

How Corporate Executives Perceive Environmental Issues: Comparing Hungarian and Global Companies

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SUMMARY. This article reports the results of a survey conducted in Hungary to compare the environmental perceptions of Hungarian corporate managers with those of other executives from around the world who had earlier responded to a similar survey conducted by McKinsey and Company. The results showed virtually no differences in how Hungarian managers perceived the importance of environmental challenges, but they did reveal stronger differences in perceptions between Hungarian and international respondents and among Hungarian respondents from companies in different owner-

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ship groups on how companies were putting their environmental concerns into practice. Although there seems to be a wider gap between executives of Hungarian companies and those from Western Europe and North America in adopting environmental practices, the survey revealed that Hungarian managers are acutely aware that their companies will have to invest more heavily to achieve higher levels of environmental protection in the future. [Article copies available from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworth.com].

INTRODUCTION

Executives in Central Europe must operate in complex and uncertain economic conditions as their countries undergo a transition from socialist to market systems. The transition affects every segment of society (Jackson et al., 1993). One of the most critical challenges facing Hungarian managers is how to resolve the conflicting pressures of attaining financial stability for their companies while at the same time coping with potentially serious problems such as environmental pollution. The stereotype of managers from third world or formerly communist countries as being oblivious to or unconcerned about the dangers of environmental degradation arises from the belief that the government and the private sector continue to avoid the costs of environmental protection and cleanup (Pearson, 1987). Although Hungary's economy is just emerging from a long period of stagnation and its GDP per capita ranks only 56 among the 160 countries for which the World Bank and the United Nations Development Program provide comparative economic statistics, its human development index (the combination of GDP per capita, illiteracy rate, average number of years spent in school and life expectancy) ranks higher than some Western European countries (World Bank, 1994). Because education levels and environmental awareness are correlated, the concern for a clean environment should be relatively high in a country like Hungary. Given Hungary's human development index and its desire to become a member of the European Economic Community, its corporate executives should be willing to adopt higher environmental standards as quickly as possible.

Although many Hungarian managers may still consider the costs of meeting environmental challenges a threat to their companies'

competitiveness, the growing pressures from nongovernment organizations and consumers for environmentally sound production processes and environmentally-friendly products are likely to push them more quickly toward meeting global market requirements (Cairncross, 1992; Schmidheiny, 1992). Moreover, government officials and business leaders in Central Europe are coming to realize that stricter environmental regulations and stronger enforcement can protect the region from the transfer of obsolete and highly polluting production technologies (Frosch & Gallopulas, 1989; Kemp, 1993).

Pressures on Hungarian companies interested in attracting foreign investment also arise from the fact that over the past few years multinational corporations have become increasingly sensitive to the environmental impacts of their business practices and operations (Schot & Fischer, 1993). An increasing number of companies recognize that in the global marketplace, their environmental image affects the demand for their products, their ability to obtain loans from international financial institutions, and the sale of their shares on international stock exchanges (UNCTC, 1990). Even in formerly socialist countries and in developing economies where governments and the private sector paid little attention to the environmental consequences of industrial activity during the past half century, governments are increasingly being pressured by international organizations and local interest groups to adopt stronger environmental regulations and to encourage companies to use "green" business practices (Panayotou, 1993).

Although there seems to be a growing consensus among corporate executives in multinational companies that they must take environmental impacts into account, little is known about how extensively such perceptions are shared by companies that are not owned by or that do not generally trade with multinational firms, or about how the perceptions of environmental issues are translated into business policy and operations within manufacturing firms in emerging market countries. Many questions remain about the significance of environmental issues in business practice. Do multinational companies operate differently in countries such as Hungary that less stringently enforce environmental regulations than they do in countries with stronger environmental laws and enforcement? Do wide-

spread perceptions of the need for companies to be sensitive to the environmental impacts of their operations extend deeply into firms in formerly communist countries in Central and Eastern Europe, where environmental problems are severe and the environmental impacts of their operations were largely ignored for more than 40 years? Do managers of multinational companies in Central and Eastern European countries such as Hungary perceive any differently the need to improve environmental conditions than managers of their parent companies in Western Europe or North America?

This article explores answers to some of these questions by examining the perceptions of corporate executives throughout the world of the importance of environmental protection to their business strategies and operations; by comparing international perceptions with those of executives in one country, Hungary, that is in transition from a socialist to a market-oriented economy and that suffers from serious environmental problems; and by comparing the environmental perceptions of executives of companies within Hungary under different forms of ownership. The impact of ownership on the way in which executives and managers perceive environmental issues has received little attention in the literature.

ENVIRONMENTAL PROBLEMS AND ECONOMIC CONDITIONS IN HUNGARY

The challenges facing multinational and local companies around the world in dealing with environmental issues are no more critical than in the former socialist countries of Central and Eastern Europe (Vári & Tamás, 1993). Since 1989 the economic situation and the political map of Central Europe have changed dramatically, and the implications of these changes will be critical for multinational companies seeking to invest in or export to the region. Among the new democracies of this region, Hungary, Poland, and the Czech Republic have the best chance to become an integral part of the European Community, but to do so they must address their environmental problems and pursue higher environmental standards.

Although Central European countries have made relatively good progress toward economic reform and the restructuring of the ownership of their industries since 1990, they face two critical chal-

lenges in the decade ahead. First, they must restructure their domestic industries and attract investment by multinational companies (MNCs) in order to become competitive in world markets (Rondinelli, 1993). The ongoing privatization and the growing number of joint ventures in Hungary, for example, are already changing the way many companies are managing their internal functions, including manufacturing (Rondinelli & Fellenz, 1993). But more profound and widespread changes will have to occur in the future in order for Central European countries such as Hungary to meet the stricter standards of quality, flexibility, delivery time, and service required by global markets. Second, both domestic and multinational manufacturing companies in Hungary and in other Central European countries will have to adjust to growing demands by both local residents and international organizations for environmental protection and clean-up (Hansen, 1989). Traditionally, environmental issues played a minor role in decisions of companies in centrally planned economies. Because they were state-owned enterprises against which environmental regulations were not stringently enforced by the government, manufacturing and mining industries in Hungary, for example, could largely ignore the environmental impacts of their operations under the socialist regime. Now, with the adoption of stricter environmental regulations and the growing demand for environmental cleanup there is a chance that this situation will change, and industrial enterprises will have to modify their manufacturing processes accordingly. Although Hungary has environmental protection laws and regulations, they have only been casually enforced since the demise of the communist regime. The desire of Hungary to join the European Economic Community and the pressures of international financing organizations such as the World Bank and the European Bank for Reconstruction and Development on the Hungarian government to clean up environmental pollution and enact and enforce more stringent regulations will increase the pressures on businesses to address environmental management issues.

New legislation on environmental protection is being considered by the Hungarian Parliament along with new regulations that require environmental impact assessments for a wide range of industries, new land use and construction regulations, and new legislation

on handling, storage, and disposal of chemical hazardous materials. In the early 1990s Hungary upgraded regulatory standards for air quality and defined more clearly monitoring and control requirements, placed limits on vehicular air emissions, and increased fines for polluting rivers, lakes and groundwater. Since the late 1980s, the Hungarian government has also signed international conventions on environmental impact assessment, control of transboundary movements of hazardous wastes and their disposal, and long-range transboundary air pollution, and signed the Montreal Protocol on Substances that Deplete the Ozone Layer (White & Case, Inc., 1994). If the new legislation and agreements are enforced, those industries that have the highest potential for polluting air and water resources will have to find ways of building environmental restrictions and targets into their manufacturing processes.

COMPARING ENVIRONMENTAL PERCEPTIONS INTERNATIONALLY AND IN HUNGARY

The purpose of this article is to assess the perceptions of environmental challenges and practices among executives of manufacturing firms in three ownership groups in Hungary and to compare them with perceptions of corporate executives in other parts of the world. A questionnaire for Hungarian corporate executives was developed to compare their responses with those of executives who participated in a worldwide survey conducted by McKinsey and Company in 1991 (McKinsey & Company, 1991).

The McKinsey study elicited responses from corporate executives who attended three international conferences and from targeted groups to ensure sufficient responses from developing countries in Latin America, Southeast Asia, and other regions (26% of respondents) and from Central and Eastern Europe (12%) in addition to those received from executives from Western Europe (34%), North America (17%) and Japan (11%). The five regions were based on the geographic location and the GNP per capita of the country where the company's headquarters were located. McKinsey sent out about 1,400 questionnaires, and received a total of 447 completed forms, a 30% response.¹

The Hungarian survey was carried out about a year after the McKinsey international survey. Many of the same questions were translated from English to Hungarian and some new questions about company ownership were added. The translation was made by a Hungarian doctoral candidate at the Budapest University of Economic Sciences and verified by one of the authors. Questionnaires were sent to 400 medium- or large-sized companies that were on the membership list of the Hungarian Chamber of Commerce. The 42% response rate in Hungary—169 company executives—was itself an indicator of the strong interest in this topic. However, as is quite common in surveys, not all of the respondents answered all of the questions and, thus, the actual number of respondents varies from question to question.

CHARACTERISTICS OF THE HUNGARIAN SAMPLE

As in the McKinsey survey, the respondents to the Hungarian questionnaires were mostly senior managers, including managing directors, CEOs, and corporate department heads. The McKinsey international responses were largely from executives in companies in the chemicals, energy, metals, processing, consumer goods and durables industries.² The international survey did not identify respondents by their companies' ownership characteristics. In the Hungarian sample, shown in Table 1, companies were divided into three ownership groups based on the assumption that foreign ownership probably has some influence on the management style of the company. This differentiation makes it possible to verify whether or not foreign investment is dominant in highly polluting industries.

The majority of the companies—125 establishments—were domestic Hungarian companies and were fully owned by Hungarian institutions. The second group, 30 companies, represented mixed ownership. In this group the average foreign ownership was 52%. The third group consisted of six companies fully owned by foreign investors. Those companies that did not give information about their ownership were not included in this analysis.

Table 2 lists the industries included in the survey. Table 3 shows that most of the companies in all ownership groups were involved in manufacturing, although a few were engaged in assembling,

trading, forwarding or warehousing. Table 4 indicates the size categories of companies by number of employees.

Domestic Companies. The largest subsample of executives was from domestically-owned companies (78.7% of all companies in the sample), including light industries such as wood processing, paper, and textiles. Executives from companies in the chemical industry (e.g., pharmaceutical, rubber, and cosmetics) and the food industry made up 17.2 and 16.4% respectively of the sample. Respondents from machine factories represented 12.9% in this ownership category. Hardly any foreign investment was found in the chemical industry because Hungary's environmental liability regu-

TABLE 1. Legal Structures by Ownership Types

Legal Type	Ownership		
	Domestic	Mixed	Foreign
Limited liability company	29 (23.2%)	11 (36.7%)	5 (83.3%)
Joint stock company	52 (41.6%)	19 (63.3%)	1 (16.7%)
Cooperative	5 (4.0%)	0 (0%)	0 (0%)
State owned company	34 (27.2%)	0 (0%)	0 (0%)
No answer	5 (4.0%)	0 (0%)	0 (0%)
Total	125 (100.0%)	30 (100.0%)	6 (100.0%)

TABLE 2. Industries of Companies Surveyed

Industry	Domestic	Mixed	Foreign
Mining	1	1	0
Electric Energy Production	2	0	0
Metallurgy	7	0	0
Machine Factory	15	3	0
Construction Materials	1	3	2
Chemicals	20	2	0
Light Industries	30	3	0
Food Industry	20	9	2
Transportation	4	1	0
Trade	7	3	1
Other	11	3	1

TABLE 3. Activities of Companies

Type of Activity	Domestic	Mixed	Foreign
Mining	1	0	0
Manufacturing	84	22	5
Assembling	8	2	0
Trade	8	3	1
Forwarding, Warehousing	1	2	0
Construction	1	0	0
Other	20	1	0

TABLE 4. Number of Employees by Ownership
(Percentage Distribution)

Number of Employees	Domestic	Mixed	Foreign
Fewer than 50	9.8	16.7	16.7
Between 50 and 250	26.0	20.0	50.0
Between 250 and 500	17.9	10.0	0.0
More than 500	46.3	53.3	33.3
Total	100.0	100.0	100.0

lations make new owners of privatized companies fully liable for clean-up of the site. Many of the domestic companies were still either state-owned enterprises (27%) or joint stock companies in which the government may still own a portion of the shares (41.6%). About 46% of these enterprises were large, with more than 500 employees, and about 64% had more than 250 employees.

Mixed-Ownership Companies. Respondents from most companies with mixed ownership were in the food industry. The other sectors—machine factories, construction materials, light industries, and trade—were about equally represented by about 10.7% of the respondents. A majority of these enterprises were joint stock companies. More than 53% of these mixed-ownership companies had more than 500 employees. Only about 17% were small companies with less than 50 workers.

Foreign-Owned Companies. Two of the six foreign-owned companies produced construction materials, two others were in the food

industry, and the remaining two were engaged in trade. As might be expected, five of the six wholly foreign-owned companies were limited liability corporations and one was a joint stock company. Two of the companies had more than 500 employees; the other four had fewer than 250 workers.

Perceptions of Environmental Issues

Both the McKinsey international survey and the Hungarian corporate survey sought to understand how strongly corporate executives recognized environmental issues and their perceptions of how government and the business community can begin to deal with them. In both questionnaires, executives were asked about their reactions to seven statements and to indicate on a five-point scale (1 = fully disagree, 5 = fully agree) the extent to which they agreed with these statements. The results show a high level of recognition of how serious environmental problems are in countries around the world. The Hungarian responses also allowed differences between perceptions of executives in companies in different ownership groups to be tested. The Kruskal-Wallis non-parametric test was used to indicate differences among the ownership groups in Hungary. This powerful test is the nonparametric equivalent of the analysis of variance and it is more appropriate for the analysis of data with potential outliers (Daniel, 1990). Table 5 shows the statements posed to corporate executives in both surveys and the significance level of the test for the Hungarian group where significant differences appeared. In order to make the Hungarian study comparable with the McKinsey survey, the data were rescaled and the ratings were converted into percentages.

Importance of Environmental Challenges. The results of both surveys show strong recognition of the importance of environmental challenges (statement 5-1.). In the McKinsey international survey, 92% of the respondents agreed that "the environmental challenge is one of the central issues of the 21st century." Overall, 94% of the Hungarian respondents also agreed that environmental issues will be crucial in the coming century and there was relatively little difference among the responses of executives of companies in different ownership groups, with all of the executives of foreign-owned companies strongly agreeing. Perceptions were similar about respon-

TABLE 5. Differences in Perceptions of Environment
(Percentage of Respondents Who Agreed with the Statement)

Statements (Significance level)	Domestic	Mixed	Foreign	Hungary Total	McKinsey Survey
5-1. The environmental challenge is one of the central issues of the twenty-first century.	94	93	100	94	92
5-2. The industry will have to re-think its entire conception of the industrial process if it is to adapt profitably to an increasingly environment-oriented world.	67	72	50	67	63
5-3. Where environmental or health considerations demand it, the sale of our products will be curtailed or their production halted, regardless of our economic interests. ($p = 0.044$)	23	24	67	25	NA
5-4. Pollution prevention pays.	56	33	50	54	76
5-5. There is a need to assume responsibility for one's products even after they left the plant.	95	97	100	96	83
5-6. In the long term spending on environmental R&D will give us a competitive advantage.	65	63	50	64	76
5-7. To minimize the chance of future tragedies, we should pursue a partnership of government, industry and academia. ($p = 0.110$)	83	62	67	79	80

sibility for the environmental impacts of products (statement 5-5 in Table 5).

Need for New Partnerships to Solve Environmental Problems. A strong consensus also existed in both surveys on the need for new partnerships to solve environmental problems and prevent new ones in the future (statement 5-7). About 80% in the international survey and 79% in the Hungarian survey, agreed on the need to pursue partnerships among government, industry, and academia in order to minimize the chance of future tragedies. However, in Hungary this statement was viewed differently—at 11.0% significance level using the Kruskal-Wallis test—among respondents from companies in different ownership groups. Executives from the domestic companies, having had long experience with government involvement, agreed

the most (83%) about the need for new types of partnerships that include academia and the private sector. The other two groups—62% of those from mixed-ownership companies and 67% from foreign-owned companies—agreed, but somewhat less strongly.

Benefits of Environmental Management. A majority of corporate respondents agreed in both the international and Hungarian samples—although at a somewhat lower level of consensus than existed on broader issues—that actions to manage environmental problems would benefit their companies. However, differences appeared in both the strength of agreement between international and Hungarian executives, and about ways in which environmental actions would benefit companies among managers of different types of companies in Hungary. About 76% of the executives responding to the McKinsey-survey agreed that long-term spending on environmental R&D (statement 5-6) would give their companies a competitive advantage. In Hungary only about 64% of all executives and only about half of those from foreign-owned companies agreed with the statement.

About 76% of international respondents also agreed that pollution prevention pays for companies (statement 5-4). But in Hungary only 54% of the executives thought that pollution prevention would result in benefits for the company, and among those from mixed-ownership companies only one-third agreed. Small differences also appeared when respondents were asked how extensively their companies would have to reorient their practices and procedures. About 63% of the international respondents and 67% of the Hungarian respondents agreed to the statement (5-2) that “industry will have to re-think its entire conception of the industrial process if it is to adapt profitably to an increasingly environment-oriented world.” Perhaps because to some degree foreign-owned companies had already adopted more environmentally-friendly manufacturing processes and because they are operating mostly in the less environmentally sensitive industries, only half of the executives in this ownership group agreed.

Perceptions of Appropriate Company Policies and Practices

Given the relatively strong consensus among corporate executives internationally and in Hungary on the critical environmental

challenges facing companies in the future, both the McKinsey and the Hungarian surveys sought to clarify how executives perceived these challenges in their own companies and what types of changes they were prepared to support.

Key Environmental Concerns. Some differences appeared in the responses of executives throughout the world who were surveyed by McKinsey, and in those of Hungarian executives from companies in different ownership groups, on the operational implications of their concerns. In the McKinsey survey, "complying with regulations" was the main environmental concern followed by "preventing incidents." Both are typical of traditional "defensive" environmental management approaches. About half as much importance was assigned to the next two (more proactive) concerns, "enhancing positive image" and "integrating environment into corporate strategy." The least important consideration for the international companies was "realizing new market opportunities," while for the companies operating in Hungary it was the key concern. Interestingly, the participants in the Hungarian study and the international survey agreed on the importance of the next two items: "preventing incidents" and "enhancing positive image." "Complying with regulations" and "integrating environment into corporate strategy" were the least important issues for the respondents from Hungary, perhaps because of the uncertain circumstances they had to deal with during the economic transition. Complying with regulations may have seemed less important because Hungary's regulations are strict but not effectively enforced. The economic crisis largely focused Hungarian managers' attention on issues of survival and they may have therefore underestimated the importance of corporate strategy.

Curtailing Environmentally Harmful Products. Although a majority of respondents to both surveys agreed with general statements about the seriousness of environmental challenges and the benefits to companies of taking positive actions to improve environmental management, only 25% of Hungarian respondents agreed that companies should curtail production of or remove products for health or environmental reasons. The results show that statement 5-3 was viewed significantly differently (at 4.4% significance level) by respondents in the three ownership groups. Managers from foreign-owned companies tended to agree more strongly (67%) that if environmental

considerations demand it, the sale or manufacture of a product should be halted regardless of the economic interests of the company. Only about 23% and 24%, respectively, of the executives from domestic and mixed-ownership companies agreed with that statement.

Seriousness of Environmental Issues in Value-added Chain. Respondents were asked in the McKinsey study to identify the phase of a product's life cycle where environmental issues were most serious. The international respondents reported production as being the most critical phase; followed by disposal and recycling. Product use and sourcing were at the end of the list. Hungarian executives had somewhat different perceptions. They felt that environmental issues were most serious in disposal and recycling and showed less concern about production, sourcing of raw materials, and product use. This difference can be explained by the fact that Hungary's 1986 hazardous waste law created a large gap between the volume of waste production and the level of waste disposal capacity. There was strong agreement in all ownership categories in Hungary on the need for improving waste management and manufacturing technology and far less agreement on improving end products. A much higher percentage of executives from foreign-owned companies thought that improvements in end products would improve environmental protection than did their counterparts in domestic or mixed-ownership companies.

Most Effective Government Policy Instruments. A question about the most effective government policy instruments for addressing major environmental issues was unique because differences in political culture should influence the attitudes of managers. The McKinsey survey showed that 63% of the Japanese respondents (double the average response) preferred direct regulation, while self-regulation and market mechanisms were strongly favored by North American managers. Direct regulation may be more strongly preferred by managers of companies in countries with stable political situations or with governments having more transparent economic policies. Indirect regulation and self-regulation were mainly favored in stable market economies like the United States. The international and Hungarian surveys also sought to elicit executives' perceptions about the most effective means of achieving environmental protection. The major differences between international

and Hungarian respondents appeared to be on the efficacy of direct regulation (e.g., command and control) and positive indirect regulation (e.g., subsidies, tax breaks). Hungarian managers were less disposed toward direct regulation—not because they preferred indirect regulation, which was even more problematic for them—but because Hungarian environmental protection legislation started with the command and control instruments and Hungarian managers may have better understood how unrealistic that approach really was. After 1989 the new government introduced some economic instruments such as fuel taxes, deposits for tires, and ecotaxes on packaging, and it reduced subsidies for public transport and eliminated tax breaks for environmental protection investments. Perhaps this experience led Hungarian managers to prefer positive incentives over indirect regulation through negative incentives (e.g., taxes, pollution charges) and “self-regulation” (e.g., voluntary restraint of production).

About 59% of the respondents in Hungary thought that the current legal regulations greatly contributed to environmental protection. However, this overall response masked large differences among the three ownership groups. The level of agreement ranged from 33% for foreign-owned companies and 58% for Hungarian-owned establishments to 69% for companies with mixed ownership. These differences were significant at the 14.3% level on the Kruskal-Wallis test for the original five-point scale responses. One possible explanation for the joint ventures' high level of satisfaction with current regulations is the number of concessions made by the government in order to attract foreign investment. The desire on the part of the Hungarian government to increase foreign investment in order to improve economic conditions may have temporarily superseded its concern about environmental conditions. Joint venture managers would be reluctant to change the regulations under which they negotiated their arrangements and to curtail production of environmentally damaging products.

Environmental Practices Currently Used. Finally, the greatest differences between international and Hungarian respondents were seen in the types of environmental practices already adopted. Hungarian companies lagged behind in all categories. Significant differences were also seen among Hungarian companies in different ownership

groups. For example, while 79% of international companies have written environmental policy statements, only about 57% of domestic Hungarian companies and 67% of foreign-owned Hungarian companies have adopted such policies. About half of the international respondents reported that their companies have a board member with specific responsibility for environmental issues; but in Hungary only 39% of domestic companies, 33% of foreign companies, and 23% of mixed companies had such board members. About 43% of the McKinsey respondents said that their companies had public communications programs on environmental issues, but in Hungary only one-third of the foreign-owned firms, 8% of the domestic firms, and 13% of the mixed-ownership companies have such programs. (See Table 6.) Only a very small percentage of domestic (6.4) and mixed companies (3.3) and none of the foreign companies in Hungary used environmental performance evaluations for their suppliers, while 22% of the executives in the international survey reported that their company followed this practice.

TABLE 6. Environmental Policy Component that is Currently Installed at the Company

Policy Component	Percentage of Companies with the Component			
	Domestic (Hungary)	Mixed (Hungary)	Foreign (Hungary)	McKinsey Survey
1. Written company policy statement.	57	77	67	79
2. Board member with specific responsibility.	39	23	33	52
3. Environmental performance evaluation of suppliers.	6	3	0	22
4. Hiring external experts in environmental affairs.	19	13	17	27
5. Public communication program.	8	13	33	43
6. Environmental marketing program.	26	27	33	32

Although about one third of the companies had some kind of an environmental program in place, the use of these programs differed from market to market among the companies operating in Hungary. In the Hungarian questionnaire several additional questions addressed the issue of environmental marketing. Generally, these questions asked managers what they thought about their customers and the potential for marketing green products. There was no statistically significant difference in any of these questions among the different ownership groups, showing that although the managers disagreed on several environmental issues, they saw their operating environment, the Hungarian market and their Hungarian customers quite similarly. The first question was about the importance of the green nature of a product for customers. Only about 7% of the domestic companies and joint ventures, and about 17% of the foreign companies thought that the green nature of the product is important or very important for their customers. Similarly, only a minority of the respondents thought that their customers would pay 5% more for a "green" product. This agreement was further supported when the managers were asked about the importance of emphasizing the green nature of the products in developed market economies, in other foreign markets, and in the domestic market. The answers showed a clear trend: an overwhelming majority of the respondents thought that it is very important to emphasize the green nature of a product in the developed market economies, somewhat less important in other foreign markets, and not very important in the Hungarian market.

FINDINGS AND CONCLUSIONS

The Hungarian survey showed that there is virtually no difference between the environmental perceptions of Hungarian and international managers of the importance of environmental challenges. If anything, Hungarian executives are slightly more sensitive to the importance of environmental issues and more strongly agree that companies are responsible for the environmental impacts of their products even after they leave the factory. Hungarian executives also strongly agree with their international counterparts on the need for new partnerships of government, business, and academia to

address environmental issues, and seem to be less trusting that government or businesses alone can solve environmental problems. Although Hungarian managers agree with their international counterparts that environmental actions will benefit companies, the level of that agreement was much weaker than that of international executives on the statements that their industries would have to entirely rethink their industrial processes and that pollution prevention would result in benefits for their companies.

It was surprising, however, that respondents to the McKinsey survey saw very little distinction between Central and Eastern European and third world countries in terms of the most appropriate approaches to developing clean technologies or the environmental barriers to foreign acquisition of companies. Despite some large economic, political and social differences in the two regions, executives from around the world had virtually the same attitudes toward the appropriate approaches to developing clean technologies in Central and Eastern Europe and third world countries. A little over 40% believed that training local management and staff in clean technologies was the best approach for both regions; about 20% thought that subsidies, soft loans, and tax provisions would promote the adoption of clean technologies; and smaller percentages favored transfer of expatriate experts to operate facilities, development of special "fool-proof" technologies, and access to patents at minimal or no charge. Their perceptions of the barriers to higher foreign investment in Central and Eastern Europe and third world countries were also similar, except on two dimensions: more than twice as many international respondents thought that potential environmental liabilities would be barriers to foreign acquisition of companies, and a far larger percentage thought that the cost of upgrading facilities would be a stronger barrier to foreign investment in Central and Eastern Europe than in third world countries.

When attention was focused on the specifics of how companies should deal with environmental issues, there were some strong differences in perceptions between Hungarian and international respondents and among Hungarian respondents from companies in different ownership groups. Only a minority of Hungarian executives from domestic and mixed-ownership companies, for example,

agreed that the production or sale of a product should be halted because of environmental considerations.

Most Hungarian managers saw the most serious environmental implications in disposal and recycling and in production processes, whereas for international respondents disposal and recycling were perceived to be less urgent problems, perhaps because in Western European, Japanese, and American companies these problems were no longer as compelling. More than their international counterparts, Hungarian managers favored indirect regulation and use of incentives as the most effective means of protecting the environment. Generally the managers of joint ventures and domestic companies in Hungary thought that current legal regulations were contributing to environmental protection, while executives of foreign companies did not strongly agree. This disagreement might be attributed in part to the small number of foreign-owned companies in the sample, but it is more likely due to the current economic conditions in Hungary where managers focus more on "marketization" and attracting foreign investment than on strengthening environmental controls.

When asked about environmental actions currently used by their companies, the responses of Hungarian executives showed that their companies lagged behind their international counterparts in all categories of actions. Beyond having adopted environmental policy statements or designated a board member to be concerned with environmental issues, a relatively small percentage of Hungarian companies have adopted other means of meeting environmental challenges. A relatively high percentage of companies reported the existence of environmental marketing programs. However, marketing "green" products or the "green" nature of the products was thought to be much more important in developed market economies than in the Hungarian market.

Although there seems to be a wider gap between Hungarian and Western European and North American companies in adopting more effective environmental practices, the survey revealed that Hungarian managers are acutely aware that their companies will have to invest more heavily to achieve higher levels of environmental protection in the future. As Table 7 indicates, more than 77% of the respondents from domestic companies predicted an increase or a significant increase in environmental protection-related company

investments in the future, as did 80% of those from mixed-ownership companies, and 88% from foreign-owned companies. If these predictions are accurate reflections of the plans these executives are making for future investment, it seems to indicate that neither domestic companies nor multinationals anticipate operating in Hungary in a way that can evade or ignore the increasing pressures to address environmental challenges in the future.

Finally, the evidence from these surveys indicates that executives from around the world are highly sensitive to the importance of environmental issues, and that foreign-owned companies in Hungary are not seeking a "pollution haven" in which to manufacture at a lesser standard environmentally than they do in Europe or North America. A recent survey of foreign investors in joint ventures undertaken by the Hungarian Academy of Science's Institute for World Economics for a Japanese aid organization confirms this impression (Csáki, 1993). It concludes that "most companies think about environmental protection as a normal feature [of doing business], a necessary condition of production, and are ready to equip their facilities with up-to-date equipment." Indeed, the study found that the lack of clear and enforceable environmental regulations leaves most multinational companies uncertain about how to make those investments and about their future liability for environmental degradation. American companies were particularly concerned about the impact of weak environmental regulations on their decisions and on their ability to sell products made in Hungary in Western European markets. They generally saw the move toward

TABLE 7. Change of Environmental Protection Related Company Investments in the Immediate Future (Percentage Distribution)

Investment Trend Forecast	Domestic	Mixed	Foreign
Decrease	4.9	6.7	0
Constant	17.1	13.3	16.7
Increase	68.3	70.0	50.0
Significant Increase	9.7	10.0	33.3

more transparent environmental regulations and more effective enforcement in Hungary as a way of improving the business climate.

END NOTES

1. The McKinsey "Corporate Response" questionnaire was distributed to participants of the Annual Meeting of the World Economic Forum (held in Davos in February 1991), the Second World Industry Conference on Environmental Management (WICEM II, organized by the International Chamber of Commerce in Rotterdam, April 1991), and the 19th Annual General Meeting of the International Primary Aluminum Institute (held in Amsterdam in May 1991). Efforts were made to generate responses from specific geographic regions in order to ensure a sufficient response from these areas. The five regions were based on the geographic location and the GNP per capita of the country where the company headquarters were located:

- North America (consisting of Bermuda, Canada, and the United States), Japan, Western Europe (consisting of the European Community and the EFTA countries);
- Central and Eastern Europe (consisting of former centrally planned economies of Bulgaria, Czechoslovakia, Hungary, Poland, Soviet Union and Yugoslavia); and
- Third World (consisting of the developing countries in South America, Africa, and Asia).

Responses from Australia, Hong Kong, New Zealand, Singapore, Taiwan and the United Arab Emirates were included in the overall analysis but they were excluded from any regional segmentation because of lack of sufficient numbers relative to the variety of countries.

The industrial classification of the sample included six groups: (1) chemicals (covering chemicals, rubber, and plastic), (2) energy (including utilities, energy distributors and oil, coal, and gas companies), (3) metals (including primary metals, metal products and machinery), (4) process industries (including paper and paper products, glass, construction and building materials), (5) consumer goods (including food, beverage and tobacco, textiles and apparel, and pharmaceuticals/diagnostics), (6) durables (including transport equipment, electrical machinery/appliances, electronics/telecommunications, aviation, and environmental technology).

In many parts of the questionnaire the respondents were asked how strongly they agreed or disagreed with certain statements or whether an issue was critical or unimportant. The scale used ranged from 1 (disagree or unimportant) to 5 (agree or critical). The ratings were converted into percentages (1 and 2 as disagree, 3 as neutral, 4 and 5 as agree).

2. The overall results of the McKinsey survey may be somewhat optimistic on corporate executives' perceptions of the environmental challenge because: (1) most of the responses were from senior executives who are, generally, more strategically oriented and more optimistic about environmental matters than their lower level, more operational counterparts; (2) about 59% of the respondents were from large, international companies that may have had greater exposure to environmental issues, and therefore were more environmentally sensitive; and (3) respondents who attended the World Industry Conference on Environmental Management, WICEM II, can be expected to be more positive about environmental issues than those who did not attend.

REFERENCES

- Cairncross, F. (1992). *Costing the Earth: The Challenges for Governments, the Opportunities for Business*, Cambridge, Mass.: MIT Press.
- Csáki, G. (1993). *Foreign Direct Investments and Joint Ventures in Hungary: A Basic Issue of Transformation Towards a Market Economy*. Budapest, Hungary: Hungarian Academy of Sciences, Institute for World Economics.
- Daniel, W. W. (1990). *Applied Nonparametric Statistics* (2nd ed.). Boston, Mass.: PWS-Kent.
- Frosch, R. & N. Gallopulas (1987). Strategies for Manufacturing. *Scientific American* (September): 144-153.
- Hansen, P. (1989). Criteria for Sustainable Development Management of Transnational Corporations. *Industry and Environment*, Vol. 12, Nos. 3-4: 32-42.
- Jackson, T., R. Costanza, M. Overcash & W. Rees (1993). The Biophysical Economy—Aspects of the Interaction Between Economy and Environment. in T. Jackson (ed.) *Clean Production Strategies* (pp. 3-28). Boca Raton, Fla.: Lewis Publishers.
- Kemp, R. (1993). An Economic Analysis of Cleaner Technology: Theory and Evidence, in K. Fisher & J. Schot (Eds.) *Environmental Strategies for Industry* (pp. 79-113). Washington, D.C.: Island Press.
- McKinsey & Company (1991). *The Corporate Response to the Environmental Challenge, Summary Report*. Amsterdam, The Netherlands: McKinsey & Company.
- Panayotou, T. (1993). *Green Markets: The Economics of Sustainable Development*. San Francisco, Calif.: ICS Press.
- Pearson, C. S. (1987). *Multinational Corporations, Environment and the Third World: Business Matters*. Durham, N.C.: Duke University Press.
- Rondinelli, D. A. (Ed.). (1993). *Privatization and Economic Reform in Central Europe: The Changing Business Climate*. Westport, Conn.: Quorum Books.
- Rondinelli, D. A. & M. R. Fellenz (1993). Privatization and Private Enterprise Development in Hungary: An Assessment of Market Reform Policies. *Business & The Contemporary World*, 5(4), 75-88.

- Schmidheiny, S. and the Business Council on Sustainable Development (1992). *Changing Course: A Global Business Perspective on Development and the Environment*. Cambridge, Mass.: MIT Press.
- Schot, J. & K. Fischer (1993). The Greening of the Industrial Firm, in K. Fischer & J. Schot (Eds.), *Environmental Strategies for Industry* (pp. 3-33). Washington, D.C.: Island Press.
- United Nations Commission on Transnational Corporations (UNCTC) (1990). *Transnational Corporations and Issues Relating to the Environment*. New York: United Nations.
- Vári, A. & P. Tamás (Eds.). (1993). *Environment and Democratic Transition: Policy and Politics in Central and Eastern Europe*. Boston, Mass.: Kluwer Academic Publishers.
- White & Case Inc. (1994). Hungary. in European Bank for Reconstruction and Development, *Investors' Environmental Guidelines* (pp. 223-288). London: Graham & Trotman Publishers.
- World Bank (1994). *Social Indicators of Development*. Washington, D.C.: World Bank.