ADAPTATION TO EUROPEAN AND INTERNATIONAL ECOLOGICAL NORMS AND STANDARDS IN THE CZECH REPUBLIC, HUNGARY, AND POLAND

Zofia Wysokinska
University of Lodz (Poland)
ADAPTATION TO EUROPEAN AND INTERNATIONAL ECOLOGICAL NORMS AND STANDARDS IN THE CZECH REPUBLIC, HUNGARY, AND POLAND

Abstract

A review of the existing scientific literature regarding world trade, both theoretical and empirical, demonstrates the existence of a growing link between trade and protection of the natural environment, in both positive and negative directions. Some authors voice the opinion that accelerated deregulation and trade liberalization play a particularly important role in this relationship (Ekins, Folke, Constanca 1994, pp.1-12).

Environmental norms and standards play a significant role in determining the competitiveness of goods and products on the international market. There are a number of different norms and standards concerning environmental management and the implementation of systems of environmental management. Among the most significant is the EMAS system and the concept of an integrated environmental management system according to ISO 14001 that is based on the fundamental elements of the Total Quality Management (TQM) idea.

The aims of the within paper are: firstly, to present the results of macroeconomic comparative research concerning changes in the export and import positions of two selected groups of goods and products in three countries which have undergone systemic transformation: Poland, The Czech Republic, and Hungary. The groups of goods and products selected are: capital investment goods and products designed to improve environmental protection; goods and products which are harmful to the environment and characterized by high pollution indices.
This comparative analysis is based on the OECD international classification system of goods and products.

Secondly, this work presents the results of a survey of 286 enterprises in Poland concerning the relationship between the application of European and international environmental norms and standards and the enterprises’ competitiveness in both the domestic and foreign markets prior to Poland’s accession to the European Union.

INTERNATIONAL TRADE COMPETITIVENESS AND THE NATURAL ENVIRONMENT

While traditional trade barriers such as customs duties and tariffs, import quotas and other non-tariff barriers have radically declined in significance in contemporary international trade, other factors such as the role of norms and standards concerning quality, technology, and the environment as well as consumer protection mechanisms have significantly increased in importance and today greatly influence both the size and structure of foreign trade among particular countries and regions. As regards environmental norms and standards the traditional approach found in the scientific literature is that they reduce the competitiveness of firms in the lesser developed countries, who are not in a position to implement compliance practices and thus lose export opportunities. The new contemporary approach, however, emphasizes the advantages to enterprises of introducing long-term policies leading to compliance with appropriate environmental norms and standards, which will in turn lead to sustained long-term competitiveness for the firm (Alpay 1999, pp.302-304).

The elimination of trade barriers also increases the efficiency of the world economic system by enabling countries to specialize in those sectors in which they possess economic advantages, which includes those sectors in which they possess favorable natural environmental conditions. In the latter half of the 1990’s one can observe a rapid and dynamic increase in the environmental protection industry’s share in the world economy. The overall global value of production in the environmental protection industry was estimated at 453 billion USD in 1996, 483 billion USD in 1997, and 518 billion USD in 2000. It is estimated that the OECD countries possess 90% of the environmental protection industry (OECD 2001, p.12).

OECD publications stress the increased need for goods and products (equipment) enabling the implementation of clean technologies, in place of the earlier-promoted “end-of-the-pipe” strategy. They recognize, however, that this process must be implemented gradually and be in accord with the overall economic, trade, and environmental policies of a given country (OECD 2001, p.49-53). A key element is considered to be the introduction and enforcement of appropriate regulations and environmental standards designed to improve the effective allocation of resources aimed at environmental protection, to obtain appropriate equipment to control and eliminate pollution of the air and both underground and surface water supplies, to eliminate noise and vibration, to promote knowledge of “clean production” technologies and efficient use of natural resources (including re-usable energy supplies and use of recycled materials). Implementation of this process is aided by trade liberalization, which permits tariff-free and contingent-free imports which aid the
distribution and implementation of clean-technologies in the lesser-developed countries.

INTERNATIONAL ENVIRONMENTAL PROTECTION NORMS AND STANDARDS AND THE ACTIVITIES OF FIRMS IN CENTRAL AND EASTERN EUROPE.

The countries of Central and Eastern Europe seeking membership in the European Union have undertaken a number of efforts aimed at application of EEC regulation nr 1836/93 of the European Union. This regulation concerns the voluntary participation of industrial enterprises in a common system of environmental protection and environmental control of workplaces as well as implementation of the ISO series 14000 norms, which are the basis for establishing a specific system of environmental management for a given organization. Each specific system is aimed at eliminating waste by the application of a system of closed operations designed to re-use all re-usable products and materials as well as to plan, control, supervise and improve all activities of the firm and its employees which have an environmental impact. The ISO norms are designed to make environmental policies an integral part of the overall management of an enterprise.

Environmental management should thus be broadly understood as a part of the overall system of Total Quality Management (TQM), the outlines of which are presented in the chart below.

<table>
<thead>
<tr>
<th>Total Quality Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management areas</td>
</tr>
<tr>
<td>(management structure)</td>
</tr>
<tr>
<td>Quality management</td>
</tr>
<tr>
<td>Environmental management</td>
</tr>
<tr>
<td>Workplace safety management</td>
</tr>
<tr>
<td>Plant safety management</td>
</tr>
<tr>
<td>Information security management</td>
</tr>
</tbody>
</table>


The concept of an environmental management system according to ISO 14001 is based on the fundamental elements of the TQM idea (European Vision of Quality, 2000, p.24).

ISO norm 14001 defines a system of environmental management as follows:
“part of an overall management system which encompasses the organizational structure, planning, responsibility, procedural principles, procedures, processes and the means necessary to elaborate, implement, realize, review and maintain an environmental policy” (Pochyluk, Grudowski, Szymański 1999, p.33-34).

EEC Council Regulation No 1836/93 of June 29, 1993 allowed for the voluntary participation by companies in the industrial sector in a Community ECO-MANAGEMENT and AUDIT SCHEME (Official Journal 1993). Despite the fact that the EMAS system is not a collection of environmental norms in the strict sense of the word, the requirements it imposes in the field of environmental management set standards very close to the ISO 14001 norms (Arszyłowicz 2001).

The EMAS system constitutes a core instrument in the implementation of European Union environmental policy. While in its essence the EMAS requirements are in accord with the ISO 14001 norms, the fact that it provides for control mechanisms give companies with EMAS certification greater environmental credibility. In addition the EMAS system also fulfills an additional requirement of European Union environmental policy: the postulate that the public should be fully informed about the tasks and efforts connected with environmental protection. This is accomplished by the requirement that environmental audits must be prepared (Problems of Environmental Audits, 2001).

While industrial enterprises in Poland, not being located in EU territory, are not permitted to officially register in the EMAS system, they are allowed to prepare EMAS audits and, in the event they are in compliance with the EMAS requirements, to have their audits formally approved by an EMAS certifier. Such pre-approved audits will then be automatically accepted when Polish enterprises are officially permitted to register in the EMAS system. In addition Polish draft legislation concerning environmental protection contains provisions ensuring implementation of the EMAS system in Poland. This legislation, if passed, will create a Polish EMAS “infrastructure” - a competence unit, and accreditation unit, and a verification unit – which will already be in place when Poland officially joins the European Union.

CHANGES IN THE STRUCTURE OF FOREIGN TRADE OF POLAND, THE CZECH REPUBLIC, AND HUNGARY WITH REGARD TO GOODS AND PRODUCTS DEEMED ENVIRONMENTALLY HARMFUL AS WELL AS WITH REGARD TO GOODS AND PRODUCTS DESIGNED TO AID IN ENVIRONMENTAL PROTECTION: AN ANALYSIS BASED ON THE CLASSIFICATION SYSTEM PROPOSED BY SUPRANATIONAL ORGANIZATIONS IN THE 1990’S.
The within analysis covers two types of goods and products: 1) those deemed environmentally harmful; and 2) those designed to aid in environmental protection. Both groups of goods were classified based on the HS (Harmonized System) nomenclature and were analyzed with regard to the dynamics of import and export thereof during 1992-2000.

The definition of goods and products designed to aid in environmental protection is given by the OECD/Eurostat Informal Group as follows:

“Goods, products and services protecting the environment, including activities which create such goods and products or offer services concerning the measurement, prevention, limitation, minimalization, or correction of air, water, or sunshine pollution, or address problems of waste management, noise pollution, and eco-system management.”

The above definition encompasses waste treatment and prevention technologies and goods, products, and services aimed at reducing risks to the natural environment or minimalizing pollution and the depletion of natural resources.

I. OECD/EUROSTAT lists three groups of goods and products designed to aid in environmental protection (OECD/EUROSTAT, WTO 1999).

a. goods and products designed to aid in environmental management: includes goods and services created exclusively with the aim of environmental protection and having a significant impact on pollution reduction and the identification and collection of statistical data;

b. cleaning products and technologies: includes goods and services which reduce or eliminate environmental harm. These are sometime used for other purposes as well, and their identification and classification in relevant statistical data is difficult, expensive, and open to controversy.

c. management and avoidance: this group includes goods, products, and services which may have significant positive environmental effects but which are designed and implemented for other purposes (such as energy saving technologies, creation of alternative energy sources, etc.). This category may be considered optionally and its classification and analysis depends to a great extent on existing environmental policies as well as access to statistical data.

II. Goods and products harmful to the environment include mainly those produced by the following industries: mining, metallurgy, chemical, paper and cellulose, energy, construction materials, and means of transportation1.

---

1 The analysis which follows is based on the author’s own research, taking into consideration the earlier-presented analyses in the theoretical part of this presentation.
An empirical analysis of import and export of the above goods in Poland, The Czech Republic, and Hungary, based on the aggregate reports presented in Figures 1-8, leads to the following general conclusions:

1. In all three of the analyzed countries once can observe significant increases during 1992-2000 in the import of goods designed to aid in environmental protection. This trend is particularly observable in absolute terms based on values expressed in USD. In the case of Hungary, a period of relatively low investment in the first half of the 1990’s was followed by a dynamic increase in the second half of the decade, spurred by a particularly intensive import of goods and products relating to waste-water management and solid-waste management. In Poland a period of significant growth in imports was observable between 1994-1996, followed by a declining trend between 1997-2000, particularly in goods and products relating to solid waste management (in the second half of 1996 and 1997), followed in 1998 by a decline in imports of goods and services relating to wastewater management. A similar trend of initial increases in imports followed by a decline is observable in the Czech Republic, although the changes there are less intense than in the case of Poland. The most stable and gradually increasing trend in the import of the three groups of goods and products relating to environmental protection, that is air pollution control, waste-water management, and solid waste management, took place in Hungary throughout the period in question (See Figures 1;3;4).

2. Exports of goods designed to aid in environmental protection in the three CEFTA countries examined during the time period in question rose at a significantly slower level than imports thereof. Nevertheless one can observe that greatest increase in exports in the 1990’s took place in the Czech Republic, while in Poland a significant growth in exports collapsed in the 1998-2000 period. A stable growth trend, albeit at a lower absolute level, is observable for Hungary during this period (See Figure 2).

3. On the other hand import of goods deemed harmful to the environment was characterized by a growth trend in all three analyzed countries throughout the 1990’s. In absolute terms the growth trend was lowest in Hungary, and somewhat higher in the Czech Republic, particularly in the latter half of the decade. The largest increase in the import of goods deemed harmful to the environment was noted in Poland in the second half of the decade, where such imports were 2 to 2.5 times greater than in the other analyzed countries (See Figure 5; 6).

4. The export of goods deemed harmful to the environment was also characterized by a growth trend in all three analyzed countries throughout the 1990’s, although once again the absolute growth trend was lowest in Hungary, while in Poland and the Czech Republic the export of goods deemed harmful to the environment increased more than two - and three -fold during the period analyzed (see Figure 7; 8).

5. In summation it should be concluded that all three of the CEFTA countries analyzed undertook significant steps in the 1990’s to improve their
natural environments, increasing their imports of goods designed to aid in environmental protection and technologies to implement “clean production” of export goods. These steps should improve the competitiveness of Polish, Czech, and Hungarian goods and products in the future on both the European and global markets.

ENVIRONMENTAL NORMS AND STANDARDS AND THE ACTIVITIES OF POLISH ENTERPRISES IN LIGHT OF THE RESEARCH SURVEY RESULTS

The aim of the research survey questionnaire was to conduct an analysis of the changes in the competitive positions of Polish enterprises as a result of applying the environmental norms and standards of the European Union, WTO, and OECD. The survey questionnaire contained 28 questions and was sent to 2138 firms. Replies were received from 286 firms, constituting about 14% of the survey sample.

An analysis of the structure of the respondents, based on the European Classification of Activities (NACE) system, showed that 14% of the surveyed firms were engaged in the production of ready-made metal products, with the exception of machinery; 12% were engaged in the construction industry; 9% were engaged in the production of otherwise unclassified machinery and equipment; 8% were engaged in the production of chemical products and artificial textiles; 7% were engaged in the production of rubber-products and artificial creations as well as in producing radio, television, and communications equipment and machinery; 6% were engaged in metal production; and 5% were engaged in the production of products from non-metallic natural resources as well as in the productions of foodstuffs and beverages.

18.9% of the respondents were in the public sector and approximately 71% in the private sector. Polish domestic firms dominated the private sector respondents, constituting 84.2% of the surveyed firms, while approximate 7% were foreign firms and 9% contained a mixture of Polish and foreign ownership. German, French, and Swiss firms dominated among the foreign firms.

In response to questions concerning the import of clean technologies and environmental products, approximately 34% of the respondents confirmed the import of such products and technologies, while 61% stated that they did not engage in such import. Approximately 5% of the surveyed firms failed to provide a response to this question.

More positive were the responses of the surveyed firms to questions concerning the environmental strategies they employed. Almost 78% of the respondents stated that they employed a strategy of avoiding environmental

---

2 57 survey questionnaires were returned without delivery owing to incorrect address information.
harm from the beginning of the production process, while only 36% of respondents stated that they applied the “end of the pipe” strategy.

54% of the surveyed firms confirmed that they have implemented ecological norms in recent years, while only 16% stated that they have not engaged in such activities in recent years. 30% of the surveyed firms, however, failed to respond to this question. Among the firms implementing ecological norms nearly 37% confirmed that they are in compliance with the ecological norms of the European Union; 31%, on the other hand, stated that they were not in compliance therewith. Only 30% of the respondents indicating that they were complying with ecological norms confirmed compliance with international ecological norms of the type ISO 14000, while 70% confirmed that they did not apply such norms to their activities.

The most common barriers listed by the respondent firms to the implementation of ecological norms were primarily the following:

- lack of legal and financial solutions, in particular the lack of means to finance such investments;
- lack of financial aid programs and funds earmarked for ecological purposes, as well as the high costs of expertise in the area of implementing new technologies;
- frequent and inconsistent changes in the legal regulations and unclear interpretations of environmental regulations;
- instability in national environmental regulation;
- a poorly developed system of waste segregation;
- a complicated system of assessing fines and clean-up charges for environmental damage;
- organizational difficulties with implementation of a system of outside consultation within a firm;
- technical obstacles, including the lack of a network for collecting industrial wastes and a poorly organized market for waste control;
- lack of information, including information about firms engaged in utilization of waste products;
- biurocratic and administrative barriers.

Among the firms responding to the survey only about 12% noted a positive relationship between the implementation of ecological norms and growth in domestic sales, while 15% confirmed the existence of such a relationship as regards sales in the foreign markets. 14% of respondent firms stated that they had more opportunities to cooperate with international firms operating in Poland as a result of their compliance with ecological norms, while 16% of respondents felt that they had more opportunities to cooperate with foreign firms abroad as a result of their compliance with ecological norms.

One quarter of the respondent firms indicated that they feel that their compliance with ecological norms and standards and their participation in Integrated Programs of Environmental Management will result in increased
sales on the domestic market upon Poland’s accession to the European Union, while 12% consider that the same will have no effect on their position on the domestic market and 5% consider that the effect, if any, will be minimal. About 35% of the surveyed firms failed to respond to this question.

The respondent firms’ assessment was more positive however as regards increased sales on the single European market upon Poland’s accession to the European Union, where 29% of respondents indicated that they feel that their compliance with ecological norms and standards will have a positive effect on export sales. 22% of respondent firms, on the other hand, feel that their compliance with ecological norms and standards will have either little effect on export sales or none at all, and 37% of respondents once again failed to respond to this question.
REFERENCES


Europejska wizja jakości , (2000), (The European Vision of Quality), Wydawnictwo PCBiC, Warszawa


Pochyluk R., Grudowski P., Szymański J, (1999), Zasady wdrażania systemu zarządzania środowiskowego, zgodnego z wymaganiami normy ISO 14 001 (Principles of implementing a system of environmental management in accordance with the ISO norm 14001), Ekokonsult, Gdańsk, 1999,

Fig. 5. Import of commodities difficult for the environment

Fig. 6. Share of commodities difficult for the environment in total import

Fig. 7. Export of commodities difficult for the environment

Fig. 8. Share of commodities difficult for the environment in total export