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Author(s): Halina Szejnwald Brown, David P. Angel, Roman Broszkiewicz and Barbara Krzyśków

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Occupational safety and health in Poland in the 1990s: A regulatory system adapting to societal transformation

HALINA SZEJNWALD BROWN,^{1,2} DAVID P. ANGEL,¹
ROMAN BROSZKIEWICZ³ & BARBARA KRZYŚKÓW³

¹*Marsh Institute, Clark University, 950 Main Street, Worcester, MA 01610, U.S.A.*

²*E-mail: hbrown@clarku.edu for correspondence*

³*Institute for Labor Protection, Czerniakowska 16, 00-701 Warsaw, Poland*

Abstract. The societal transformation underway in Poland created a fundamental challenge to the occupational health and safety system, as the ideological and administrative principles on which it was founded vanished along with the communist-dominated regime. This paper examines the regulatory reform in Poland during the 1990s: its structural elements, implementation record and future prospects. Drawing on five case studies of privatized firms, a mailed questionnaire, and policy and institutional analysis, we find that Poland had considerable success in developing an effective regulatory system for managing occupational health hazards in privatized sector while also achieving considerable socioeconomic progress. The fundamental legitimacy of the regulators and regulatory process, the availability of information about firms and regulatory intents, and the capacity for case-specific decision making, are among the key explanatory factors. The case-specific implementation in Poland is consistent with models advocated by several authors in relation to other industrialized European economies (termed variously as ‘negotiated compliance,’ ‘tit-for-tat,’ ‘cooperation-deterrence’), despite a uniquely Polish context related to the continuing legacy of the communist era. The study also shows how in Poland a good ‘fit’ between regulatory institutions and policies on the one hand, and their social context on the other hand, contributes to the effectiveness of the regulatory system.

1. Introduction

Since the collapse of communist control in Poland in 1989, the impacts of environmental policy reform have received extensive national and international attention. In contrast, occupational health and safety (OHS) policy has been neglected by Polish and Western scholars alike (though see Levy and Levenstein, 1992). And yet the societal transformation underway in Poland created a fundamental challenge to the occupational health and safety system, as the principle on which this system was founded – that the state represents workers’ interests and owns the means for their protection – vanished along with the discredited political regime. Policy makers simultaneously faced two daunting challenges. First, the emergent social order required that employers, labor unions, workers, regulators and all other participants in the occupational protection system reexamine their roles, responsibilities and mutual relationships. This challenge was especially crucial for labor unions and for an emerging entrepreneurial class of employers with widely ranging experience in, and

commitment to, occupational health and safety. The second challenge was a need to address the failures and inadequacies of past policies and industrial practices, including such problems as institutionalized incentives for poor enforcement, a generally weak safety culture, and a multitude of unachievable exposure standards (Shuman, 1997). The shift to a privatized and market-based political economy removed numerous external constraints to policy reform and policy implementation. At the same time, Poland's desire to join the European Union would require harmonization of its system of occupational health and safety with that of its European neighbors, requiring for example a greater emphasis upon prevention and risk management systems (Hecker, 1993).

In a rapidly changing political-economic context, the appropriate direction of policy reform in Poland was far from clear in 1989. After decades of lax enforcement and widespread failure to meet legislated OHS standards, what policy approaches would best secure improvements in occupational health and safety performance among firms? Under conditions of limited resources, and with policy makers under pressure to address multiple other societal concerns, such as unemployment and social welfare, how might Poland best address the most urgent OHS concerns while also putting in place a durable system of OHS protection? In a previous publication we described the structure of the occupational protection system in Poland, its evolution, institutional and legal design, and assumptions underlying it (Broszkiewicz, Krzyskow and Brown, 1998). This paper analyzes the actual *operation* of Poland's emergent OHS system during the first decade of reform, and its prospects for achieving high performance over the long term. The paper is based on extensive policy analysis, interviews with policy leaders and intellectuals, five detailed case studies of recently privatized firms, and a survey of over a hundred privately owned firms. Our conclusion is that the emerging OHS system, which draws heavily on Poland's human, institutional and policy legacies, possesses structural characteristics and resiliency to lead to improved overall performance in the future. In the short term, however, the greatest advances will likely come from raising the bottom of the performance spectrum rather than the top.

Our analysis builds upon a growing number of studies of occupational health and safety policy reform within advanced industrial economies. The starting points for much of this literature are perceived weaknesses in existing occupational protection systems, ranging from enforcement deficits (Brown, 1994) to the need for a wider array of policy tools beyond those of command and control regulation (Gunningham, 1998a; Gunningham and Sinclair, 1999). Of particular interest here is the claim that a combination of cooperation and deterrence represents the most effective approach to policy enforcement and implementation (Ayres and Braithwaite, 1992; Caldart and Ashford, 1999; Gunningham, 1999; Shapiro and Rabinowitz, 1997). Reviewing the experience of OSHA in the United States, Caldart and Ashford (1999) suggest there is considerable scope for negotiated compliance when cooperation is backed by a system of deterrence (such as fines and cease-and-desist orders). Several studies have noted the preference for such cooperative approaches within many Euro-

pean countries. In describing the occupational health and safety system in Great Britain and Germany, for example, Grabe (1991) highlights the negotiations that take place between industry and regulators in the implementation of statutes. Such discussions took place in every firm in our samples in both countries. Their existence shows that the inspector is prepared to consider the particular circumstances of any firm and to adopt general rules to concrete conditions.

This attitude reflects an enforcement style that seeks to convince industry to 'comply with the regulations, rather than to confront them with unnegotiable rules' (Grabe, 1991: p. 65). To date, however, there has been little detailed empirical analysis of the conditions under which such 'negotiated compliance' might succeed. This is especially true in countries such as Poland, which are undergoing major societal transformation, and which may be still experiencing the communist period's legacy of disregard for the rule of law.

Within a regulatory model that combines both deterrence and cooperation, such as the 'tit-for-tat' framework proposed by Ayres and Braithwaite (1992), two important lines of research have emerged. The first focuses on ways to optimize enforcement activities under conditions of limited resources and where firms range widely in terms of risk and performance (Gunningham, 1998b). Analysis of the effects of OSHA enforcement activities in the United States, for example, found that relatively small fines achieved changes in behavior (Gray and Scholz, 1991), and that inspections combined with penalties resulted in lower injury rates (Gray and Scholz, 1993). Interestingly, Scholz and Gray (1997) also found that complaint inspections themselves, even without penalties, are often a sufficient trigger to lower injury rates. As Gunningham (1998b; p. 203) argues 'the very fact of an inspector's visit, coupled with some form of enforcement action (e.g. an improvement or prohibition notice or an on-the-spot fine) may have a significant impact on behavior and consequently on injury levels, even in circumstances where compliance costs will likely exceed the economic benefits to the employer of compliance.' A second line of analysis points toward a more comprehensive policy reform that shifts primary responsibility for OHS management onto firms and workers through the development of comprehensive safety management systems (Gunningham, 1998a). The notion here is one of making greater use of self-regulation (Aalders and Withagen, 1997). This anticipates a shift in the role of government from direct 'command and control' regulation, to the regulation of OHS management systems within firms. It is also premised on the leading role of industry in setting and pursuing occupational health and safety goals.

In the context of these discussions as to the optimal mix of cooperation and deterrence in occupational health and safety protection, Poland presents an interesting case study of policy implementation. While fatal accidents rates have generally been on a par with those of other European countries (Figure 1), the need for improvement in occupational protection is pervasive. After decades of under-investment in occupational protection many firms evidently lack the resources to undertake necessary improvements in the short-term. Under these

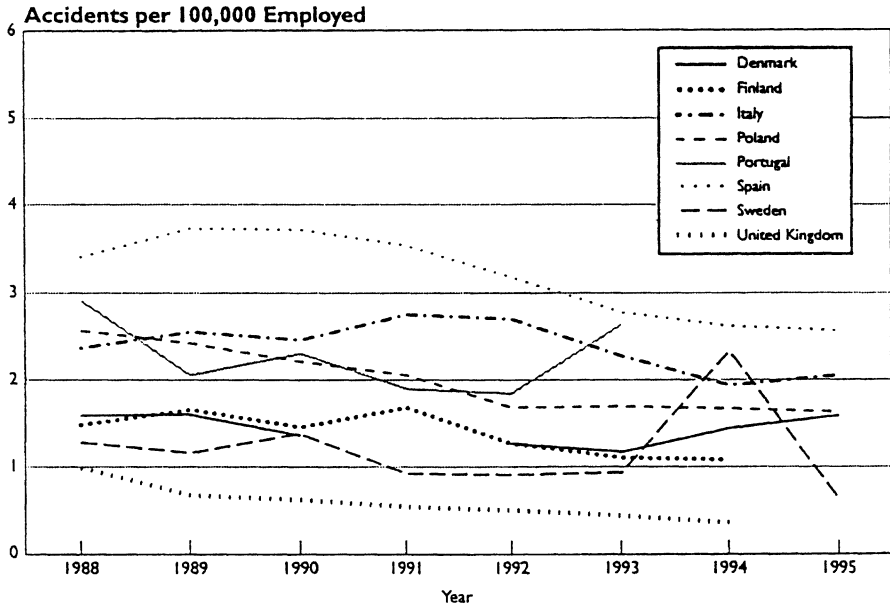


Fig. 1. Fatal workplace accident rates in Poland and other European countries.

Source: World Health Organization (1996). *Health for All*. Geneva: WHO Regional Office for Europe.

conditions, and with a population of firms with a wide diversity of capabilities in occupational protection, the sort of case-specific cooperative regulatory model described above would seem to have considerable promise as an approach to performance improvement. But the success of casespecific decision making, and of 'tit-for-tat' strategies, requires a rich information set concerning not just OHS performance, but also the past history of actions taken by regulators, and the performance record established by individual firms. While our research to date shows that the inherited system of occupational protection in Poland is quite rich in that type of information (Broszkiewicz, Krzyśków and Brown, 1998), other conditions under which a case-sensitive implementation would succeed are unclear. What is the right mix of cooperation and deterrence? What should be the role of government inspectors and organized labor in the context of emerging entrepreneurial class with varying experience and commitment to occupational health and safety? To what extent must the culture of the bureaucratic apparatus change to accommodate the new socioeconomic reality in Poland?

We address these and related questions in this paper. Our analysis begins with a description of the occupational protection system in Poland and of the policy reforms implemented during the 1990s. We then examine empirically the actual operation of the OHS system, drawing upon national statistics, the results of our case studies, and a mailed questionnaire survey of privatized manufacturing firms.

2. Occupational health and safety protection in Poland

2.1. Policies and institutions

Poland's occupational health and safety system gradually evolved over seven decades, and especially during the communist-controlled era, into an elaborate set of directives-the Labor Code-and a complex network of institutions. In this section we highlight the key features of the system (for a more detailed description of the OHS system see Broszkiewicz et al., 1998). The institutional apparatus for occupational safety and health includes two types of organizations: formal governmental regulatory organizations and intra-facility oversight units. The governmental bureaucracy consists of two policy-making bodies – the Ministry of Labor and Social Policy, and the Ministry of Health and Welfare – and two enforcement branches – the State Sanitary Inspectorate within the Ministry of Health, and an autonomous State Labor Inspectorate accountable to the Parliament. The enforcement sector branches out to 49 voivodship and 38 regional organizations, respectively. The Sanitary Inspectorate additionally branches out into several hundred Local Sanitary Epidemiological Stations (SANEPIDs).*

The regional labor and sanitary inspectors perform a dual function of enforcing official policies and providing technical assistance and advice to firms. Their broad powers include stopping production lines, imposing fines, and closing work stations, but they depend on local SANEPID stations (which maintain laboratories) for monitoring functions. SANEPID stations are the state's furthest outposts into communities. Originally created at the turn of the century to prevent, monitor and mitigate outbreaks of infectious diseases, after the second world war these local organizations were empowered with the enforcement of occupational health policies. Because of their frequent presence within a factory, SANEPIDs often represent the first line of inquiry into the occupational health practices of a local manufacturer, and the first node for problem identification and resolution.

The facility-based system of worker protection is elaborate, consisting of occupational safety and health specialists employed by an enterprise (OSH specialist), an in-house testing laboratory, occupational medicine physician or a clinic, a Social Labor Inspector, a Committee for Occupational Safety and Hygiene, and a local labor organization. Committees for Occupational Safety

*This regulatory structure was effective until December 31, 1998, during the conduct of this research. As of January 1, 1999, the organization of the government has changed in Poland. The number of administrative districts (voivodships) was reduced from 49 to 16, and many decisions are now delegated to 373 county governments (*poviat's*). One potentially significant effect of the reorganization on the occupational health and safety system is that regional sanitary inspectors and local SANEPIDs will now report horizontally to regional and local governments, respectively, rather than vertically to the central authorities. Although it is unlikely that these changes will have a significant impact on the independence of the enforcement branch, or on the mode of decision making on the facility level, their real impacts will not become clear for several years.

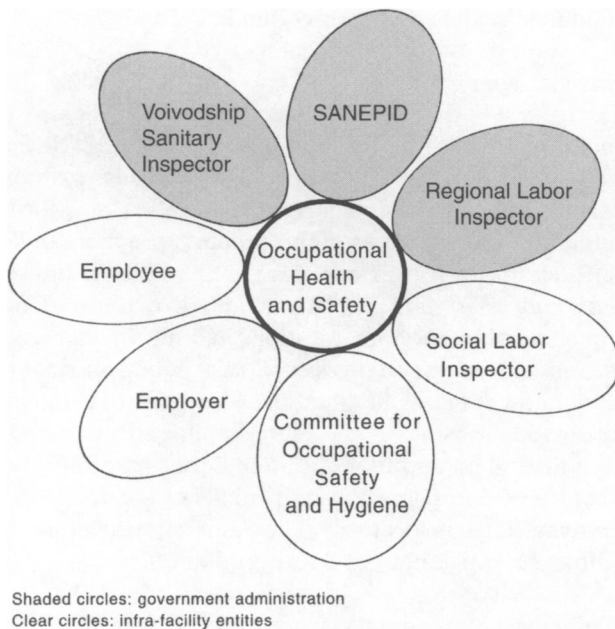


Fig. 2. Entities legally responsible for implementing occupational safety and health policies in the workplace.

and Hygiene consist of the OSH specialist, occupational physician, Social Labor Inspector and several elected worker representatives. They perform advisory functions for employers who chair and often control them. Social Labor Inspectors are elected by employees to represent their interests before the employer. Since the elections are organized by facility-level labor organizations, the non-unionized enterprises have no Social Labor Inspectors, although in such cases the employer is mandated to assure the presence of an elected representative of the workers.

Collectively, the occupational protection system is a complex array of entities with overlapping responsibilities (see Figure 2). With the exception of Committees for Occupational Safety and Hygiene, all entities shown in Figure 2 have been inherited from the communist period, and preserved during the post-1989 reforms. On the administrative side, extensive branching out into regional and local enforcement units strengthens the system but also requires a high level of cooperation and sharing of information. Within firms, its effectiveness is determined by the commitment of employers, workers, and their representative organizations.

The bedrock of Poland's OHS system is a set of strict occupational protection standards that address issues as wide ranging as the size of windows and indoor air quality. In contrast to the U.S. (and other OECD) occupational standards which consider feasibility of implementation (Hakes, 1999), Polish occupational

protection standards are based strictly on toxicological and health considerations, without allowance for technological feasibility, costs, or compliance and enforcement issues. This approach, widely practiced in other soviet satellite countries prior to 1989, and retained since then, has produced occupational standards more numerous and more stringent than in OECD countries. For example, in 1996 32% of the 303 Polish occupational standards were lower (i.e., stricter) by a factor of two or more than the corresponding ACGIH standards in the U.S., and only 10% were higher. A comparison with legally enforceable OSHA standards shows an even greater discrepancy: 64% of the U.S. standards were higher, and only one (for benzene) was lower, than their counterparts in Poland.

In principle, when a violation of occupational protection standards is detected, the Labor Inspector and other regulators have wide ranging authority to bring the offending facility into compliance. The tools available range from the imposition of fines to the closure of hazardous workstations. In practice, lack of enforcement of the Labor Code and occupational standards was widespread during the communist era. A controversial publication from the 1980s estimated that 33% of employees in heavy industry worked under conditions that violated existing occupational standards (Frąckiewicz, 1989). The reasons for under-enforcement were partly external to the system, such as the national emphasis on the development of 'dirty' industries, subordination of occupational protection to industrial production and economic growth, personal and economic disincentives for industrial managers to invest into occupational health protection, and a general shortage of capital for occupational protection. In addition, the occupational safety and health system suffered from its own specific problems, such unrealistically strict occupational standards and limited flexibility for inspectors to negotiate incremental compliance programs with employers, a low safety culture among employers and employees, and no tradition among workers of taking responsibility for their own health protection. An institutionalized system of additional compensation for employment in hazardous conditions (hazard pay) only reinforced these challenges.

Despite these problems, Figure 1 shows that Poland's record of fatal accident rates was comparable to that of other OECD countries. By all indications the key participants in occupational protection – employers, unions and government bureaucracy – shared a common understanding that safety and health in the workplace could not be allowed to deteriorate below some implicitly understood level of acceptability.

2.2. Post-1989 reforms

Since 1989 Poland had adopted a program of largely incremental reform in its system of occupational protection. The reform program has been driven by three objectives: to strengthen the enforcement branch and streamline policies, to compensate for the diminishing role of the state in a market-based demo-

cratic society by stimulating the participation of workers, organized labor and employers in occupational safety and health, and to achieve harmonization of the Polish OHS system with that of the European Union. The fundamental design of OHS policies and institutions has remained largely unchanged. In fact, the reform program was premised on two implicit assumptions: that the structure of the institutions and policies was fundamentally sound, and that faced with new laws and policies all participants would, in fact, change their behavior and improve performance in occupational protection.

Several considerations suggest that the second assumption is particularly vulnerable. Some analysts predicted that decades of soviet rule had left a legacy of collective disregard for the rule of law and due process. In addition, the growth of a market economy in Poland is likely to increase rather than decrease economic pressures on private enterprises and thus create powerful new disincentives to compliance with the law. One important aspect of this problem is the growing pressure on unions to place employment and wages above occupational health protection. It is not uncommon for organized labor to oppose investments into occupational health as competing with their primary concerns such as employment security, compensation, and social benefits. The somewhat contradictory situation of the unions has been clearly manifest in recent years by their attitude towards the practice of compensation for harmful working conditions. During the soviet period, the practice of compensating for harm (hazard pay) in the form of additional pay, vacation time, a shortened workweek, and other benefits, was legally mandated. It was so widely used that it became *de facto* an entitlement. Under the amended Labor Law, such practices remain legal but are no longer mandated. Efforts by employers to eliminate hazard pay have met with strenuous opposition from workers and organized labor.

Strengthening regulatory enforcement was an important part of the reform program. This was to be achieved through increased administrative independence, an increase in non-compliance fines, and an influx of resources into the State Labor Inspectorate. New policies were adopted in an effort to shift the responsibility for occupational safety and health from the state to a shared arrangement involving the government administration, employers and workers. For instance, the 1996 version of the Labor Code explicitly puts on the employer the ultimate obligation for protecting life and health of workers and for organizing the workplace in a way that would achieve these objectives. It also increases somewhat the power of employees by giving them the right to refuse working, without loss of pay, under any circumstances that present an imminent threat to health. The employers' obligation to establish the Committee for Occupational Safety and Hygiene in enterprises with more than 50 employees is also a new feature of the 1996 Labor Code. The accountability of enforcement personnel has been increased as well.

Under the influence of the European neighbors, the occupational insurance system is being restructured so that it operates as a market-based economic instrument. Starting in 2000, the current system of a flat insurance premium

(45% of the payroll) paid by employers into the workers social insurance fund (which includes accident compensation) is replaced with a stratified system of premiums, based on the safety performance of industrial sectors and of the individual firms (Central Institute for Labor Protection, 1994). Generally, however, the promise of EU membership is better understood as reinforcing the reforms already occurring. Apart from the stringency of occupational exposure standards, the system shares many key characteristics with other OECD countries (see, for example, the comparative analysis by Prins et al. (1997) of Belgium, Denmark, Germany, Japan, the Netherlands, Sweden, the United Kingdom and the United States). Like other OECD countries, Poland relies on government policies to be the mainstay of occupational safety practices and enforcement. The right of employees to participate in development of employers' occupational safety and health policies is a shared feature of the Polish and other OECD systems (the U.S. is the exception). Poland also resembles Sweden and the Netherlands in its reliance on highly detailed regulations and norms, while its legal requirement that employers provide professional occupational health services to workers places Poland among the leaders in that area, along with Belgium, Japan and the Netherlands. Poland's recent adoption of economic incentives in the form of linking the accident insurance premiums to performance record is consistent with four of the eight countries surveyed by Prins.

One key area that has been strategically bypassed by the reform movement is the practice of excluding feasibility and cost considerations from occupational standards. The result is that the enforcement of standards continues to be difficult for many smaller and financially strapped enterprises, and challenges the sensibilities and obligations of the enforcement personnel. Also, despite efforts to increase the discretion and responsibility of local authorities and facility-level personnel, the Polish system continues to rely heavily on the government to provide detailed technical specifications for production technology, machinery, personal protection devices and organization of a workstation. Another area experiencing little change is the practice of compensation for harm. For example, in 1996 34% of all workers in Poland collected some form of compensation for working under harmful conditions.

Notably, the initiatives and ideas for the reforms have come, as during the pre-1989 period, largely from within the legislature and state administration, primarily the Ministry of Labor and the Central Institute for Labor Protection. Unlike the environmental protection movements in Poland, there is little evidence of a significant participation in OHS policy reform by independent intellectual elites within the academic community or non-governmental organizations (Brown, Angel and Derr, 2000). The organized labor, preoccupied during the past decade with the issues of employment security, compensation and social benefits, has also been a minor participant. Even at the height of its political prominence in 1989 the Solidarity Union adopted the environment, not occupational protection, as one of its key themes for political struggle, even though issues concerning occupational matters were closer to its traditional concern.

Recent reforms notwithstanding, the structure of the occupational protection system in Poland remains tough, highly regulated, and relatively inflexible. Strict occupational health and safety standards represent a major challenge for a large number of firms lacking resources to invest in education and organizational and technological improvement. With additional resources and a mandate to strengthen enforcement, regulators now seek to secure improvements in occupational protection by firms. In the next section we examine the implementation practice of the system, including the monitoring and enforcement record, the attitudes of the key participants, and the prevailing modes of conducting social transactions. In particular, we examine the degree to which regulators in Poland have adopted a model of 'negotiated compliance' as a strategy for improving occupational protection in the context of other societal goals, such as reducing unemployment and increasing wages.

3. Implementation experience: research design

Our analysis of the approach taken in Poland toward the implementation of OHS policy combines detailed case studies of five medium-sized firms, and a mailed questionnaire survey of a stratified random sample of privatized manufacturing firms. We chose to focus on private industry, rather than state-owned enterprises, as the former clearly constitute the future of Poland's industrial economy. Already in 1998 the private economy constituted more than 70% of the GDP in Poland (U.S. Department of Commerce, 1998). While privatization is progressing slowly in the energy sector and in other heavy industries, there has been rapid expansion of private firms in light manufacturing (Rondinelli and Yurkiewicz, 1996). The research focuses on manufacturing industry, and excludes construction and service industries.

As shown in Table 1, the case analyses focused on medium size firms that, while subject to OSH regulation, are not in industries that are typically regarded as the most hazardous, and thus do not attract close attention at the level of the central government ministry. These are 'average' firms that are handled by regional and local authorities. As part of the case studies, we reconstructed the occupational health histories of the facilities from the mid 1980s through 1997, relying on interviews, written documents, and observations made during site visits. In almost all cases we met with the president, a high level manager familiar with technical and economic issues at the firm, and the occupational safety and health specialist. We also interviewed the government officials responsible in each case for enforcement matters. Finally, we interviewed high-ranking officials in the Ministry of Labor, Institute of Labor Protection, and in the major labor unions. Among the documents analyzed were reports from monitoring programs and inspections by enforcement agents, orders for non-compliance fines, appeals by firms and responses by regulatory agencies and related correspondence between enterprises and authorities.

In order to assess the representative value of the case studies, we conducted a

Table 1. Vital statistics of five firms.

	Drumet	Radom leather tannery	Fama	Raffil	Majewski pencil factory
City	Wloclawek	Radom	Wyszkow	Radom	Pruszkow
Voivodship	Wloclawek	Radom	Ostroleka	Radom	Warsaw
Year of establishment	1895	1972	1963	1917	1894
Principal products	Steel cables and wires for industry	Leather	Office and home furniture	Paints and finishes for industrial use	Pencils for office and consumer use
Principal markets	Domestic and international	Domestic manufacturers of leather products	Domestic; former Soviet Republics	Domestic	Domestic
Number of employees in 1996	900	400	630	260	300
Year of privatization	1994	1995	1994	1995	1995
Ownership	80% private investment; 20% employees	85% National Investment Fund; 15% employees	Three partners	100% employees	65% Majewski family; 35% employees
Labor union?	Yes	Yes (two)	No	Yes	Yes (two)
Social labor inspector?	Yes	Yes	No	Yes	Yes
Committee for Occupational Health and Safety?	Yes	Yes	?	Yes	Yes

mailed questionnaire survey of a size-stratified sample of private manufacturing firms. The Ministry of Privatization in Poland maintains a registry of all privatized firms. Using this database, we obtained a strictly random sample of 300 manufacturing firms representing all sectors of industrial production and all parts of the country, stratified into three size categories (less than 100 employees, 101–250, and more than 250 employees). The survey was mailed in 1997 to the President or General Manager of the firm with a request that it be completed by that person or by another knowledgeable employee. A total of 109 firms completed the questionnaire representing a response rate of 36.3%. There were no statistically significant differences in response rate by size of firm.

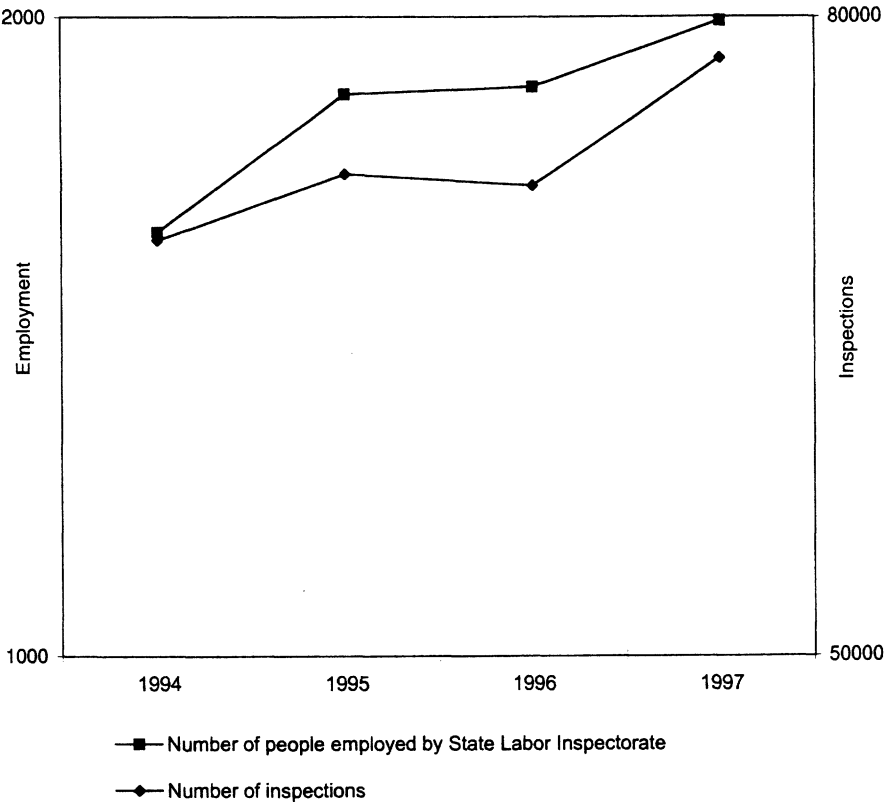


Fig. 3. Enforcement activities of State Labor Inspectorate.
 Source: State Labor Inspectorate 1995, 1996, 1997, 1998.

The questionnaire survey addressed various aspects of the regulatory process for both occupational protection and for environmental protection (for details on the latter see Angel et al., 2000; Brown, Angel and Derr, 2000). The focus was on the regulatory process itself, rather than upon the actual performance of firms in occupational protection. In addition, we examined the views and attitudes of firms toward the regulatory process, including the strengthened system of regulatory enforcement.

4. Functioning of the OHS system: negotiated compliance

Perhaps the key change in the OHS system in Poland during the 1990s has been the strengthening of the regime of enforcement. One measure of this change is the resources of the labor inspectorate and inspection rate. Figure 3 shows that both the number of State Labor inspectors and the number of inspections increased substantially during the mid-1990s. Between 1994 and 98 the rate of

non-compliance with inspectors' enforcement decisions was only 6% (State Labor Inspectorate, 1995–1998).

In addition, our interviews with enforcement personnel confirm that there has been a marked shift in the culture of enforcement. The labor inspectors we interviewed repeatedly pointed to the invigoration of their institution since 1989 through increased enforcement powers, an influx of funds, improved morale and higher expectations of job performance. One Labor Inspector told us: 'I had to change my work philosophy entirely since 1989. I am not the same man I was before 1989.' An industrial manager echoed this view with the following comment: 'These institutions have had to change during the past few years and cannot be as lenient as they used to. A couple of years ago we had to pay a fine for not having periodic medical exams for all workers. That would not have happened before [1989].' In one instance, the understaffed and underfunded local SANEPID office, where there was no photocopier and the laboratory relied on manual outdated analytical techniques, had no trouble asserting itself regarding worker exposure to toxic fumes at one of the case facilities. Shortly after the facility opened in 1995 under new private ownership SANEPID initiated its regular inspections, monitoring individual work stations and, under a threat of closing a workstation, forcing the management to phase out a toxic ingredient from the manufacturing process. In another illustration of the enhanced vitality of the enforcement branch, in 1998 the Sanitary Inspectorate for Warsaw Voivodship made 3200 enforcement actions, and in 20 instances closed production lines for health reasons (personal interview with the director).

With this intensified enforcement, continuing failures in occupational protection at the level of the firm are evident. Although official statistics indicate that in 1997 17% of workers in the manufacturing sector worked under conditions harmful to health (State Labor Inspectorate, 1998), more than half of the infractions pertained to exceeding the occupational standard for noise. Among the 109 firms completing our questionnaire survey, 49% reported that at least one occupational exposure standard was not met in their firms. Among larger firms with more than 100 employees, 65.7% of the sample firms reported that operation of their facilities resulted in exceeding one or more occupational standards. The most common violations were for noise, followed by exposure to dust, chemicals, and other hazards. This is consistent with national aggregate statistics cited above. The changes needed to meet exposure standards ranged from small changes in operating procedure to major investments in new equipment and technology. Our case studies also revealed persistent problems with a low safety culture. Personal protective devices were ubiquitous at all plants but were rarely in use. Even at job stations with obvious mechanical, toxic or noise hazards, workers actually using goggles, masks, respirators or ear plugs were far outnumbered by workers simply carrying the devices on their persons. The same observations applied, although less dramatically, to mechanical safety systems. In two cases, we observed saw guards and press fences lying next to the equipment from which they were removed.

What is of particular interest here is the response of regulators to such

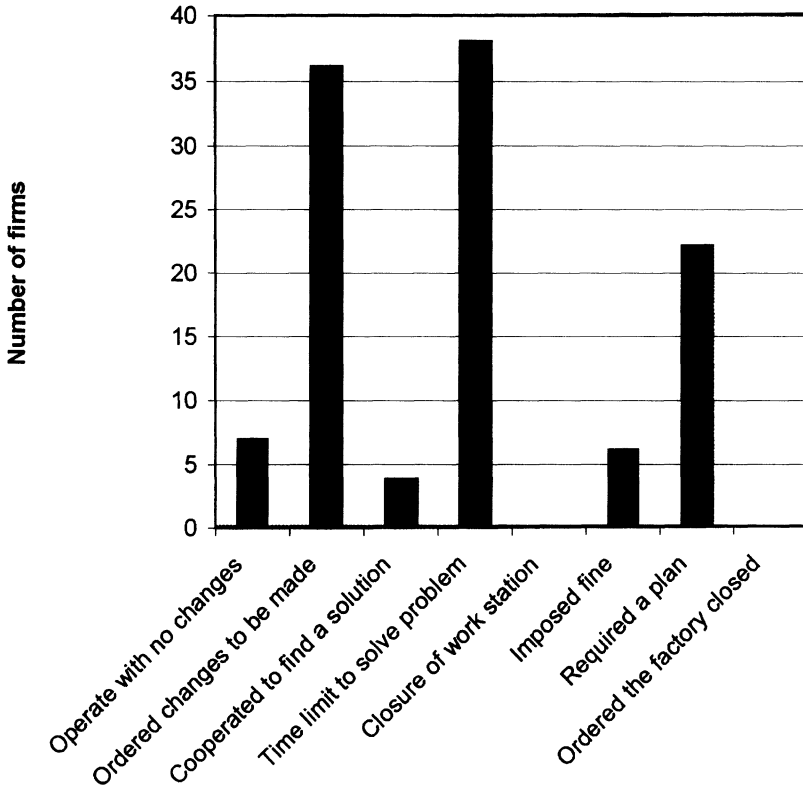


Fig. 4. Response of regulators to violation.

health and safety violations. In the questionnaire survey we asked the sample firms to identify the response of regulatory authorities to observed violations of occupational exposure standards. Figure 4 shows the frequency of reported responses (sample firms could select more than one response). The most common response by regulators was to order specific changes to be made, but also to provide a time-limit within which the changes were to be required. Fines were imposed in only a small number of instances (6 cases) and in 7 cases firms reportedly were allowed to continue operation without any change. Clearly, the regulators are using some discretion in the approach taken to non-compliance, and whether penalties are imposed. It might be tempting to interpret these findings as the manifestations of industrial resistance to regulations, and of governmental indecision, disorganization and a low commitment to occupational safety and health. However, our field work and policy analysis lead to different conclusions.

It appears that the regulators are well aware of the economic and social consequences of their decisions and despite the rigidity of the formal policies they informally practice flexible enforcement, or 'negotiated compliance.' By way of illustration, in one of our case studies the authorities carefully inves-

tigated the reputation of the new president of the firm and watched his actions and attitude for a while before adopting cooperative tactics. The statement made by a Labor Inspector was revealing: 'we did not impose any fines because there was no indication of resistance...[by]...the management,' while another inspector noted: 'closing a factory or an operation is a very difficult decision requiring consideration of multiple factors. After all, we would be punishing the innocents: employees, suppliers, customers.' The firm managers had similar comments. One summed up the situations as follows: 'Labor Inspectors are not policemen but rather a resource. However, that continues only as long as we show a positive attitude and make improvements. If we do not complete the agreed upon tasks by a designated deadline I think we will get fines,' while another remarked: 'Some things [hazards] cannot be eliminated and we must rely on interim methods [of hazards management] intended to prevent illness among the individuals working in those hazardous conditions. The authorities understand that.'

Overall, the enforcement decisions appear to be guided by three principles: to push firms to the highest level of control of hazards that they believe to be technologically and financially feasible; to prevent any acute threat to public health and safety, regardless of costs; to reward firms that demonstrate good faith behavior with more flexible treatment. Statements of the type 'if non-compliance with an occupational standard presents a threat to human health and life we stop the operations immediately; otherwise we sometimes overlook delays ... to give enterprises a chance to comply ... and seek reasonable solutions...' were often repeated in our interviews with government officials. Government statistics indicate that just 6% of firms failed to comply with the enforcement directives of the State Labor Inspectorate (State Labor Inspectorate, 1995–1998). That this figure is so low, in the context of widespread failure to meet occupational exposure standards, suggests that regulators tend to impose fines and improvement orders primarily where firms are judged to have the capacity to make the requisite improvements. That is to say, the low failure rate on compliance actions is more a measure of how the enforcement process is being implemented than of the ubiquitous effectiveness of enforcement actions.

This flexible, case-specific approach to enforcement clearly is predicated upon accurate information concerning the firms involved, their OHS performance, their economic situation, the financial and technological choices available to the firm, the part history of good-faith behavior of the firms involved, and a variety of other facets of the operation of the firm. Absent such information, the regulators are not in a position to make informed and effective decisions. A remarkable feature of the occupational protection system in Poland in this regard is the knowledge that regulators have concerning the majority of firms under their jurisdiction. During our case study interviews the regional and local regulatory staff from two enforcement branches were able to jointly discuss in great detail not only the material dimensions of the cases (e.g., the firm's particular technology, hazards and performance, changes over time, financial status, markets) but personal dimensions as well (e.g., the attitudes of top

Table 2. Annual inspection rates by the State Labor Inspectorate and SANEPID. Based on the survey results and 1997 national statistics.^a

Number of employees	Survey				National statistics	
	Firms inspected by Labor Inspector (%)	Average ^b number of inspections	Firms inspected by SANEPID (%)	Average ^b number of inspections	Firms inspected by Labor Inspector (%)	Average ^b number of inspections
21–100	62.5%	1.4	88.2%	2.1	36.5%	1.4
101–250	60.0%	1.5	92.5%	2.6	52.0%	1.8
> 250	80.0%	1.5	100.0%	2.7	60.1%	2.3
All firms	67.2%	1.5	93.5%	2.5	40.3%	1.6

^a Source: State Labor Inspectorate 2000. Special analysis conducted by the Division of Analysis and Statistics. Covers only the manufacturing sector.

^b Average among firms which have been inspected.

managers and the OSH staff, their professional histories relative to occupational health and safety, and reputations). ‘We know firms in our district as our own hand’ remarked one Labor Inspector, and it was no idle boast. Similarly, the industrial managers we met were able to discuss in depth the attitudes and practices of the regulators. The enforcement personnel also relied extensively on performance data for the firms. Even in the financially struggling enterprises, local SANEPID inspectors required monitoring of indoor air concentrations of toxic materials, sharing that data freely with the regional Labor and Sanitary Inspectors.

Data drawn from the case studies and the survey support these observations. For example, the records from the Radom Leather Tannery indicate that between 1993 and 1996 visits by regional Labor Inspectors occurred approximately twice a year, and from Sanitary Inspectors almost monthly. The management of DRUMET, which had a record of very high occupational injury rate during the 1970s and 1980s (up to 150 serious injuries per year), also reported frequent interactions with the Labor Inspectorate and regional and local Sanitary Inspectors. Table 2 provides data on the reported frequency with which the firms in our questionnaire survey were visited in 1997 by the State Labor Inspectorate and by the local SANEPID. Of the sample firms, 67.2% had been visited on one or more occasions by the labor inspectorate in 1997, and fully 93.5% had been visited by SANEPID. Of those firms visited by the Labor Inspector, the average number of visits was 1.5 per firm. As we might expect, the proportion of firms visited is highest for larger firms with more than 250 employees.

Table 2 also compares the survey results with the national aggregate statistics on inspection rate by the State Labor Inspectorate. The two sets of data are in close agreement, especially in the rate of repeat inspections by the Labor Inspectorate. The higher percentage of inspected firms shown by the survey is

very likely due to a response bias of the firms that chose to participate in the survey. The participating firms are likely to be more aware of, and more active in, their environmental and occupational health matters, possibly due to a greater regulatory scrutiny. In addition, note that whereas the survey data are for a size stratified sample of firms, the State Labor Inspectorate data are for all firms in manufacture. Thus the average percentage of all firms inspected, based on the State Labor Inspectorate data (40.3%) reflects the very high proportion of small firms with less than 100 employees in the total population of firms. Considering the uncertainty inherent in the statistics reported in Table 2, the remarkably close convergence between the national statistics and the survey results strengthens the validity of the survey's results in all other areas.

In general, Table 2 shows a high frequency of inspections by either SANEPID or the Labor inspectorate. In addition, the high average rate of repeat inspections (between 1.4 and 2.3) suggest the follow-up actions by enforcement authorities. For comparison, according to Garity and Shapiro (1993) in the U.S. only one in 25 workplaces have ever been visited by an OSHA inspector. In short, the picture of the oversight by the enforcement branch in Poland is encouraging.

In addition to the frequency of inspections, the availability of information relevant to occupational protection is also supported by considerable cooperation between different regulatory organizations in Poland. One labor inspector observed in an interview: 'None of the regulatory and enforcement instruments would work if we did not have such a well developed network of institutions.' In addition, 'institutional memory' is supported by low turnover among administrative personnel. Despite the growth of some government institutions, the senior and med-level technical and administrative personnel who today staff the local and regional regulatory offices are essentially the same personnel who staffed these agencies before 1989. All senior staff we interviewed were long-term employees, often reporting fifteen or more years of continuous employment. We found a similar continuity in the five case study firms, both among the executive and professional staff. The presidents of the five firms were either their former employers or came from senior posts in similar enterprises. Without exception, the occupational protection managers employed by the facilities began working for their present firms in the 1980s, and most have been in their current professional specialties since before 1989.

Consistent with the models of 'negotiated compliance' observed in other countries, the regulatory personnel in Poland serve in the dual role of both enforcer and advisor to firms. In the questionnaire survey, the sample firms were asked to identify who in addition to the management personnel were active in identifying health and safety problems. While the intra-firm oversight units (OHS specialists and the safety and hygiene committee) were identified most frequently, the State labor Inspectorate was cited by 24 firms and SANEPID by 32 firms as important sources of information (Figure 5). These data are consistent with the findings of our case studies. In the five case studies, occupational managers also spoke appreciatively about the advice and technical assis-

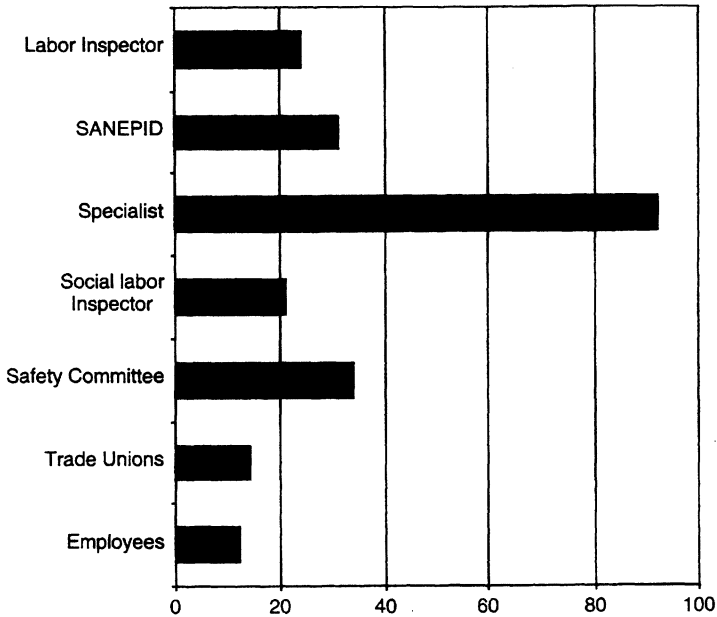


Fig. 5. Groups active in occupational protection (number of firms citing the group as active in identifying problems).

tance they receive from the Inspectorate, and the willingness of that institution to help in solving technical problems in complying with the Labor Code. One company manager remarked: 'Whenever I have a problem the Labor Inspectorate never turns us down. I truly appreciate their cooperative attitude. I can call them any time of day and night, no matter how small the problem.' More generally, there appears to be a preference among both regulators and firms alike to pursue negotiated solutions over confrontations. Without exception, every regulatory official that we interviewed stressed his or her belief that confrontation was the tool of last resort. We repeatedly heard statements such as: 'If we see good will on the part of the management, we make an effort to prevent their financial collapse.' 'A repressive system does not work.' or 'A punitive system is ineffective. We need to work with enterprises over long periods of time to make incremental improvements. Confrontation does not solve anything.'

We observe, in sum, incremental progress in Poland in strengthening the regime of enforcement of a set of strict occupational health and safety standards. The pattern of implementation is predominantly one of 'negotiated compliance' in which regulators work to improve occupational protection within the financial constraints and capabilities of individual firms, and with reference to the seriousness of the health and safety problem, and the record of behavior of the firms involved. Admittedly, the consequence of such flexible and case-specific implementation, in the context of limited resources and widespread health and safety

problems, is that the overall rate of progress in bringing firms into compliance is slow. At the same time, the good faith effort on the part of regulators to balance occupational health and safety with other societal concerns results in continuing support among firms for a commitment to strict occupational health and safety standards. When asked in the questionnaire survey as to their views on occupational exposure standards, 84.1% of the sample firms indicated that the standards were either 'about right' or 'too lenient'. Only 15.9% of firms thought the challenging standards were too strict.

One continuing problem with the occupational protection system in Poland is the low level of interest on the part of employees in their own safety, and the low priority accorded by organized labor to occupational safety and health matters, relative to issues of compensation, employment, and fringe benefits. The five case studies and the questionnaire survey record a consistent pattern in this regard. In the case studies, we noted a marked absence of Committees for Occupational Safety and Hygiene, Social Labor inspectors, and local unions in the decision making process. Repeatedly, the occupational managers complained about unions' resistance to investments into occupational protection, and their preoccupation with other matters. For example, in one of the firms, the management's decision to eliminate compensation for working in hazardous conditions in favor of eliminating hazardous exposures to lead was met with stiff opposition by local labor organization. As previously shown in Figure 5, employees and unions are rarely cited by firms as sources of information about health and safety problems. Clearly, efforts to mobilize workers and organized labor in the occupational health and safety matters have so far brought limited response. At the end of the first decade of democracy and market economy the safety of the workplace in Poland very much depends on the commitment of employers and vigilance of government inspectors.

5. Cautious optimism about the future

Hutter and Manning (1990) suggest that changes in occupational protection policies are best understood in political-economic context. In the case of Poland, efforts to strengthen occupational protection took place against the backdrop of a major societal transformation toward democratic decision-making and a market economy. Our research indicates that the direction of recent reforms, especially the focus on strengthened enforcement, the tendency toward 'negotiated compliance' and the preservation of key policies and institutions, have generally served the OHS system in Poland well. The fatal accident rate in Poland, declining since at least 1988, has not suffered major setbacks during the 1990s (Figure 1); policy makers and field personnel show a commitment to occupational protection; and the trajectory of reforms has strengthened the enforcement branch. These developments are rather remarkable, considering the challenges that confronted the occupational health and safety system at the start of the decade.

Four factors explain the progress made in strengthening occupational protection in Poland during the 1990s. First, we observe a pattern of widespread acceptance among all parties that a system of strong occupational protection is both legitimate and necessary. Our case studies and the survey provided abundant evidence that all the key participants accept the legitimacy of the occupational protection system. This acceptance of the legitimacy of worker health and safety protection helped to maintain the fatal accident rates in Poland at levels comparable to other OECD countries during the communist period, despite the prevailing low safety culture, systemic external barriers to regulatory enforcement, and institutionalized disincentives to investment by firms in occupational protection. During the transition to a market economy, it played a crucial role in preventing the system's erosion, despite the weakening role of the unions and the shortage of enforcement personnel.

Second, the strengthening of the regulatory process has been facilitated by the approach taken to regulatory enforcement, namely, a pattern of local decision-making which takes account of case-specific circumstance. This approach to regulatory enforcement shares many of the characteristics of models of 'negotiated compliance' that are under consideration within OECD economies. The implementation model effectively (if informally) compensates for the strictness of occupational exposure standards and for the lack of any formal mechanisms for balancing competing societal objectives in enforcement decisions. Of course, such informality makes the system vulnerable to cooption, corruption or errors in judgement. However, our research indicates that the enforcement decisions are not made in a normative vacuum, and that major threats to human health are not tolerated. Such case-specific implementation is possible in Poland partly because it receives broad support from regulators and industrial managers. Those interviewed in our study generally believed that it leads to greater net public good than would a centrally-prescribed set of decisions rule.

Thirdly, perhaps the key factor facilitating case-specific decision-making is the level of information available about the firms involved. Information availability is supported by a surprising frequency of inspections of firms by regulatory personnel, and by cooperation among different regulatory organizations. Our research shows that in Poland information availability is as much about collecting and utilizing data on the technical and economic dimensions of a case as it is about maintaining lasting relationships between regulators and industrial managers. The existence of a wide network of self confident governmental institutions with community level outreach, cooperation between the two enforcement branches, and firms' willingness to seek technical assistance and to supply information, are some of the key factors contributing to the information rich regulatory climate. Despite their limited visibility, the recently established institution of Committees for Safety and Hygiene also hold promise in this regard. Studies in the United States spanning over two decades have shown that workplace-based safety and health committees can be highly effective in lowering the rate of accident and occupational disease (Wokutch, 1990). Continuity in policies

and institutions during the reform period, as well as the continuity in personnel, also contribute to building the information rich atmosphere.

Fourthly, what makes the information availability, case-sensitive implementation, and support for the system's legitimacy possible is that all the key parties share certain core values. These include: preference for negotiations over confrontations in resolving conflicts; agreement that occupational protection decisions require balancing of competing societal objectives; and respect for the rule of law. The respect for the rule of law which our study revealed is consistent with similar observations made by Zamoyski (1987), Brzezinski (1998), Cole (1999) and others, based on their respective analyses of the cultural and constitutional history of Poland. These authors note the existence of rich democratic traditions in Poland which span several centuries and transcend the periods of foreign domination in the eighteenth, nineteenth and twentieth centuries, including the soviet era. These views contrast with alternative claims that the four decades of communist rule have created a legacy of cynicism and widespread disregard for formal rules and norms (Sztompka, 1992; Tarkowska and Tarkowski, 1989).

Poland's regulatory style favoring negotiated solutions over confrontations in the instances of competing objectives has much in common with other European societies. Ottway (1985) grouped regulatory models into four categories, depending on the mode of social decision making and conflict resolution: confrontational, consensual, authoritative, and corporatist. While the U.S. regulatory system is most akin to the confrontational model, in Europe, including Poland, the other three models are more common (Ottway, 1985).

Paradoxically, some of the strong points in Poland's current system for occupational health and safety may in the future become its weaknesses. We refer here primarily to the foundations of value sharing, the building of relationships between regulators and firms, and the capacity for informal case-specific decision making in regulatory enforcement. These key stabilizing features of the system depend to a large extent on the continuity of personnel among firms and regulatory agencies throughout the first decade of societal transition during the 1990s. This generation of employers and bureaucrats will, however, be replaced over time with an emerging entrepreneurial and by a new cohort of government personnel that will not share the traditions, institutional memories, and possibly commitments, of their predecessors (see, for example, a study by Obloj and Kolvereid (1996) on the profit-oriented attitudes of Polish entrepreneurs). The informal decision-making model may in that stage provide insufficient protection to workers' interests against competing economic pressures. It is not clear to what extent the newly invigorated institutions and policies, and the national tradition of respect for the rule of law, will compensate for these tendencies.

An additional challenge may come from the increasing political organization of industry. Already energy, chemical and other key economic sectors in Poland have become increasingly organized in opposition to stricter environmental regulation. If this occurs, the emerging private sector may place increasing

pressure on the Ministry of Labor and Ministry of Health to relax occupational standards and other requirements on the employers or, as has been the case with most OSHA rulings in the United States, to challenge the policies in court (McGarity and Shapiro, 1993). Should that happen, it is questionable whether the OHS system is prepared to resist such pressure. For one thing, neither the currently practiced method for standards development, nor its conceptual justification are codified in the law. In addition, the wide range of responsibilities of the Ministry of Labor and the Ministry of Health, for whom occupational protection is a relatively small element of their overall responsibilities, will limit the degree of attention afforded to this matter. Even more importantly, the functions of the Ministry of Labor, which include matters of employment and social benefits to workers, create a powerful set of objectives directly competing with occupational protection. The Ministry of Labor would thus be a natural and susceptible target for any attempts to soften occupational protection policies in favor of other priorities.

The vulnerability of the current system to challenges from organized industry is of particular concern for two reasons. First, occupational safety and health issues are low on the agenda of the national labor movement, which is preoccupied with other socioeconomic matters. Based on the U.S. experience where we have observed a declining power of organized labor since the 1970s, the ability of unions in Poland to affect national occupational safety and health policies may continue to be limited as the country's economy shifts from manufacture- and infrastructure- into consumer and producer services (Kuhn and Wooding, 1997: p. 45). Second, the system continues to depend heavily on the government bureaucracy for policy leadership, innovation and advocacy. The post-1989 enthusiasm for social reforms provided an unusual opportunity to develop a national forum for debating policy agendas and options which would engage professional organizations and other independent intellectual elites. In our view, the policy leaders within the bureaucracy who engineered the current reforms have not fully taken advantage of this opportunity. As noted earlier, the current reforms have originated primarily within the state administration, with some input from the national labor organizations and the legislative branch. So while the paternalistic role of the state in occupational safety and health has diminished, insufficient progress has occurred in the emergence of what Sabatier (1993) refers to as policy advocacy coalition: a group of actors representing different institutions but sharing certain values, belief systems, goals and problem definition, and with strong and enduring sense of 'ownership' of the system.

Another possible concern for the future is that the anticipated change in the safety culture among all key actors has not kept up with changes in the policy domain. This is evident among workers who continue to resist safety-oriented policies as well as regulators and employers who have not significantly raised their *expectations* regarding safety culture. In short, the first assumption underlying the ongoing OHS reforms in Poland – about the fundamental soundness of the system – has been justified by developments to date. However, the second assumption – about the responsiveness of all participants to the changes in the

legal and policy domains – has so far been only partly correct. As a result, it appears that at least in the short term, policy leaders in Poland will have more success in raising the bottom end of performance, rather than the top end of the aggregate performance spectrum within the industrial sector.

Despite these concerns, we believe that there is basis for cautious optimism about the future performance of the occupational safety and health system in Poland. For one thing, the system has numerous structural strengths. Additionally, it is solidly grounded in the prevailing values, attitudes and modes of conducting societal transactions. Another cause for optimism derives from the very context in which the occupational safety and health in Poland is evolving. This is best illustrated by contrasting it with the case of the U.S. In the United States, OSHA emerged in 1970 as a weak, underfunded agency with a vague vision and an ambiguous mandate, only to face a strong, well organized and hostile industrial sector. During the next three decades the agency was unable to alter that balance of power. Many of its subsequent failures can be attributed to these unfortunate beginnings and the subsequent history of reactive rather than proactive management (McGarity and Shapiro, 1993; Noble, 1997). In contrast, the Polish private sector is evolving in a world where the regulatory sector has already set the agenda and the rules, and established its social status. Poland's close ties with its European neighbors and its desire to join the European Union will also continue to exert a powerful influence toward improving occupational protection. Finally, Poland's considerable progress towards what Inglehart (1997) labels postmodernist values, with the attendant concern for the quality of life, including health and safety, is likely to continue raising the expectations of all participants in the occupational health and safety system.

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