

**Use of Ecolabels in Promoting  
Exports from Developing Countries  
to Developed Countries:  
Lessons from the Indian Leather  
Footwear Industry**

Parashar Kulkarni

NOTA DI LAVORO 15.2005

**JANUARY 2005**

CSR – Corporate Social Responsibility and  
Sustainable Management

Parashar Kulkarni, *CUTS Centre for International Trade, Economics & Environment*

This paper can be downloaded without charge at:

The Fondazione Eni Enrico Mattei Note di Lavoro Series Index:  
<http://www.feem.it/Feem/Pub/Publications/WPapers/default.htm>

Social Science Research Network Electronic Paper Collection:  
<http://ssrn.com/abstract=657183>

The opinions expressed in this paper do not necessarily reflect the position of  
Fondazione Eni Enrico Mattei  
Corso Magenta, 63, 20123 Milano (I), web site: [www.feem.it](http://www.feem.it), e-mail: [working.papers@feem.it](mailto:working.papers@feem.it)

# **Use of Ecolabels in Promoting Exports from Developing Countries to Developed Countries: Lessons from the Indian Leather Footwear Industry**

## **Summary**

This paper tries to understand whether importers in the North are able to push exporters in the South towards sustainable production, with the help of a case study of the Indian leather industry. After providing a short description of the global leather footwear industry, the first section provides insights into the competitive advantages of different countries, characteristics of developing country exporters and the difference between large and small European buyers of Indian leather footwear. The subsequent section provides an insight into the different chains of influence that exist in trying to make international trade more sustainable with the help of a broad understanding of the means, their effectiveness, their constraints and a few examples of such chains of influence. Section four studies whether ecolabels are in a position to be suitable indicators of sustainability. Further it delves into understanding the perspectives of consumers, producers and regulators on whether ecolabels are useful in promoting sustainable exports. The explanation of how ecolabels conflict with brand dynamics is quite interesting. The policy measures provide clear options for targeting sustainable production. Suggestions include use of eco-elasticity indicator, toolbox approach to environment policy, introducing comprehensive sustainability labels, maintaining a level of mandatory legislations as well as a constructive effort to increase transparency in supply chains. The annexure include the research methodology adopted for the paper, the reason for choosing Europe as destination for the research, a brief overview about types of ecolabels and a small description of integrated product policies.

**Keywords:** Ecolabels, Export promotion, Leather footwear, Market access

**JEL Classification:** F18

*Address for correspondence*

Parashar Kulkarni  
Economics & Environment  
CUTS Centre for International Trade  
6, Usha Kiran  
2nd Pasta lane, Colaba  
400005 Mumbai  
India  
E-mail: parashark@hotmail.com

## **I. Introduction**

There is substantial work done on environment and trade linkages. Further sectorial work that looks at the effect of environmental regulations on the exports of leather and textiles industry has also been undertaken<sup>1</sup>. However there appears substantial emphasis on mandatory regulations and cost-benefit analysis of ecolabels, both of which have been left out of this paper. Further researchers have seldom taken a holistic view of voluntary ecolabels, i.e. whether they are useful in reducing pollution, whether they are useful in increasing exports and whether they satisfy all participants in the entire value chain, i.e. exporters, importers, final consumers and regulators. This paper evolves from the perspectives of decision makers in the business community as well as regulators, regarding voluntary mechanisms of promoting sustainable production. It is often seen that systemic ideologies (views, reservations, bias, opinions etc) are often ignored in such research. This paper tries to fill that void.

This paper is structured as follows:

Section 1 provides a brief introduction of the Indian leather footwear industry, with emphasis on the export sector.

Section 2 tries to study the methods used to promote sustainable production in exports from South to North, using the chains of influence approach. These are namely government-to-government, civil society to government to importers, civil society to importers to exporters etc.

Section 3 delves deeper into understanding the use of ecolabels<sup>2</sup> as market friendly means of promoting sustainable exports. This implies that ecolabels should serve two purposes; increase exports and promote sustainable production. With the help of qualitative participatory interviews with leather exporters in India, the paper tries to understand the problems that result in poor utility of ecolabels to render this role.

Section 4 suggests targeted policy measures to promote sustainable production.

---

<sup>1</sup> For details of environment and trade related work (including leather industry related) refer International Institute of Sustainable Development ([www.iisd.ca](http://www.iisd.ca))

<sup>2</sup> Ecolabels refer to voluntary life cycle labels.

## II. The Indian leather footwear Industry: An overview <sup>3</sup>

With a turnover of US\$ 4billion, the Indian leather industry exports US\$ 2 billion worth of leather and leather products i.e. 50 percent of its total production. Compared to the last two decades, where a mere 20 percent of Indian exports were in the form of value added products, in since 2003, nearly 80 percent of Indian exports are value added products. The value addition is to the tune of 200 percent to 500 percent. Further, the industry employs more than 2.5 million people and 80 percent of the total produce by value in the Indian leather sector originates from small and medium enterprises. The Indian leather industry contributed export earnings of Rs.8650 crores (US\$ 1800 million) in 2002-03. Leather products are within the top ten exports earners for India and account for approximately 2 percent share of the global market. India is the second biggest leather producer in the world after China, however it does not even figure in the top ten countries in leather footwear exports.

In 2003, Out of a total of US\$ 2094 million of exports of leather and leather products by India, footwear and footwear components accounted for US\$ 750 million, i.e. more that one third.

Approximately 80 percent of the leather footwear is sold with the help of middlemen i.e. agencies, buying houses, trading exporters and country stockists, while 20 percent is sold either through direct relationship between European retailer and Indian manufacturer or manufacturers having their independent overseas offices. Less than 10 percent of the Indian manufacturers have long-term (over 5 years) contractual relationship with a European buyer. This is because the footwear industry is very fashion conscious and trends in the industry keep changing. Hence buyers prefer to avoid excess reliance on select suppliers, but prefer cherry picking in the market. This sourcing tendency is similar to most fashion products including garments.

The global trade in leather goods has grown almost tenfold in the last 20 years. However the industry (specifically the raw leather processing industry) is one of the most polluting in the world. It is highly input oriented, requiring extensive processes to arrive at the final output in the form of usable leather. Compared with other developing countries, the Indian industry has been quick to respond to regulations regarding environmental pollutants in general and azo dyes in particular. Amongst other measures, an eco-labelling scheme has been set up in India. This has, however, not been widely adopted, primarily on account of inertia and want of promotional efforts.

According to US and European buyer interviews undertaken by H. Schmitz<sup>4</sup>, the competitive advantages of four footwear-producing countries are as below

Table 1. Competitive advantage of different countries in the global leather industry

Country	Competitive Advantages	Suitable Markets
China	<ul style="list-style-type: none"><li>- Cheap source of footwear</li><li>- Reliable product quality</li><li>- Strong in coping with massive standardized</li></ul>	Huge price-driven orders from US discount retail chains.

<sup>3</sup> Data in this section is sourced from Federation of Indian export organizations, India and India and Council for Leather Exports, India

<sup>4</sup> Hubert Schmitz and Knorringa (1999) "Learning from Global Buyers" Working Paper 100, November 1999, Institute of Development Studies

	orders	
Brazil	Capable of supplying substantial volumes of quality branded products, not requiring particularly innovative design	Middle class retail chains
India	Capable of responding to small to medium size orders of leather shoes which sell on price rather than quality	Price- driven medium size markets
Italy	Innovative design, high quality fashion	Small and high fashion orders from boutiques

*Characteristics of developing country exporters and their European buyers*

The North South dimension in the international footwear chain is quite similar to that of other industries. Multinational companies from developed countries own brands that are successful in developed and developing countries, while brands of developing countries seldom exist in developed countries. Nearly 98 percent of the total exports of India’s leather footwear industry are in the form of developed country brands or brands which are not popular at all (branding for the sake of a name tag and products which are not bought for their brands). Thus one can conclude that most of India’s exports reach final consumers who are not even aware of the manufacturers of their footwear. An interesting observation in retail outlets in four European countries, of companies sourcing from India revealed that no sampled footwear incorporated the label “Made in India” on the shoe. On the other hand one could easily come across “Made in Italy” and “Made in UK” labels. This clearly reveals the low status value attached to Indian leather footwear. However the case is similar for China, Brazil, Vietnam and all major leather footwear-exporting countries in the South. India faces immense competition from China in the large buyer segment. However India has niche advantages in providing small lots and maintaining an acceptable quality.

European buyers of Indian exporters can be classified as large buyers and small buyers. This table brings out the differences between the European small buyer and the large buyer and their characteristics.

Table 2. Differences between large and small buyers of Indian leather footwear

	<b>Large Buyer</b>	<b>Small Buyer</b>
1	Definition: Order size above 36000 pairs per annum + Order size above 25 percent of total sales of the exporter + Long term relationship with the company i.e. at least 5 years	Order size less than 20 percent of total sales of the exporter + Short term relationship
2	Examples Marks and Spencer, Clarks, Florsheim	Shoe Baloo and similar small outfits
3	Usually has a public face i.e. listed company, well known brand and retail outlets	Seldom has a public face, Sales occur through small shops and brand is not very popular

4	Constantly under vigilance from stakeholders namely consumer organizations and environment groups	Normally hidden from stakeholder vigilance
5	Corporate social responsibility is a norm	CSR is seldom practised
6	Exercise substantial influence on seller production processes	Least influential on seller production processes
7	Big buyers often cooperate to maintain high standards	Small buyers generally maintain lower standards
8	Practising eco friendly production entails certain fixed costs. The additional environment costs in big orders are more than compensated by scale economies of large orders	Small buyers cannot push for cost increasing environment and labour conditions unless they are ready to pay a higher price. Small orders are not able to provide scale efficiencies that can compensate for environment costs hence small buyers are not able to push for better compliance or better standards without paying from their own pocket.
9	They are very cautious regards social issues	They are seldom in a position to effectively tackle social concerns
10	Barely 2 percent of Indian exports go to big buyers	98 percent of Indian exports go to small buyers
11	Big buyers set their own environmental and social norms which have product and process elements	Small buyers do not set any process norms, but their product norms relate to statutory requirements of the respective destination country
12	Verification processes include third party certification, personal visits and laboratory tests. Self-certification is acceptable subsequent to establishing a degree of trust.	There are seldom any verification processes. Self-certification by exporter is a norm. Risk of non-compliance, similar to large buyers, remains with the exporter.

### III. Methods of promoting sustainable exports from South to North: Chains of Influence<sup>5</sup> Approach<sup>6</sup>

There exist several methods of influencing sustainable production. The chains of influence are the various pressure tactics used by different stakeholders in promoting sustainable production in the leather industry. These chains of influence, if well used can change the effect of environmental and social factors on international supply chains. They are as follows:

Supranational Institutions → Domestic Government → Exporters

International intergovernmental bodies, or governments of other nations push for better environmental legislation in a particular country, which affect the exporters of that country.

Table 3

<b>Means</b>	Multilateral environmental treaties Bilateral and regional trade agreements
<b>Examples</b>	Convention on International Trade in Endangered Species (CITES) : Trade in leather of endangered animals such as elephants and select reptiles is rendered illegal.
<b>Constraints</b>	Trade effecting regulations are governed by WTO rules
<b>Effectiveness</b>	Since most treaties relate to global environmental problems, they may be inadequate to deal with sector specific issues

Civil society → Domestic Government → Exporters

Members of the civil society influence the government to enact legislations that affect the behaviour of exporters.

Table 4

<b>Means</b>	Public Litigation, Campaigning for new legislation
<b>Examples</b>	In Tamil Nadu, a state in South India, the Velur Citizen’s Forum was one of the first active people’s organizations to engage in a legal battle against the tanneries for contamination of underground drinking water due to tannery effluents. In 1996 the Supreme Court ruled in their favour resulting in closure of several tanneries. This cause a spark in the industry regards the need for more constructive approach to the environment problems. Further the State Pollution Control Board also became stricter in enforcing environmental regulations on tannery pollution.
<b>Constraints</b>	Shifting of industries due to excess environmental regulation is a matter of concern.

<sup>5</sup> In these tables there is an attempt to distinguish between mandatory and voluntary regulations. In a chain where the government is mentioned, it implies mandatory provisions. While in a chain where government is not mentioned, it is a voluntary requirement. In such cases the government may play the role of a facilitator. E.g. Setting up an ecolabel scheme

<sup>6</sup> Though media is an important participant in the chain of influence, it is a medium to exercise influence. Hence it is not incorporated separately.

<b>Effectiveness</b>	Pressing problems can be best tackled using this chain of influence. However for promoting best practises, this method may be inadequate
----------------------	--

Civil society → Importers → Exporters

Civil society stakeholders target importers to modify their sourcing practises and make them more sustainable. This in turn affects exporters. This pattern is common in organic foods.

Table 5

<b>Means</b>	Use of pressure tactics such as using consumer organizations and mass media. Collaborative approaches such as capacity building on Corporate Social Responsibility projects
<b>Examples</b>	In 2000, PETA (People for the Ethical Treatment of Animals) launched a mass campaign for a blanket ban on leather products from India on account of cruel treatment of cows in Indian slaughterhouses. This resulted in several companies including big brands such as Gap, to stop purchasing from India. Subsequently the Indian government approached PETA for a collaborative approach to improving Indian animal handling methods, Subsequently PETA called off the campaign, since a constructive effort to improve animal conditions was forthcoming.
<b>Constraints</b>	Effectiveness of voluntary initiatives is in a best endeavour form; hence effective implementation has to be secured.
<b>Effectiveness</b>	Sector specific issues are well tackled. However this chain is more relevant for organizations with public faces. Small companies, especially those dealing in industrial markets may be less affected.



#### IV. Why aren't ecolabels popular?

Though a comprehensive study on the usefulness of different stakeholders and their tools, in promoting sustainable production is required in the field of B2B leather footwear exports from South to North, this section restrict its scope to understanding the two questions:

- whether *ecolabels*<sup>7</sup>, can suit as good indicators of *sustainability*<sup>8</sup> and
- what is the *potential*<sup>9</sup> of ecolabels as a tool to increase the *value*<sup>10</sup> of imports from India to Europe?

*Are ecolabels good indicators of sustainability?*

The following table enumerates the key concerns raised by buyers' regarding Indian footwear exports, as revealed in the interviews of Indian exporters and European buyers.

Table 6. Success of ecolabels in addressing concerns of exporters

No.	Concerns raised regarding the Indian leather industry	Do ecolabels provide the solution
1	Animal Mistreatment	No
2	Child Labour	No
3	Poor health and safety conditions and low ventilation in factories (sweat shops)	No
4	Minimum wages	No
5	Azo dye content in footwear <sup>11</sup>	Yes
6	Pentachlorophenol (PCP) Content <sup>12</sup>	Yes

From the above table it is clear that ecolabels do not serve as comprehensive indicators of sustainability, since relevant sustainability parameters are not satisfied.

*What is the potential of ecolabels as a tool to increase the value of imports from India to Europe?*

Though ecolabels are inadequate as comprehensive indicators of sustainability, this is however inadequate to render them useless as sales promotion instruments in leather footwear export markets. The research involved comprehensive interviews with relevant stakeholders i.e. Indian sellers, European sellers (retailers/wholesalers and like) and regulators regarding the usefulness of ecolabels to promote ecofriendly exports. The resultant output revealed the low popularity of ecolabels amongst consumers, business's as well as regulators. Perspectives from these three stakeholders are listed below.

<sup>7</sup> Ecolabels in the paper refer to third party, life cycle based, voluntary environment certification i.e. type three labels<sup>7</sup>. E.g. Indian Ecomark, European Ecolabel and the German Blue Angel. For types of ecolabels refer Annexure 3.

<sup>8</sup> Sustainability means the ability of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. Hence sustainability is a holistic concept, which takes into account social and environment issues as well as problems that are specific to that region.

<sup>9</sup> Potential involves a forward looking approach, since this research is a perception mapping survey of relevant stakeholders and not a historical trend analysis.

<sup>10</sup> value implies an increase in exports due to price premium, increase in product volume or both.

<sup>11</sup> In India, select azo dyes and PCP are prohibited for use in the leather industry, resulting in no added advantages by applying for ecolabels.

<sup>12</sup> See above footnote.

***Consumer perspectives: Reasons for low popularity of ecolabels amongst consumers in four European countries***

Consumer organizations in all four countries were used as proxies for the view of the consumers.

Representations from consumer organizations and ecolabelling organizations revealed that consumers were unwilling to pay a higher price for ecolabelled footwear, which are more expensive than non ecolabelled footwear.

The leather footwear industry is best described as a fashion industry. In consonance with the normal phenomenon of fashion trends, footwear in general, do not have a long shelf life. Hence buyers are not so concerned about their eco friendly status. Further ecolabels do not contribute as status symbols or fashion statements.

There is no direct contact between the skin and leather footwear. In European markets as well as in India, there are strict regulations, which ban hazardous substances such as pentachlorophenol (PCP) and select azo dyes. Further the levels of formaldehyde and select heavy metals such as lead and chromium is also restricted by maximum residue legislations. Thus consumers are protected against hazardous substances and don't need special ecolabelled shoes for their safety.

An individual as a concerned citizen acts differently vis-à-vis an individual as a consumer. A consumer is more selfish, rational and believes in maximisation of value. On the other hand a concerned citizen may be concerned about how the shoes are manufactured. However during the purchase of shoes an individual seldom exercises his virtuous self, thus revealing higher preference for style, comfort and price over ecolabels.

In European countries the level of trust that citizens impart on the government is high. Hence consumers believe that the government will automatically ban any harmful chemical, without them having to exercise any purchasing choice.

***Business Perspectives: Reasons for low popularity of ecolabels amongst sellers***

In the four European countries surveyed (In addition to India) the number of ecolabels granted for shoes were as follows

Table 7. Footwear Ecolabels in select countries

Germany	The Netherlands	Belgium	UK	India
3	2	1	0	0

The approximate market share of ecolabelled footwear was not even 0.5 percent of total European footwear market.

The European and Indian businesses revealed the following problems regarding ecolabels

***Ecolabels hamper innovation***

Selected retailers interviewed, complained that ecolabels were quite backward looking and stymied innovation. The argument was that the time taken for granting an ecolabel was approximately 4 months. Further the label is generally valid for one year. The footwear industry is a highly fashion conscious industry and often companies' change their shoe patterns every

year. Ecolabels are not given for the whole company, but for individual lines, there is a risk that the ecolabelled footwear may not live a shelf life of one year. Further the designing cycle starts one year in advance and there is seldom enough time to comply with ecolabels. Hence after receiving an ecolabel there is no guarantee that the footwear will remain on the shelf for two months. Thus companies do not want to invest in ecolabels when their production lines are so flexible and product innovation is so fast.

#### *Ecofriendly production results in poor product quality*

Select companies have tried experimenting with eco friendly products and have not been satisfied with their performance. Vegetable dyes are less fastening than their synthetic counterparts. Secondly vegetable dyes cannot be used for very dark finishes since they do not give the texture provided by synthetic dyes. There have also been attempts to replace synthetic glue with organic glue. However organic glue is less durable and four times more expensive. Thus ecofriendly products in the leather footwear industry are less efficient. The second corollary is that there could be lack of information about competent ecofriendly products, if any.

#### *Companies are unable to pass on higher expenses*

Retailers are aware that consumers are unwilling to bear any additional costs of ecofriendliness for footwear products, the way they are willing to pay more for organic food.

#### *Ecolabels ignore social issues*

Environment is not a big cause of concern in the footwear industry, unlike the case for industries such as fishing and mining. The bigger concerns relate to social issues such as child labour and animal mistreatment. Since ecolabels are unable to take care of these issues, they are not useful for buyers.

#### *Ecolabels conflict with brand dynamics*

Several companies have been particularly wary of ecolabels due to the following brand related problems.

##### **- Brand Dilution**

Companies invest huge amounts of money in establishing their brands. An ecolabel would require them to invest additional money in conveying what the ecolabel stands for. Since most companies have fixed advertising budgets, they would be required to divert funds from advertisements for their own footwear label. Further having a shoe with two labels will dilute the attention procured by the single label that was present earlier.

##### **- Brand Diffusion**

Branding as a subject is quite advanced. Companies align their brands to very precise meanings. Ecolabels are to be used by companies along with their own brands. This results in two brands on one particular product i.e. the footwear brand and the ecolabel. Often ecolabels do not match with what the brand is trying to convey resulting in brand diffusion. Take the case of Benetton, a premier line of lifestyle products ranging from shoes to clothing. Benetton has always conveyed a rebel image by using advertisements involving death row convicts etc. Using an ecolabel will soften the brand and diffuse its image.

##### **- Brand Cannibalisation**

Since ecolabels are given to individual product lines and not for all ranges, companies are unable to procure ecolabels for each and every footwear line. This results in ecolabelled footwear to compete with non-ecolabelled footwear. Often consumers question whether footwear without an

ecolabel are made in an environmentally unfriendly manner. This would result in poorer sales of non-ecolabelled footwear.

- Corporate identity

Select companies want to promote the complete organization as being socially responsible and environmentally conscious. Since ecolabels are given to individual products lines, the company is unable to advertise the ecolabel for company promotions, unlike environment management systems such as ISO 14000 series. Thus ecolabels conflict with corporate identity statements. Hence quite a few companies prefer being endorsed for company wide environmental measures and not product specific measures.

***Regulatory Perspectives: Clarifying the role of ecolabels***

Most environmentalists and regulators expect ecolabels to reduce pollution. This is a flawed concept in itself. Ecolabels do not reduce pollution. This will appear as a paradox to a number of policy makers dealing with environmental issues, but the arguments follows. Ecolabels are leadership labels. They are used to introduce best practises in environment management. Ecolabels are useful to indicate to industries, emerging practises for sustainable production. Ecolabels are beyond pollution control. They look at product life cycle management. Pollution reduction is to be tackled by domestic regulations and not by ecolabels.

Further ecolabels are consumer labels and not producer labels. They are expected to change consumer behaviour, on account of which producer behaviour may alter. Hence ecolabels should be used where consumers can exercise rational and selfish choice. Hence organic food labels are very successful in Europe since consumers are concerned regarding their own health.

Thirdly regulators are not expected to mass popularise ecolabels. Ecolabels are niche products that serve niche markets. This is factored in the ecolabel design. The moment most companies in that particular industry reach the levels of the ecolabel, the same would be upgraded to a higher level.

Fourthly ecolabel is not an alternative to environmental legislations. Environmental legislations are expected to reduce pollution. Ecolabels are more general while environmental regulations are more customised to geographic locations. This results in several instances where ecolabel criteria are lower than environmental regulation criteria. The case of the Indian ecolabel for footwear provides an interesting example. One of the ecolabel criteria for footwear is to obtain the “No Objection Certificate” of the State Pollution Control Board. The State Pollution Control Board in Tamil Nadu has imposed strict regulations for restricting the level of TDS (Total Dissolvable Salts) that are found in industrial effluent of tanneries because they pose a hazard to potable ground water, which is scarce in the state. This criterion can barely be met by 5 percent of the tanneries. However these tanneries could easily qualify for the ecolabel if they existed in another state. This clearly reflects on the possibility of domestic legislations to be higher than ecolabel legislations.

***Perception Synthesis***

The above perceptions lead us to find an answer for the second question; what is the potential of ecolabels as a tool to increase the value of imports from India to Europe. The following table synthesizes the perceptions and provides a brief understanding of the effect of ecolabels on buyer seller relationships, resulting in ecolabels to be less popular with businesses.

Table 8. Effect of ecolabels on commercial aspirations of business

<b>Variables</b>	<b>Effect of procuring an ecolabel on exports</b>
Increase in sales volume	Yes, for large buyers only if there is no/negligible price premium. Further price, quality and style have a forbearing. No for small buyers.
Price Premium	No, there is no market for ecolabelled Indian shoes in Europe
Conversion from short term to long term buyers	Yes, intangible advantages exist, and client relationship improves.
Conversion from B2B to B2C exports (unbranded to branded)	Yes, However Indian brands are not known in European market. A niche entry can be made, but the market is easily encroachable.

Thus there is no commercial basis for adopting an ecolabel by an Indian exporter for promoting exports since ecolabels are primarily consumer labels and Indian producers, on an average do not have any popular consumer brand of footwear in Europe. Hence Indian producers find it convenient to focus on what the buyer wants, instead of ecolabels.

## V. Policy Measures

The following represent concrete approaches to promote sustainable development via sustainable production. This paper steers away from conventional broad generalisations regarding policy options, and targets few select and novel solutions, that would prove to be of immense value for environmental policies of developing countries.

### *Environmental toolkit approach*

Regulators in developing countries need to look at a comprehensive toolkit of policy options to choose from. These include mandatory legislations, voluntary tools such as ecolabels, moral persuasion as well as apt application of deterrents and incentives.

The following examples would provide clarity to the toolkit approach

Mandatory Instruments: Ban on use of certain chemicals

Voluntary instruments: Ecolabels

Moral Persuasion: Separation of wastes before disposal

Incentives: Subsidies on purchase of waste treatment facilities

Deterrents: Penalties on disposal of wastes without treatment

The environment toolkit is gaining immense popularity in Europe and holds tremendous promise for developing countries. Another important element of the environmental toolkit is differentiating the targeting strategy for sustainable production as per products and market conditions.

Most governments in developing countries have a single environment ministry framing a common environment policy. There is greater need for customisation of policy approaches as per different sectors. The following is a brief example of which stakeholder should the government target to promote sustainable production, in given market environment.

- Ideal conditions for targeting buyers in a B2B market  
number of buyers are small. E.g. coffee industry  
buyers are big businesses. E.g. Automobiles  
buyers are located in close geographic spaces. E.g. Vineries

- Ideal Conditions for targeting sellers  
Number of sellers are small E.g. Petrol in India  
Sellers are big businesses. E.g. Refrigerators in India  
Sellers have a public face E.g. big brands such as Adidas and Nike

- Ideal conditions for targeting final consumers  
Products, which are of health concern. E.g. food products  
Products, which permit consumers to exercise their rational and selfish motive e.g. textiles which are free from carcinogenic dyes.

It would be apt to introduce the highly popular concept of “Integrated Product Policy<sup>13</sup>” that forms the crux of the environmental policy framework of the European Union. The concept of

---

<sup>13</sup> Refer Annexure 4

Integrated Product Policy IPP comes from the trends of the 5<sup>th</sup> Environmental Action Program of the EU of 1992, that, in facing the subject of the Sustainable Development in terms of policy and implementation instruments, proposed a new approach based on the investment with responsibility of all the involved parties (authorities, citizens and enterprises).

The IPP revolves around the concept of integration:

- analytic integration that aims at the analysis of the environmental performances for the whole life cycle, considering the impacts on all the environmental themes/sectors of reference;
- implementative integration that aims at the integration of many typologies of environmental policy instruments at disposal for reaching the environmental objectives, trying to use the possible complementary synergies.

There is growing consensus in several European ministries that there is need to focus more on producers and less on consumers for promoting sustainable production. Market-friendly mechanisms that require the consumer to exercise consumption choice as a virtuous citizen vis-à-vis a rational consumer have been unsuccessful. A simple example in the leather footwear industry reveals this trait. Parents are very conscious while buying leather footwear for infants, since some infants are habituated to putting their feet in their mouth. Hence parents may buy ecofriendly leather footwear for their infants. However infant leather footwear is a negligible percentage of the total footwear market, accounting for less than 0.1%. On the other hand parents are not concerned about ecofriendly footwear for their own feet. In Environment ministries and ecolabelling organizations, in all the four countries of the field research, have reiterated the same.

*Eco-Elasticity: A new tool for understanding the responsiveness of industry to environmental regulation*

Though use of market mechanisms may not result in optimal outcomes, there is no justification for introducing environmental legislation that is detrimental to enterprise. Regulators across the globe suffer from a policy bloc, which is a result of integrating the multi-polar views of consumer lobbies, business lobbies and environmentalists for framing a particular policy. On one hand the regulator has to ensure that legitimate demands of consumer and environment groups are taken care of, on the other hand they have to ensure that additional legislation does not stymie the growth prospects of the industry. There is a very thin line between the two. Inadvertently, policy makers (assuming that they are honest and devoid of business interests) tend to align with the environmentalists for three reasons, firstly to show that they are quite concerned about their citizens, secondly to align to the interests of their vote banks and thirdly to show that they keep hands length from the business community.

Sometimes this results in creating a disincentive for businesses, which may result in their movement to greener pastures. In case of serious concerns such as carcinogens and ozone depletion, the government should prioritise sustainable production over efficient production if ever there is a conflict of interest between the two. However in a situation where the environmental legislation (introduced due to pressure from green groups) will not result in substantial advantages for the environment, but will drastically affect the costs imposed on businesses, there is need for reconsideration, as the economic incentive for entrepreneurship is lost. It is here that there emerges the need for additional tools to assess the effect of any environmental legislation on business. “*Environment Elasticity*” is an idea that can serve as one of the tools to study the above-mentioned dilemmas.

Industries have begun to pay attention to the environmental effects of their business and are trying to be more and more environmentally responsible. But different industries have different degrees of interaction with the environment. Most service sector industries such as financial services, insurance services have very little effect on the environment except indirect links via their investments. On the other hand select manufacturing sector industries such as cement, thermal energy, wood processing etc have greater impact on the environment. This is where the concept of eco elasticity comes in. Environment elasticity can be defined as the degree to which the establishment of a particular industry is influenced by environmental concerns. Environmental regulation plays a very important role in pollution intensive industries as leather, while it plays a very small role in industries such as insurance. Hence it is important to understand objectively, the degree to which environmental issues are important in that particular industry. A higher elasticity will mean that the industry is most likely to recede or migrate if environmental regulation is heightened, while a low elasticity would mean that the industry is least likely to migrate or recede if environmental regulation is heightened.

After providing a broad idea regards the concept of environment elasticity it is necessary to understand how to measure it. Which variables do we consider? How do we establish a relative value that could facilitate comparison across all industries? This is the core research theme. How to measure environment elasticity of an industry? Two important variables are listed below:

- Cost of environmental compliance: If the cost of compliance/total sales is high the value of the indicator will be higher, otherwise lower
- Pollution level of the industry (Classified by relative scale on the basis of most polluting to least polluting industries): If the total average emissions of the industry i.e. air, and water are high, the value of this indicator will be high.

Environment Elasticity i.e.  $E_e = \text{Change in cost of environmental compliance} / \text{change in magnitude of environmental legislation}$

Cost of compliance is measured as both direct and indirect including time costs of management and additional man-hours, stringency, harassment effect etc

The eco-elasticity indicator will be used for public policy, which includes trade policy, FDI Policy, Industrial Policy and most importantly Environmental Policy. Commercial organizations will use the same to factor environmental policy in investment decisions.

#### *Introducing comprehensive sustainability labels*

The field research revealed that ecolabels were inadequate to deal with bigger social issues such as use of child labour, labour standards as well as factory sanitation. In countries like India and China, these social issues are of higher priority than environmental issues. Further NGOs are applying immense pressure on developed country importers to ensure that their suppliers comply with social standards. Hence there is growing need for labels that are more flexible and can validate a comprehensive number of social and other criteria. The Institute for Applied Ecology, Germany, has introduced a new sustainability label, CSM 2000<sup>14</sup>, which provides scope for comprehensive labelling as per the request of the buyer. This includes quality standards,

---

<sup>14</sup> For information on comprehensive sustainability labels refer to CSM 2000 Label, introduced by the Institute for Applied Ecology, Germany ([www.ecotex-consortium.org](http://www.ecotex-consortium.org))



environmental standards and social standards. Exporters, to gain added leverage in markets where prices do not offer scope for competing, can use credible sustainability labels.

#### *Government to project ecolabels as reference/leadership labels*

Select European regulators express that ecolabels are hyped instruments in international trade. Countries have begun to realise that ecolabels cannot be mass promoted. They need to serve the purpose of leadership labels. This implies that companies may not apply for ecolabels but may follow the standards prescribed in the ecolabels as reference standards and accommodate them in their own supply chains. Further only those companies who are leaders in Corporate Social Responsibility (CSR) will adopt ecolabels for adding to their socially responsible image.

#### *Mandatory legislations necessary for defence against environmental evils*

Most importers instruct their suppliers to follow “law of the land.” Thus domestic exporters especially smaller companies comply only with necessary regulations. Thus the government should not pass on its role towards sustainable development to market mechanisms. In the leather footwear industry, the government should ensure that adequate regulations exist that prevents companies from practising socially irresponsible production. The eco elasticity indicator (explained above) can be used as a good indicator for better understanding of threshold limit of environmental legislation.

#### *Transparency in supply chains of exporters*

In the field research, all buyers mentioned that they would prefer their suppliers to be more transparent. If suppliers are able to open their supply chains for scrutiny and establish transparent, well documented and clean sourcing practises, there would be no need for them to go in for any label. Good accounting practises, using a supply chain management (SCM) system and adequate documentation throughout the supply chain will prove to be better sales pitches than ecolabels.

## Annexure 1. Research Methodology

This research paper uses an asymmetric, flexible and stakeholder oriented research methodology that integrates preliminary theoretical research with subsequent stakeholder interviews/dialogues. Subjective stakeholder representations form an important element of the research. Stakeholders are interviewed and subsequent interviews build up from data and inputs received from previous interviews.

Further stakeholders are expected to speak their mind and there is no attempt to restrict their general views on the subject. The interviewer is armed with in depth reading on the subject and a subjective questionnaire that guides the issues in the interview. An average interview duration extends beyond one hour. The interviewer then obtains all secondary material i.e. the research done by the stakeholder and embeds that in his work. Subsequent to the broad interview, specific and targeted questions are asked wherever information gaps are discovered.

For this paper, the researcher conducted an intensive dialogue with the stakeholders in the Indian leather industry, i.e. leather footwear manufacturers and exporters, merchant exporters, leather trade forums and relevant government and regulatory officials. This was in the form of comprehensive surveys, discussions and field visits which studied the key issues and problems faced by the industry and the utility of ecolabels in promoting exports of sustainable leather footwear.

The researcher engaged in face-to-face discussions with European buyers, eco-labelling organizations, non government organizations and policy makers responsible for establishing EU standards regarding environmental regulations on imported leather products and methods adopted to promote sustainable production and consumption.

### *Quantitative information of interviews conducted in India*

Zone	Number of companies interviewed	Companies with turnover above US\$ 45000/-	Companies with turnover below US\$ 45000/-
New Delhi (North)	9	2	7
Chennai (South)	9	6	3
Mumbai (West)	3	1	2
Kanpur (East)	5	3	2
Total	26	12	14

Non commercial Organizations interviewed	Number
Government Pollution Control Departments	2
Environment NGOs	2
International Agencies	2

### *Quantitative information of interviews conducted in Europe*

Country	UK	The Netherlands	Germany	Belgium
Commercial Organizations <sup>15</sup>	6	5	5	2
Environment NGOs	2	4	4	1
Relevant Ministries <sup>16</sup>	2	2	2	4

*Broad Methodology of conducting interviews*

Average duration per interview: 1 hour (India), 1.5 hours (Europe)

Interview Format: Personal interview with the help of a Subjective Questionnaire, Interviewer to lead the interview.

Average number of interviews per day: 1.8

Generalisations in research paper: Generalisations are made for views that are supported by more than 80% of interviewees

---

<sup>15</sup> Commercial Organizations include Industry Representations

<sup>16</sup> Apart from individual meeting a small interactive group discussion was also held with DG Environment, DG Enterprise and DG Trade at the European Commission Office in Brussels

## **Annexure 2. Reason for selecting Europe for the research survey**

The EU is India's biggest market for leather and leather products. It accounts for 65 percent of Indian leather exports. Germany alone accounts for 23 percent of exports to the EU. Stronger consumer lobbies and environment groups in the EU and the resultant increase in environmentalism has led more and more EU member countries to adopt stringent domestic environmental standards. Because of this consistent tightening of environment pollution norms, especially chemical residue in effluents, leather production has been shifting from Europe to countries like India and China. However, with the emergence of global environmentalism and new means of extraterritorial jurisdiction, some of these measures are being applied to leather and leather products that are imported from other countries as well. The argument is that poor environment protection in other countries imposes negative externalities for the importing country, whose domestic producers adopt stricter compliance. On the other hand as WTO rules impose restrictions on mandatory environmental regulations on exports, voluntary mechanisms such as ecolabels are gaining ground.

India initiated an ecomark scheme for leather and leather products along with 15 more products in 1991. However the scheme has failed to attract a single applicant after 12 years of its operation. Though the Indian eco-labelling scheme is based on a similar "life cycle analysis" criteria and adopts environment standards equivalent to those applied internationally, the European Union does not recognise its certification. This has led to low compliance with the Indian eco-label (called Ecomark) since it does not help in the export market, and the environmental consciousness of the domestic market is quite poor.

Thirdly, there are too many European environment labels, most of which are not harmonised, resulting in additional costs for exporters since all incur separate fixed and variable costs for certification, consultation and other expenses. A majority of Indian firms have financial and technological capabilities that are too limited to adopt multiple eco-labels. All this can allegedly lead ecolabels to become non-tariff barriers.

Hence, the focus area of this research paper is environmental labelling in leather footwear exports from India to Europe.

### **Annexure 3. Three types of ecolabels<sup>17</sup>: ISO**

**Type I** labels compare products with others within the same category, awarding labels to those that are environmentally preferable through their whole life cycle. The criteria are set by an independent body and monitored through a certification, or auditing, process. Ranking products in this way requires tough judgment calls.

**Type II** labels are environmental claims made about goods by their manufacturers, importers or distributors. They are not independently verified, do not use pre-determined and accepted criteria for reference, and are arguably the least informative of the three types of environmental labels. A label claiming a product to be "biodegradable," without defining the term, is a type II label.

**Type III** labels list a menu of a product's environmental impacts throughout its life cycle. They are similar to nutrition labels on food products that detail fat, sugar or vitamin contents. The information categories can be set by industrial sector or by independent bodies. Unlike type I labels, they do not judge products, leaving that task to consumers. Critics question whether the average consumer has the time and knowledge to judge whether, for example, emissions of sulphur are more threatening than emissions of cadmium.

---

<sup>17</sup> Source: IISD (2004)

**Annexure 4. Examples of Possible instruments and their components in Integrated Product Policies<sup>18</sup>**

<b>Instruments</b>	<b>Possible Components</b>
Voluntary instruments	Voluntary agreements Self-commitments Industry awards
Voluntary information instruments	Eco- labels Product profiles Product declarations
Compulsory information instruments	Warning labels Information responsibility Reporting requirements
Economic instruments	Product taxes and charges Subsidies Deposit/refund schemes Financial responsibility
Regulatory instruments	Bans/phase-outs Product requirements Mandatory take-back

---

<sup>18</sup> Source: Martin Charter, Young, Kielkiewicz-Young and Belmane (2001) “Integrated product policy and eco-product development” The Centre for Sustainable Design, UK, Greenleaf Publishing

## NOTE DI LAVORO DELLA FONDAZIONE ENI ENRICO MATTEI

### Fondazione Eni Enrico Mattei Working Paper Series

Our Note di Lavoro are available on the Internet at the following addresses:

<http://www.feem.it/Feem/Pub/Publications/WPapers/default.html>

<http://www.ssrn.com/link/feem.html>

### NOTE DI LAVORO PUBLISHED IN 2004

IEM	1.2004	<i>Anil MARKANDYA, Suzette PEDROSO and Alexander GOLUB: <u>Empirical Analysis of National Income and So2 Emissions in Selected European Countries</u></i>
ETA	2.2004	<i>Masahisa FUJITA and Shlomo WEBER: <u>Strategic Immigration Policies and Welfare in Heterogeneous Countries</u></i>
PRA	3.2004	<i>Adolfo DI CARLUCCIO, Giovanni FERRI, Cecilia FRALE and Ottavio RICCHI: <u>Do Privatizations Boost Household Shareholding? Evidence from Italy</u></i>
ETA	4.2004	<i>Victor GINSBURGH and Shlomo WEBER: <u>Languages Disenfranchisement in the European Union</u></i>
ETA	5.2004	<i>Romano PIRAS: <u>Growth, Congestion of Public Goods, and Second-Best Optimal Policy</u></i>
CCMP	6.2004	<i>Herman R.J. VOLLEBERGH: <u>Lessons from the Polder: Is Dutch CO2-Taxation Optimal</u></i>
PRA	7.2004	<i>Sandro BRUSCO, Giuseppe LOPOMO and S. VISWANATHAN (lxv): <u>Merger Mechanisms</u></i>
PRA	8.2004	<i>Wolfgang AUSENNEGG, Pegaret PICHLER and Alex STOMPER (lxv): <u>IPO Pricing with Bookbuilding, and a When-Issued Market</u></i>
PRA	9.2004	<i>Pegaret PICHLER and Alex STOMPER (lxv): <u>Primary Market Design: Direct Mechanisms and Markets</u></i>
PRA	10.2004	<i>Florian ENGLMAIER, Pablo GUILLEN, Loreto LLORENTE, Sander ONDERSTAL and Rupert SAUSGRUBER (lxv): <u>The Chopstick Auction: A Study of the Exposure Problem in Multi-Unit Auctions</u></i>
PRA	11.2004	<i>Bjarne BRENDSTRUP and Harry J. PAARSCH (lxv): <u>Nonparametric Identification and Estimation of Multi-Unit, Sequential, Oral, Ascending-Price Auctions With Asymmetric Bidders</u></i>
PRA	12.2004	<i>Ohad KADAN (lxv): <u>Equilibrium in the Two Player, k-Double Auction with Affiliated Private Values</u></i>
PRA	13.2004	<i>Maarten C.W. JANSSEN (lxv): <u>Auctions as Coordination Devices</u></i>
PRA	14.2004	<i>Gadi FIBICH, Arieh GAVIOUS and Aner SELA (lxv): <u>All-Pay Auctions with Weakly Risk-Averse Buyers</u></i>
PRA	15.2004	<i>Orly SADE, Charles SCHNITZLEIN and Jaime F. ZENDER (lxv): <u>Competition and Cooperation in Divisible Good Auctions: An Experimental Examination</u></i>
PRA	16.2004	<i>Marta STRYSZOWSKA (lxv): <u>Late and Multiple Bidding in Competing Second Price Internet Auctions</u></i>
CCMP	17.2004	<i>Slim Ben YOUSSEF: <u>R&amp;D in Cleaner Technology and International Trade</u></i>
NRM	18.2004	<i>Angelo ANTOCI, Simone BORGHESI and Paolo RUSSU (lxvi): <u>Biodiversity and Economic Growth: Stabilization Versus Preservation of the Ecological Dynamics</u></i>
SIEV	19.2004	<i>Anna ALBERINI, Paolo ROSATO, Alberto LONGO and Valentina ZANATTA: <u>Information and Willingness to Pay in a Contingent Valuation Study: The Value of S. Erasmo in the Lagoon of Venice</u></i>
NRM	20.2004	<i>Guido CANDELA and Roberto CELLINI (lxvii): <u>Investment in Tourism Market: A Dynamic Model of Differentiated Oligopoly</u></i>
NRM	21.2004	<i>Jacqueline M. HAMILTON (lxvii): <u>Climate and the Destination Choice of German Tourists</u></i>
NRM	22.2004	<i>Javier Rey-MAQUIEIRA PALMER, Javier LOZANO IBÁÑEZ and Carlos Mario GÓMEZ GÓMEZ (lxvii): <u>Land, Environmental Externalities and Tourism Development</u></i>
NRM	23.2004	<i>Pius ODUNGA and Henk FOLMER (lxvii): <u>Profiling Tourists for Balanced Utilization of Tourism-Based Resources in Kenya</u></i>
NRM	24.2004	<i>Jean-Jacques NOWAK, Mondher SAHLI and Pasquale M. SGRO (lxvii): <u>Tourism, Trade and Domestic Welfare</u></i>
NRM	25.2004	<i>Riaz SHAREEF (lxvii): <u>Country Risk Ratings of Small Island Tourism Economies</u></i>
NRM	26.2004	<i>Juan Luis EUGENIO-MARTÍN, Noelia MARTÍN MORALES and Riccardo SCARPA (lxvii): <u>Tourism and Economic Growth in Latin American Countries: A Panel Data Approach</u></i>
NRM	27.2004	<i>Raúl Hernández MARTÍN (lxvii): <u>Impact of Tourism Consumption on GDP. The Role of Imports</u></i>
CSRM	28.2004	<i>Nicoletta FERRO: <u>Cross-Country Ethical Dilemmas in Business: A Descriptive Framework</u></i>
NRM	29.2004	<i>Marian WEBER (lxvi): <u>Assessing the Effectiveness of Tradable Landuse Rights for Biodiversity Conservation: an Application to Canada's Boreal Mixedwood Forest</u></i>
NRM	30.2004	<i>Trond BJORN DAL, Phoebe KOUNDOURI and Sean PASCOE (lxvi): <u>Output Substitution in Multi-Species Trawl Fisheries: Implications for Quota Setting</u></i>
CCMP	31.2004	<i>Marzio GALEOTTI, Alessandra GORIA, Paolo MOMBRINI and Evi SPANTIDAKI: <u>Weather Impacts on Natural, Social and Economic Systems (WISE) Part I: Sectoral Analysis of Climate Impacts in Italy</u></i>
CCMP	32.2004	<i>Marzio GALEOTTI, Alessandra GORIA, Paolo MOMBRINI and Evi SPANTIDAKI: <u>Weather Impacts on Natural, Social and Economic Systems (WISE) Part II: Individual Perception of Climate Extremes in Italy</u></i>
CTN	33.2004	<i>Wilson PEREZ: <u>Divide and Conquer: Noisy Communication in Networks, Power, and Wealth Distribution</u></i>
KTHC	34.2004	<i>Gianmarco I.P. OTTAVIANO and Giovanni PERI (lxviii): <u>The Economic Value of Cultural Diversity: Evidence from US Cities</u></i>
KTHC	35.2004	<i>Linda CHAIB (lxviii): <u>Immigration and Local Urban Participatory Democracy: A Boston-Paris Comparison</u></i>

KTHC	36.2004	<i>Franca ECKERT COEN and Claudio ROSSI</i> (lxviii): <u>Foreigners, Immigrants, Host Cities: The Policies of Multi-Ethnicity in Rome. Reading Governance in a Local Context</u>
KTHC	37.2004	<i>Kristine CRANE</i> (lxviii): <u>Governing Migration: Immigrant Groups' Strategies in Three Italian Cities – Rome, Naples and Bari</u>
KTHC	38.2004	<i>Kiflemariam HAMDE</i> (lxviii): <u>Mind in Africa, Body in Europe: The Struggle for Maintaining and Transforming Cultural Identity - A Note from the Experience of Eritrean Immigrants in Stockholm</u>
ETA	39.2004	<i>Alberto CAVALIERE</i> : <u>Price Competition with Information Disparities in a Vertically Differentiated Duopoly</u>
PRA	40.2004	<i>Andrea BIGANO and Stef PROOST</i> : <u>The Opening of the European Electricity Market and Environmental Policy: Does the Degree of Competition Matter?</u>
CCMP	41.2004	<i>Micheal FINUS</i> (lxix): <u>International Cooperation to Resolve International Pollution Problems</u>
KTHC	42.2004	<i>Francesco CRESPI</i> : <u>Notes on the Determinants of Innovation: A Multi-Perspective Analysis</u>
CTN	43.2004	<i>Sergio CURRARINI and Marco MARINI</i> : <u>Coalition Formation in Games without Synergies</u>
CTN	44.2004	<i>Marc ESCRHUELA-VILLAR</i> : <u>Cartel Sustainability and Cartel Stability</u>
NRM	45.2004	<i>Sebastian BERVOETS and Nicolas GRAVEL</i> (lxvi): <u>Appraising Diversity with an Ordinal Notion of Similarity: An Axiomatic Approach</u>
NRM	46.2004	<i>Signe ANTHON and Bo JELLESMARK THORSEN</i> (lxvi): <u>Optimal Afforestation Contracts with Asymmetric Information on Private Environmental Benefits</u>
NRM	47.2004	<i>John MBURU</i> (lxvi): <u>Wildlife Conservation and Management in Kenya: Towards a Co-management Approach</u>
NRM	48.2004	<i>Ekin BIROL, Ágnes GYOVAI and Melinda SMALE</i> (lxvi): <u>Using a Choice Experiment to Value Agricultural Biodiversity on Hungarian Small Farms: Agri-Environmental Policies in a Transition al Economy</u>
CCMP	49.2004	<i>Gernot KLEPPER and Sonja PETERSON</i> : <u>The EU Emissions Trading Scheme. Allowance Prices, Trade Flows, Competitiveness Effects</u>
GG	50.2004	<i>Scott BARRETT and Michael HOEL</i> : <u>Optimal Disease Eradication</u>
CTN	51.2004	<i>Dinko DIMITROV, Peter BORM, Ruud HENDRICKX and Shao CHIN SUNG</i> : <u>Simple Priorities and Core Stability in Hedonic Games</u>
SIEV	52.2004	<i>Francesco RICCI</i> : <u>Channels of Transmission of Environmental Policy to Economic Growth: A Survey of the Theory</u>
SIEV	53.2004	<i>Anna ALBERINI, Maureen CROPPER, Alan KRUPNICK and Nathalie B. SIMON</i> : <u>Willingness to Pay for Mortality Risk Reductions: Does Latency Matter?</u>
NRM	54.2004	<i>Ingo BRÄUER and Rainer MARGGRAF</i> (lxvi): <u>Valuation of Ecosystem Services Provided by Biodiversity Conservation: An Integrated Hydrological and Economic Model to Value the Enhanced Nitrogen Retention in Renaturated Streams</u>
NRM	55.2004	<i>Timo GOESCHL and Tun LIN</i> (lxvi): <u>Biodiversity Conservation on Private Lands: Information Problems and Regulatory Choices</u>
NRM	56.2004	<i>Tom DEDEURWAERDERE</i> (lxvi): <u>Bioprospection: From the Economics of Contracts to Reflexive Governance</u>
CCMP	57.2004	<i>Katrin REHDANZ and David MADDISON</i> : <u>The Amenity Value of Climate to German Households</u>
CCMP	58.2004	<i>Koen SMEKENS and Bob VAN DER ZWAAN</i> : <u>Environmental Externalities of Geological Carbon Sequestration Effects on Energy Scenarios</u>
NRM	59.2004	<i>Valentina BOSETTI, Mariaester CASSINELLI and Alessandro LANZA</i> (lxvii): <u>Using Data Envelopment Analysis to Evaluate Environmentally Conscious Tourism Management</u>
NRM	60.2004	<i>Timo GOESCHL and Danilo CAMARGO IGLIORI</i> (lxvi): <u>Property Rights Conservation and Development: An Analysis of Extractive Reserves in the Brazilian Amazon</u>
CCMP	61.2004	<i>Barbara BUCHNER and Carlo CARRARO</i> : <u>Economic and Environmental Effectiveness of a Technology-based Climate Protocol</u>
NRM	62.2004	<i>Elissaios PAPYRAKIS and Reyer GERLAGH</i> : <u>Resource-Abundance and Economic Growth in the U.S.</u>
NRM	63.2004	<i>Györgyi BELA, György PATAKI, Melinda SMALE and Mariann HAJDÚ</i> (lxvi): <u>Conserving Crop Genetic Resources on Smallholder Farms in Hungary: Institutional Analysis</u>
NRM	64.2004	<i>E.C.M. RUIJGROK and E.E.M. NILLESEN</i> (lxvi): <u>The Socio-Economic Value of Natural Riverbanks in the Netherlands</u>
NRM	65.2004	<i>E.C.M. RUIJGROK</i> (lxvi): <u>Reducing Acidification: The Benefits of Increased Nature Quality. Investigating the Possibilities of the Contingent Valuation Method</u>
ETA	66.2004	<i>Giannis VARDAS and Anastasios XEPAPADEAS</i> : <u>Uncertainty Aversion, Robust Control and Asset Holdings</u>
GG	67.2004	<i>Anastasios XEPAPADEAS and Constadina PASSA</i> : <u>Participation in and Compliance with Public Voluntary Environmental Programs: An Evolutionary Approach</u>
GG	68.2004	<i>Michael FINUS</i> : <u>Modesty Pays: Sometimes!</u>
NRM	69.2004	<i>Trond BJØRNDAL and Ana BRASÃO</i> : <u>The Northern Atlantic Bluefin Tuna Fisheries: Management and Policy Implications</u>
CTN	70.2004	<i>Alejandro CAPARRÓS, Abdelhakim HAMMOUDI and Tarik TAZDAÏT</i> : <u>On Coalition Formation with Heterogeneous Agents</u>
IEM	71.2004	<i>Massimo GIOVANNINI, Margherita GRASSO, Alessandro LANZA and Matteo MANERA</i> : <u>Conditional Correlations in the Returns on Oil Companies Stock Prices and Their Determinants</u>
IEM	72.2004	<i>Alessandro LANZA, Matteo MANERA and Michael MCALEER</i> : <u>Modelling Dynamic Conditional Correlations in WTI Oil Forward and Futures Returns</u>
SIEV	73.2004	<i>Margarita GENIUS and Elisabetta STRAZZERA</i> : <u>The Copula Approach to Sample Selection Modelling: An Application to the Recreational Value of Forests</u>



CCMP	74.2004	<i>Rob DELLINK and Ekko van IERLAND</i> : <u>Pollution Abatement in the Netherlands: A Dynamic Applied General Equilibrium Assessment</u>
ETA	75.2004	<i>Rosella LEVAGGI and Michele MORETTO</i> : <u>Investment in Hospital Care Technology under Different Purchasing Rules: A Real Option Approach</u>
CTN	76.2004	<i>Salvador BARBERÀ and Matthew O. JACKSON</i> (lxx): <u>On the Weights of Nations: Assigning Voting Weights in a Heterogeneous Union</u>
CTN	77.2004	<i>Àlex ARENAS, Antonio CABRALES, Albert DÍAZ-GUILERA, Roger GUIMERA and Fernando VEGA-REDONDO</i> (lxx): <u>Optimal Information Transmission in Organizations: Search and Congestion</u>
CTN	78.2004	<i>Francis BLOCH and Armando GOMES</i> (lxx): <u>Contracting with Externalities and Outside Options</u>
CTN	79.2004	<i>Rabah AMIR, Effrosyni DIAMANTOUDI and Licun XUE</i> (lxx): <u>Merger Performance under Uncertain Efficiency Gains</u>
CTN	80.2004	<i>Francis BLOCH and Matthew O. JACKSON</i> (lxx): <u>The Formation of Networks with Transfers among Players</u>
CTN	81.2004	<i>Daniel DIERMEIER, Hülya ERASLAN and Antonio MERLO</i> (lxx): <u>Bicameralism and Government Formation</u>
CTN	82.2004	<i>Rod GARRATT, James E. PARCO, Cheng-ZHONG QIN and Amnon RAPOPORT</i> (lxx): <u>Potential Maximization and Coalition Government Formation</u>
CTN	83.2004	<i>Kfir ELIAZ, Debraj RAY and Ronny RAZIN</i> (lxx): <u>Group Decision-Making in the Shadow of Disagreement</u>
CTN	84.2004	<i>Sanjeev GOYAL, Marco van der LEIJ and José Luis MORAGA-GONZÁLEZ</i> (lxx): <u>Economics: An Emerging Small World?</u>
CTN	85.2004	<i>Edward CARTWRIGHT</i> (lxx): <u>Learning to Play Approximate Nash Equilibria in Games with Many Players</u>
IEM	86.2004	<i>Finn R. FØRSUND and Michael HOEL</i> : <u>Properties of a Non-Competitive Electricity Market Dominated by Hydroelectric Power</u>
KTHC	87.2004	<i>Elissaios PAPHAKIS and Reyer GERLAGH</i> : <u>Natural Resources, Investment and Long-Term Income</u>
CCMP	88.2004	<i>Marzio GALEOTTI and Claudia KEMFERT</i> : <u>Interactions between Climate and Trade Policies: A Survey</u>
IEM	89.2004	<i>A. MARKANDYA, S. PEDROSO and D. STREIMIKIENE</i> : <u>Energy Efficiency in Transition Economies: Is There Convergence Towards the EU Average?</u>
GG	90.2004	<i>Rolf GOLOMBEK and Michael HOEL</i> : <u>Climate Agreements and Technology Policy</u>
PRA	91.2004	<i>Sergei IZMALKOV</i> (lxx): <u>Multi-Unit Open Ascending Price Efficient Auction</u>
KTHC	92.2004	<i>Gianmarco I.P. OTTAVIANO and Giovanni PERI</i> : <u>Cities and Cultures</u>
KTHC	93.2004	<i>Massimo DEL GATTO</i> : <u>Agglomeration, Integration, and Territorial Authority Scale in a System of Trading Cities. Centralisation versus devolution</u>
CCMP	94.2004	<i>Pierre-André JOUVET, Philippe MICHEL and Gilles ROTILLON</i> : <u>Equilibrium with a Market of Permits</u>
CCMP	95.2004	<i>Bob van der ZWAAN and Reyer GERLAGH</i> : <u>Climate Uncertainty and the Necessity to Transform Global Energy Supply</u>
CCMP	96.2004	<i>Francesco BOSELLO, Marco LAZZARIN, Roberto ROSON and Richard S.J. TOL</i> : <u>Economy-Wide Estimates of the Implications of Climate Change: Sea Level Rise</u>
CTN	97.2004	<i>Gustavo BERGANTIÑOS and Juan J. VIDAL-PUGA</i> : <u>Defining Rules in Cost Spanning Tree Problems Through the Canonical Form</u>
CTN	98.2004	<i>Siddhartha BANDYOPADHYAY and Mandar OAK</i> : <u>Party Formation and Coalitional Bargaining in a Model of Proportional Representation</u>
GG	99.2004	<i>Hans-Peter WEIKARD, Michael FINUS and Juan-Carlos ALTAMIRANO-CABRERA</i> : <u>The Impact of Surplus Sharing on the Stability of International Climate Agreements</u>
SIEV	100.2004	<i>Chiara M. TRAVISI and Peter NIJKAMP</i> : <u>Willingness to Pay for Agricultural Environmental Safety: Evidence from a Survey of Milan, Italy, Residents</u>
SIEV	101.2004	<i>Chiara M. TRAVISI, Raymond J. G. M. FLORAX and Peter NIJKAMP</i> : <u>A Meta-Analysis of the Willingness to Pay for Reductions in Pesticide Risk Exposure</u>
NRM	102.2004	<i>Valentina BOSETTI and David TOMBERLIN</i> : <u>Real Options Analysis of Fishing Fleet Dynamics: A Test</u>
CCMP	103.2004	<i>Alessandra GORIA e Gretel GAMBARELLI</i> : <u>Economic Evaluation of Climate Change Impacts and Adaptability in Italy</u>
PRA	104.2004	<i>Massimo FLORIO and Mara GRASSEN</i> : <u>The Missing Shock: The Macroeconomic Impact of British Privatisation</u>
PRA	105.2004	<i>John BENNETT, Saul ESTRIN, James MAW and Giovanni URGA</i> : <u>Privatisation Methods and Economic Growth in Transition Economies</u>
PRA	106.2004	<i>Kira BÖRNER</i> : <u>The Political Economy of Privatization: Why Do Governments Want Reforms?</u>
PRA	107.2004	<i>Pehr-Johan NORBÄCK and Lars PERSSON</i> : <u>Privatization and Restructuring in Concentrated Markets</u>
SIEV	108.2004	<i>Angela GRANZOTTO, Fabio PRANOVI, Simone LIBRALATO, Patrizia TORRICELLI and Danilo MAINARDI</i> : <u>Comparison between Artisanal Fishery and Manila Clam Harvesting in the Venice Lagoon by Using Ecosystem Indicators: An Ecological Economics Perspective</u>
CTN	109.2004	<i>Somdeb LAHIRI</i> : <u>The Cooperative Theory of Two Sided Matching Problems: A Re-examination of Some Results</u>
NRM	110.2004	<i>Giuseppe DI VITA</i> : <u>Natural Resources Dynamics: Another Look</u>
SIEV	111.2004	<i>Anna ALBERINI, Alistair HUNT and Anil MARKANDYA</i> : <u>Willingness to Pay to Reduce Mortality Risks: Evidence from a Three-Country Contingent Valuation Study</u>
KTHC	112.2004	<i>Valeria PAPPONETTI and Dino PINELLI</i> : <u>Scientific Advice to Public Policy-Making</u>
SIEV	113.2004	<i>Paulo A.L.D. NUNES and Laura ONOFRI</i> : <u>The Economics of Warm Glow: A Note on Consumer's Behavior and Public Policy Implications</u>
IEM	114.2004	<i>Patrick CAYRADE</i> : <u>Investments in Gas Pipelines and Liquefied Natural Gas Infrastructure What is the Impact on the Security of Supply?</u>
IEM	115.2004	<i>Valeria COSTANTINI and Francesco GRACCEVA</i> : <u>Oil Security. Short- and Long-Term Policies</u>

IEM	116.2004	<i>Valeria COSTANTINI and Francesco GRACCEVA: <u>Social Costs of Energy Disruptions</u></i>
IEM	117.2004	<i>Christian EGENHOFER, Kyriakos GIALOGLOU, Giacomo LUCIANI, Maroeska BOOTS, Martin SCHEEPERS, Valeria COSTANTINI, Francesco GRACCEVA, Anil MARKANDYA and Giorgio VICINI: <u>Market-Based Options for Security of Energy Supply</u></i>
IEM	118.2004	<i>David FISK: <u>Transport Energy Security. The Unseen Risk?</u></i>
IEM	119.2004	<i>Giacomo LUCIANI: <u>Security of Supply for Natural Gas Markets. What is it and What is it not?</u></i>
IEM	120.2004	<i>L.J. de VRIES and R.A. HAKVOORT: <u>The Question of Generation Adequacy in Liberalised Electricity Markets</u></i>
KTHC	121.2004	<i>Alberto PETRUCCI: <u>Asset Accumulation, Fertility Choice and Nondegenerate Dynamics in a Small Open Economy</u></i>
NRM	122.2004	<i>Carlo GIUPPONI, Jaroslaw MYSLAK and Anita FASSIO: <u>An Integrated Assessment Framework for Water Resources Management: A DSS Tool and a Pilot Study Application</u></i>
NRM	123.2004	<i>Margaretha BREIL, Anita FASSIO, Carlo GIUPPONI and Paolo ROSATO: <u>Evaluation of Urban Improvement on the Islands of the Venice Lagoon: A Spatially-Distributed Hedonic-Hierarchical Approach</u></i>
ETA	124.2004	<i>Paul MENSINK: <u>Instant Efficient Pollution Abatement Under Non-Linear Taxation and Asymmetric Information: The Differential Tax Revisited</u></i>
NRM	125.2004	<i>Mauro FABIANO, Gabriella CAMARSA, Rosanna DURSI, Roberta IVALDI, Valentina MARIN and Francesca PALMISANI: <u>Integrated Environmental Study for Beach Management: A Methodological Approach</u></i>
PRA	126.2004	<i>Irena GROSFELD and Iraj HASHI: <u>The Emergence of Large Shareholders in Mass Privatized Firms: Evidence from Poland and the Czech Republic</u></i>
CCMP	127.2004	<i>Maria BERRITTELLA, Andrea BIGANO, Roberto ROSON and Richard S.J. TOL: <u>A General Equilibrium Analysis of Climate Change Impacts on Tourism</u></i>
CCMP	128.2004	<i>Reyer GERLAGH: <u>A Climate-Change Policy Induced Shift from Innovations in Energy Production to Energy Savings</u></i>
NRM	129.2004	<i>Elissaios POPYRAKIS and Reyer GERLAGH: <u>Natural Resources, Innovation, and Growth</u></i>
PRA	130.2004	<i>Bernardo BORTOLOTTI and Mara FACCIO: <u>Reluctant Privatization</u></i>
SIEV	131.2004	<i>Riccardo SCARPA and Mara THIENE: <u>Destination Choice Models for Rock Climbing in the Northeast Alps: A Latent-Class Approach Based on Intensity of Participation</u></i>
SIEV	132.2004	<i>Riccardo SCARPA Kenneth G. WILLIS and Melinda ACUTT: <u>Comparing Individual-Specific Benefit Estimates for Public Goods: Finite Versus Continuous Mixing in Logit Models</u></i>
IEM	133.2004	<i>Santiago J. RUBIO: <u>On Capturing Oil Rents with a National Excise Tax Revisited</u></i>
ETA	134.2004	<i>Ascensión ANDINA DÍAZ: <u>Political Competition when Media Create Candidates' Charisma</u></i>
SIEV	135.2004	<i>Anna ALBERINI: <u>Robustness of VSL Values from Contingent Valuation Surveys</u></i>
CCMP	136.2004	<i>Gernot KLEPPER and Sonja PETERSON: <u>Marginal Abatement Cost Curves in General Equilibrium: The Influence of World Energy Prices</u></i>
ETA	137.2004	<i>Herbert DAWID, Christophe DEISSENBERG and Pavel ŠEVČIK: <u>Cheap Talk, Gullibility, and Welfare in an Environmental Taxation Game</u></i>
CCMP	138.2004	<i>ZhongXiang ZHANG: <u>The World Bank's Prototype Carbon Fund and China</u></i>
CCMP	139.2004	<i>Reyer GERLAGH and Marjan W. HOFKES: <u>Time Profile of Climate Change Stabilization Policy</u></i>
NRM	140.2004	<i>Chiara D'ALPAOS and Michele MORETTO: <u>The Value of Flexibility in the Italian Water Service Sector: A Real Option Analysis</u></i>
PRA	141.2004	<i>Patrick BAJARI, Stephanie HOUGHTON and Steven TADELIS (lxxi): <u>Bidding for Incomplete Contracts</u></i>
PRA	142.2004	<i>Susan ATHEY, Jonathan LEVIN and Enrique SEIRA (lxxi): <u>Comparing Open and Sealed Bid Auctions: Theory and Evidence from Timber Auctions</u></i>
PRA	143.2004	<i>David GOLDREICH (lxxi): <u>Behavioral Biases of Dealers in U.S. Treasury Auctions</u></i>
PRA	144.2004	<i>Roberto BURGNET (lxxi): <u>Optimal Procurement Auction for a Buyer with Downward Sloping Demand: More Simple Economics</u></i>
PRA	145.2004	<i>Ali HORTACSU and Samita SAREEN (lxxi): <u>Order Flow and the Formation of Dealer Bids: An Analysis of Information and Strategic Behavior in the Government of Canada Securities Auctions</u></i>
PRA	146.2004	<i>Victor GINSBURGH, Patrick LEGROS and Nicolas SAHUGUET (lxxi): <u>How to Win Twice at an Auction. On the Incidence of Commissions in Auction Markets</u></i>
PRA	147.2004	<i>Claudio MEZZETTI, Aleksandar PEKEČ and Ilia TSETLIN (lxxi): <u>Sequential vs. Single-Round Uniform-Price Auctions</u></i>
PRA	148.2004	<i>John ASKER and Estelle CANTILLON (lxxi): <u>Equilibrium of Scoring Auctions</u></i>
PRA	149.2004	<i>Philip A. HAILE, Han HONG and Matthew SHUM (lxxi): <u>Nonparametric Tests for Common Values in First-Price Sealed-Bid Auctions</u></i>
PRA	150.2004	<i>François DEGEORGE, François DERRIEN and Kent L. WOMACK (lxxi): <u>Quid Pro Quo in IPOs: Why Bookbuilding is Dominating Auctions</u></i>
CCMP	151.2004	<i>Barbara BUCHNER and Silvia DALL'OLIO: <u>Russia: The Long Road to Ratification. Internal Institution and Pressure Groups in the Kyoto Protocol's Adoption Process</u></i>
CCMP	152.2004	<i>Carlo CARRARO and Marzio GALEOTTI: <u>Does Endogenous Technical Change Make a Difference in Climate Policy Analysis? A Robustness Exercise with the FEEM-RICE Model</u></i>
PRA	153.2004	<i>Alejandro M. MANELLI and Daniel R. VINCENT (lxxi): <u>Multidimensional Mechanism Design: Revenue Maximization and the Multiple-Good Monopoly</u></i>
ETA	154.2004	<i>Nicola ACOCELLA, Giovanni Di BARTOLOMEO and Wilfried PAUWELS: <u>Is there any Scope for Corporatism in Stabilization Policies?</u></i>
CTN	155.2004	<i>Johan EYCKMANS and Michael FINUS: <u>An Almost Ideal Sharing Scheme for Coalition Games with Externalities</u></i>
CCMP	156.2004	<i>Cesare DOSI and Michele MORETTO: <u>Environmental Innovation, War of Attrition and Investment Grants</u></i>

CCMP	157.2004	<i>Valentina BOSETTI, Marzio GALEOTTI and Alessandro LANZA: <u>How Consistent are Alternative Short-Term Climate Policies with Long-Term Goals?</u></i>
ETA	158.2004	<i>Y. Hossein FARZIN and Ken-Ichi AKAO: <u>Non-pecuniary Value of Employment and Individual Labor Supply</u></i>
ETA	159.2004	<i>William BROCK and Anastasios XEPAPADEAS: <u>Spatial Analysis: Development of Descriptive and Normative Methods with Applications to Economic-Ecological Modelling</u></i>
KTHC	160.2004	<i>Alberto PETRUCCI: <u>On the Incidence of a Tax on PureRent with Infinite Horizons</u></i>
IEM	161.2004	<i>Xavier LABANDEIRA, José M. LABEAGA and Miguel RODRÍGUEZ: <u>Microsimulating the Effects of Household Energy Price Changes in Spain</u></i>

#### NOTE DI LAVORO PUBLISHED IN 2005

CCMP	1.2005	<i>Stéphane HALLEGATTE: <u>Accounting for Extreme Events in the Economic Assessment of Climate Change</u></i>
CCMP	2.2005	<i>Qiang WU and Paulo Augusto NUNES: <u>Application of Technological Control Measures on Vehicle Pollution: A Cost-Benefit Analysis in China</u></i>
CCMP	3.2005	<i>Andrea BIGANO, Jacqueline M. HAMILTON, Maren LAU, Richard S.J. TOL and Yuan ZHOU: <u>A Global Database of Domestic and International Tourist Numbers at National and Subnational Level</u></i>
CCMP	4.2005	<i>Andrea BIGANO, Jacqueline M. HAMILTON and Richard S.J. TOL: <u>The Impact of Climate on Holiday Destination Choice</u></i>
ETA	5.2005	<i>Hubert KEMPF: <u>Is Inequality Harmful for the Environment in a Growing Economy?</u></i>
CCMP	6.2005	<i>Valentina BOSETTI, Carlo CARRARO and Marzio GALEOTTI: <u>The Dynamics of Carbon and Energy Intensity in a Model of Endogenous Technical Change</u></i>
IEM	7.2005	<i>David CALEF and Robert GOBLE: <u>The Allure of Technology: How France and California Promoted Electric Vehicles to Reduce Urban Air Pollution</u></i>
ETA	8.2005	<i>Lorenzo PELLEGRINI and Reyer GERLAGH: <u>An Empirical Contribution to the Debate on Corruption Democracy and Environmental Policy</u></i>
CCMP	9.2005	<i>Angelo ANTOCI: <u>Environmental Resources Depletion and Interplay Between Negative and Positive Externalities in a Growth Model</u></i>
CTN	10.2005	<i>Frédéric DEROIAN: <u>Cost-Reducing Alliances and Local Spillovers</u></i>
NRM	11.2005	<i>Francesco SINDICO: <u>The GMO Dispute before the WTO: Legal Implications for the Trade and Environment Debate</u></i>
KTHC	12.2005	<i>Carla MASSIDDA: <u>Estimating the New Keynesian Phillips Curve for Italian Manufacturing Sectors</u></i>
KTHC	13.2005	<i>Michele MORETTO and Gianpaolo ROSSINI: <u>Start-up Entry Strategies: Employer vs. Nonemployer firms</u></i>
PRCG	14.2005	<i>Clara GRAZIANO and Annalisa LUPORINI: <u>Ownership Concentration, Monitoring and Optimal Board Structure</u></i>
CSRM	15.2005	<i>Parashar KULKARNI: <u>Use of Ecolabels in Promoting Exports from Developing Countries to Developed Countries: Lessons from the Indian LeatherFootwear Industry</u></i>

(lxv) This paper was presented at the EuroConference on “Auctions and Market Design: Theory, Evidence and Applications” organised by Fondazione Eni Enrico Mattei and sponsored by the EU, Milan, September 25-27, 2003

(lxvi) This paper has been presented at the 4th BioEcon Workshop on “Economic Analysis of Policies for Biodiversity Conservation” organised on behalf of the BIOECON Network by Fondazione Eni Enrico Mattei, Venice International University (VIU) and University College London (UCL), Venice, August 28-29, 2003

(lxvii) This paper has been presented at the international conference on “Tourism and Sustainable Economic Development – Macro and Micro Economic Issues” jointly organised by CRENoS (Università di Cagliari e Sassari, Italy) and Fondazione Eni Enrico Mattei, and supported by the World Bank, Sardinia, September 19-20, 2003

(lxviii) This paper was presented at the ENGIME Workshop on “Governance and Policies in Multicultural Cities”, Rome, June 5-6, 2003

(lxix) This paper was presented at the Fourth EEP Plenary Workshop and EEP Conference “The Future of Climate Policy”, Cagliari, Italy, 27-28 March 2003

(lxx) This paper was presented at the 9<sup>th</sup> Coalition Theory Workshop on "Collective Decisions and Institutional Design" organised by the Universitat Autònoma de Barcelona and held in Barcelona, Spain, January 30-31, 2004

(lxxi) This paper was presented at the EuroConference on “Auctions and Market Design: Theory, Evidence and Applications”, organised by Fondazione Eni Enrico Mattei and Consip and sponsored by the EU, Rome, September 23-25, 2004

**2004 SERIES**

<b>CCMP</b>	<i>Climate Change Modelling and Policy</i> (Editor: Marzio Galeotti )
<b>GG</b>	<i>Global Governance</i> (Editor: Carlo Carraro)
<b>SIEV</b>	<i>Sustainability Indicators and Environmental Valuation</i> (Editor: Anna Alberini)
<b>NRM</b>	<i>Natural Resources Management</i> (Editor: Carlo Giupponi)
<b>KTHC</b>	<i>Knowledge, Technology, Human Capital</i> (Editor: Gianmarco Ottaviano)
<b>IEM</b>	<i>International Energy Markets</i> (Editor: Anil Markandya)
<b>CSRM</b>	<i>Corporate Social Responsibility and Sustainable Management</i> (Editor: Sabina Ratti)
<b>PRA</b>	<i>Privatisation, Regulation, Antitrust</i> (Editor: Bernardo Bortolotti)
<b>ETA</b>	<i>Economic Theory and Applications</i> (Editor: Carlo Carraro)
<b>CTN</b>	<i>Coalition Theory Network</i>

**2005 SERIES**

<b>CCMP</b>	<i>Climate Change Modelling and Policy</i> (Editor: Marzio Galeotti )
<b>SIEV</b>	<i>Sustainability Indicators and Environmental Valuation</i> (Editor: Anna Alberini)
<b>NRM</b>	<i>Natural Resources Management</i> (Editor: Carlo Giupponi)
<b>KTHC</b>	<i>Knowledge, Technology, Human Capital</i> (Editor: Gianmarco Ottaviano)
<b>IEM</b>	<i>International Energy Markets</i> (Editor: Anil Markandya)
<b>CSRM</b>	<i>Corporate Social Responsibility and Sustainable Management</i> (Editor: Sabina Ratti)
<b>PRCG</b>	<i>Privatisation Regulation Corporate Governance</i> (Editor: Bernardo Bortolotti)
<b>ETA</b>	<i>Economic Theory and Applications</i> (Editor: Carlo Carraro)
<b>CTN</b>	<i>Coalition Theory Network</i>