond information issues, this new context will induce change in the choice of production and distribution techniques, notably putting into question mass undifferentiated pooling and mix of raw materials when these materials are critical in determining the expected broader quality of goods.

When new conditions of international trade de facto impose a hybrid sovereignty

Let us finally interpret these emergent processes in the context of the previous discussion on sovereignty. They clearly put into question the classical concept of absolute state sovereignty and work at extending a mutual right of cross-examination among states about what they are doing domestically in relation with the environmental and social impacts of production. Amazingly, it is through trade relations, and not by solemn international political breakthroughs, that sovereignty of states is at the same time expanded (a community is entitled to ask another one to be accountable regarding environmental and health consequences of domestic activity) and limited (a community is asked to be accountable before others for what it does domestically). Under a regime in which the PP becomes an acknowledged norm of international law, sovereignty becomes hybrid; it incorporates new rights and new obligations and generates new sources of tensions that will have to be contained.

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