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Industrial
Environmental
Practices in Polish
Firms - a Discursive
Perspective

Trine Pippi Kræmer

Phd Thesis

Dep. of Development and Planning, Aalborg
University 2004

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Department of Development and Planning
Aalborg University, Denmark
2004

Preface

“Life should be lived forwards, but can be understood backwards”, Søren Kirkegaard once said. Projects and writing reports are much the same, and I am not sure I had begun, if I had knew the effort I had to make.

The project would not be possible without a lot of help. Financial, the project has only been possible by a grant from the Energy Research Programme governed by the Danish Energy Authority. The project has been very delayed compared to the originally plan among other things due to two maternity leaves. Therefore, I would like to thanks the Danish Energy Agency not only for the money, but also the patience.

I would also like to thanks the three institutions that have housed, that is AKF, the Institute of Local Government Studies – Denmark, Roskilde University, Department of Environment, Technology and Social Studies, and last Aalborg University, Department of Development and Planning.

Data collection would not had been possible without a great and invaluable help from Mr. Hoeronim Andrzejewski arranging meetings and contacts with Polish firms. I also want to thank all the people who took the time to speak to me.

Trine Pipi Kræmer, Marts 2004

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1 Issues of the Project

In this chapter, I present the overall research question of the thesis, the overall design of the investigation, and the structure of the report. In this way, the chapter is an introduction to the issues dealt with in the whole project, and as such it offers the reader guidelines on the structure and content of the report. The first part of the chapter *1.1 Scope of the Thesis* deals with my motivation for conducting the study, the research themes, and overall research question. The next section, *1.2 Design of the Investigation*, outlines the design of the enquiry, sketches specific research questions, and discusses general methodological issues. The last section outlines the composition of the report and considers the target groups for the work, i.e. *1.3 Structure of the Report*.

1.1 Scope of the Thesis

In my understanding, the scope of a PhD thesis has at least three layers. The first layer is the report - the written product – the result of the PhD study. This product reflects on a few of the ideas and results achieved through the PhD study, but from the structured end-product all the difference in the world exists to the unstructured, muddled, and impeded process of the PhD study. The second layer is the investigation upon which the thesis builds. This collection of empirical materials should be so sophisticated that it could lead to a PhD thesis. Both the PhD report and the investigation build upon my fields of interest, i.e. the ideas behind the thesis, which guide the whole research process. The fields of interest represent the third layer of the thesis.

For many readers, the PhD thesis appears as a well-structured and well-organised report, but this is just the first conspicuous layer. In this section I elaborate on the third layer of the PhD thesis, i.e. the fields of interest behind the study, while the following section develops on the second layer, i.e. the investigation design. The third section describes the first layer, as it briefly presents the composition of the written product.

I begin this section with uncovering my motivation for studying Polish industrial environmental practices that is in paragraph *1.1.1 Fields of Interest*. The next paragraph, that is *1.1.2 Research Themes*, elaborates on how the fields of interests are concentrated into particular research themes. Finally, the last paragraph in this section called *1.1.3 Question of the Thesis*, presents the overall research question, which guides the whole investigation.

1.1.1 Fields of Interest

One of the central phenomena in this thesis is, what I call, *industrial environmental practices*, this concept is unfolded in paragraph *1.1.3 Question of the Thesis*. The concept grew out of my interests in three areas. The first area is transition processes in Central and Eastern Europe¹ (i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, and the Slovak Republic) and the transition processes influence on specific industrial practices in the environmental area. My second interest relates to the motivations of industrial firms for considering environmental impacts of their production. Finally, the

third area regards the influence of environmental policy on industrial behaviour. These three interest areas reflect my educational background as environmental engineer and my previous work as research fellow primarily working with energy and environmental policy towards the industry. Below, I therefore present how these fields of interest relate to my previous research work, as an introduction to the background for this PhD thesis.

Why Are Transition Processes in Central and Eastern Europe Interesting?

My first intellectual curiosity regarding transition processes in the former communist countries in Europe emerged through an ecological summer school in the newly opened city of Perm near the Ural Mountains in Russia. This was during the summer of 1992, Yeltsin was the new leader of Commonwealth of Independent States (CIS)², while Gorbachev's concepts of perestroika and glasnost were terms into which the Russians still struggled to fix an understanding. For the Russians, the time was full of hope for a bright future, "just wait two maybe three years" they told me "and we will be back as a superpower of the world." At the same time, the transition processes seemed paved with - for me - surprisingly understandings of e.g. market forces and prices. Thus, the conversion of the primarily military production in Perm to civil production brought with it many suggestions for future products without anyone bothering to think of possible buyers for the new products, an example is the suggestion of producing Teddy Bears in titanium. In the same way, the establishment of prices on market terms were hard to grasp in a country where e.g. prices on the same kind of steel differed a lot for military, machinery, or consumer goods productions dependent of the importance of these products for the society. The discussions with Russians on these issues made me realise that our understanding of a term as *prices* is not nature-given. It is embedded in historical and cultural understandings and experiences, and these understandings are closely related to the actual behaviour of people whether we understand people as consumers or citizens.

In spring 1993, I stayed at the University of Łódź in Poland as guest student as part of the Tempus Programme³. This stay in Łódź was much different from the stay in Russia. In the early 1990s, the economic stagnation hit Poland hard, thus the view of the future was much less bright than during the previous summer in Russia. Among other things this was illustrated by the strikes, the lack of possibility to

get hold of necessities for a majority of the population despite full shops, and growing decline in administration capacity illustrated by the lack of cleaning the road for snow in the winter. During my stay, I produced a report on cleaner production in Polish firms building on two interview-based case studies. The firms were very keen on replacing their machinery with western technology, which in their eyes was the only way towards cleaner production in the “worn out” Polish firms. The focus on new western technology as the “only” solution to environmental problems might also have been influenced by the desire to attract western donors in competition with the other central and eastern European countries. Still, the emphasis on the need for new western technology made me wonder, how the issue of technological development is linked to environmental considerations in Poland.

In 1994, I made my final thesis as engineer student, at the Unit for Technology Assessment at the Technical University of Denmark. It dealt with the understanding and behaviour of environmental authorities and the industry regarding environmental protection and technological development in Perm, Russia. In many aspects it builds upon my work from the ecological summer school and my stay in Łódź. The final thesis illustrated how environmental authorities in Perm were captured in views of industry that rather belonged to plan economy than to the newly introduced market economy, see also Kræmer 1994 and 1996. During this project I was inspired by the Social Construction of Technology (SCOT) approach, see e.g. Bijker 1993 and 1995. This work combined with a discursive perspective sketched for me a possible theoretical framework to get hold on the immense changes in understandings and behaviour in Central and Eastern European societies.

In order to sum up, I below list the research idea and questions, which my previous work with transition processes has brought about:

- Concepts are embedded in historical and cultural understanding and experiences, and these understandings influence people’s behaviour exemplified by the development in Russia.
- A possible theoretical framework to describe the relationship between behaviour and understanding could build on a combination of the SCOT approach and discourse analysis
- Some kind of interesting relation exists between environmental consideration and technological development in Poland and possibly in all of Central and Eastern Europe.

Why Do Firms Consider Environmental Impacts of their Production?

The most common answer to this question is that it is profitable. This answer points to two economic mechanisms, i.e. the market demand and state intervention primarily in relation to environmental protection. The existence of a *market demand* for environmental sound products gives producers that consider environmental impacts of their production a possibility to a gain bigger market share and thereby a bigger profit, one line of argumentation sounds. Another line of argumentation states that the *state intervention in relation to environmental protection* takes form as e.g. legislation regarding discharge of specific substances, green taxes, and grants for green innovation in production. The firms that consider the environmental impact of their production might pay lower green taxes, receive a big amount of grants, avoid bad publicity, or fines in relation to non-compliance with discharge limits. In this way, it becomes more profitable to consider environmental impact of production.

My first job as a newly graduated engineer was as research fellow at a semi-public research institute⁴ in the unit working with environmental and energy issues. The institute employed many economists, which would declare views as the two stated above. However, one of my first projects at the institute challenged such views by taking a point of departure in the large potential for energy savings with short payback periods existing within the industrial sector without getting realised.

The EU and the Danish Energy Agency funded the Danish part of the project, which compared German, Austrian, and Danish examples of successful energy-efficiency measures in small and medium-sized enterprises. The objective was to identify motivations of firms for entering energy saving activities and the drive for continuity in such activities, see Hennicke et al., 1998. Despite the fact that I was only involved in the first phases of the project, it gave me substantial inspiration for my PhD study, both regarding design and some of the results.

Some of the results pointed at the *coincidences*, which made the firms work with energy savings. Someone had heard about a specific energy saving project with success, one of the employees was interested in these issues, or the local authorities had suggested it. For me, this illustrates some of the limits with building on an economic

rationale, i.e. the presupposition that the actors have all necessary information available. The "coincidence issue" underlines that it is not something the firms have always been aware of.⁵

Another result of this project was that for some firms environmental impact included energy savings, while for other firms energy and environmental issues were two different issues. For example in some firms the work with energy savings took place in the technical unit, which focused at installing technical equipment (energy efficient devices). In other firms, energy savings activities were a part of their overall environmental procedures, e.g. in relation to an ISO14001 certificate⁶.

The project on successful energy-efficiency measures in small and medium-sized enterprises also provided me with inspiration for the design of my PhD study. First the focus on "successful" firms as an entrance for getting hold on the incidents that get firms started to work with energy savings and why they continue this work.

Second, the design issue regards the design of investigation within the different case firms. Each energy-saving activity, e.g. replacement of light bulbs with energy efficient ones, was described regarding the initiating event, the actors involved, the learning processes, and actually result in saved kWh. On one hand, this gave a picture of the firms' own history of energy-saving activities, on the other hand it also gave an approach to the actual behaviour of the firm.

The list below sums up some of the inspirations the project on successful energy-efficiency measures in small and medium-sized enterprises gave me:

- Profitability is not the only reason for the production firms to consider environmental issues.
- The successful examples of energy savings in production firms have often come about by coincidence.
- Energy might be a special issue or integrated in general environmental considerations for the firms.
- "Successful" examples on energy savings might be an entrance to the initiating event and the motivation behind continuous energy savings.
- Following energy saving activities in one firm gives a good picture of the history of the energy saving operations in a firm and an entrance to the actual energy saving behaviour at the firm.

How Does Environmental Policy Influence Industrial Behaviour?

During my work as research fellow I also produced a project dealing with how Danish industrial energy policy could be inspired by foreign energy policy, see Kræmer, 1997. The Danish Energy Agency funded the project, which discussed policy designs from different countries, i.e. Belgium, Canada, Finland, France, Germany, Italy, Japan, the Netherlands, Portugal, South Korea, Sweden, United Kingdom, and United States of America. It was by no means a comparative project, but it looked for inspiration for the future Danish energy policy, and as such it focused on policy designs different from the Danish.

A theoretical discussion raised in this project was how industrial behaviour in connection with policy was depended of the firms' comprehension of the policy. To a high extend this comprehension depended on the firms' general situation, e.g. market demand, competition, and network relations. Furthermore, the comprehension of the policy fixed the relation between industrial firms and authorities, e.g. defining and securing the future roles. Thus, the intention and target groups of a policy will not be sufficient when discussing a policy design and its future effects. Also the behaviour of the firms is important, which also depends on their comprehension of a policy, which again fixes roles of both firms and authorities.

Another view established through this project was that policy design is copied from one country to another in very high degree. However, the incorporation of a policy design into a national context always results in specific national version of the policy. E.g. CO₂ taxes applied both in Denmark and the Netherlands have very different designs as the two countries take their different industrial structure into considerations. Thus, a general policy design is always altered to fit into a specific context. The list below sums up my main inspirations from the project regarding how Danish industrial energy policy could be inspired by foreign energy policy:

- The behaviour of a firm to a high degree depends on its comprehension of a policy, which also fixes roles of both firms and authorities.
- A general policy design is always altered to fit into a specific context

1.1.2 Research Themes

The previous paragraph describes my main sources of inspiration for this project, which are extracted into general statements. These statements represent a few of the findings I have had from my previous research, but as stated above they are not unfolded and they are not related to established research discussions or fields. The task of this paragraph is to fix such relations. In this way, the title of the paragraph “*Research Themes*” concerns research field, discussions, or part of discussions, which have some kind of relationships to the statement listed above. These research themes are very different regarding size and significance without indicating a hierarchical order among them. Appendix V provides an overview of the relation between fields of interests and research themes.

On the background of the statements of the previous paragraph, three kinds of research themes become visible. First, it is research themes related to the subject I study. Here, I have found three research themes, which are transition processes in Central and Eastern Europe, the relationship between technology and environment, and the relationship between environment and energy. Secondly I discuss methodological issues, especially the relationship between structure and actors and the relation between general and specific findings in research based on qualitative data. The third type of research themes relates to the design of the investigation. These themes are discussed in the next section, i.e. *1.2 Design of the Investigation*.

Transition Processes in Central and Eastern Europe

Among other places, the significance of the changes in Central and Eastern Europe is reflected in the need to establish a new name for the geographical region, see note one in this chapter. It is also reflected in the discussion of what to call these changes. The concepts transition and transformation are widely used, as also the term revolution. In this thesis I adopt the term *transition* processes as the changes in the region have general directions and goals of establishing democracy and market economy, although the actual outcome of the processes is yet unknown, still the path is unique for each case due to nation-specific institutions and strategies⁷. I use the term *transition processes* to underline that despite the common goal of democracy and market economy, a countless number of more or less connected societal processes are involved in the changes.

Fundamental for the research theme transition processes in Central and Eastern Europe are the characteristics of these processes. Ágh (1998: 49-50) talks of at least a fourfold process with interrelations between a political, economic and social transition processes as well as a process of nation building (see e.g. Ágh, 1998: 49-50). Other authors talk of the twin process of marketisation and democratisation including at least a shift to constitutional democracy, the constitution of market economy, state building and the development of civil society along with a need to come to terms with the Communist past (Baker & Jehlička, 1998: 1). Similar definitions are found within Henderson & Robinson (1997:163-164), while Crawford (1996:96-97) argue for sextuple transition processes of political, economic, national, psychologically/social and financial transition processes along with the replacement of the CMEA⁸ relations. No matter which small parts the processes are divided into, it is unmistakable that the transition processes in Central and Eastern Europe are many, mutual interrelated, and complex. This raises the question: what characterise the transition processes in Central and Eastern Europe?

Some researchers argue that during the last decade the differences between Central and Eastern European countries have expanded (e.g. Baker & Jehlička, 1998: 3). While other researchers emphasize that the uniformity before 1989 appear as a consequence of the over-generalisation of full “Sovietisation” in all Central and Eastern Europe (Ágh, 1998:8).⁹ In my view the last group of researchers have got the upper hand. Researching in fields different from your own often makes the differences more visible than similarities, which made western researchers focus on the common characteristics of the communist societies and neglecting the national diversities. Furthermore, one has to remember the rhetoric and propaganda on both sides of the “iron curtain” influencing all society members including researchers, e.g. by the colour of the information available. In this thesis, the main objective regarding the research theme transition processes in Central and Eastern Europe is to provide a view of the complex Polish transition processes and not to make a comparison between the different countries.

An important finding of comparative studies of transition processes in Central and Eastern Europe is that the research concentrates on political and economic transition processes is very predominant. This tendency is supported by regular reports on the progress regarding economic issues from international organisations as the International Monetary Fund (IMF) and the European Bank of Reconstruction and

Development (EBRD)¹⁰. Also, the EU assesses political issues for those countries that have applied for EU membership, through the so-called Copenhagen criteria¹¹. This gives the disciplines of comparative politics and economics a special role. Analyses performed by these disciplines focus typically on comparisons of the degree of development of market institutions such as a stock market or a private banking system, and progress in political institutions such as constitutions or number and types of parties. Analyses of this kind are primarily able to conclude on the degree of democracy and market economy in the respective countries in relation to the general level in Central and Eastern Europe. A shortcoming of such analyses is that they barely reveal the factors behind the differences among the countries and they merely focus on comparable institutions. The objective of this thesis is different. I want to get a picture of some of the factors behind the specific industrial environmental practices embedded in the Polish context. This is a focus on the factors *behind* the development in a *Polish context* without any considerations of whether or not this is different from the overall development in other countries in Central and Eastern Europe.

Technology and Environment

Fundamental for societies is the question of managing technological change and use without jeopardising quality of life (Elzinga, 1998: 17). Many researchers point to the jeopardising with quality of life regarding environment as one of the reasons for the fall of Communism. Not that environmental protest made the collapse, but especially in the 1980s open environmental debate in the communist countries of Central and Eastern Europe strengthened the civil societies of these regimes (Baker & Jehlička, 1998: 9; Jancar-Webster, 1998: 70).

The background for the catastrophic physical environmental condition in parts of Central and Eastern Europe¹² arose from mismanagement and misuse of resources, with the communist emphasis on economic growth, industrialisation, and technical progress (Baker & Jehlička, 1998: 6). Mismanagement and misuse of resources also forms the background for many environmental problems in Capitalist countries, however, here among other things public environmental debate have resulted in considerable environmental improvements especially during the last decades of the twentieth century.

The central and eastern European countries' understandings of environment and technology relations build in parts on the historical development. After World War II, rapid industrialisation in especially heavy industry provided an enormous progress in living standards in Poland. However, already in the early 1950s the growth slowed down and it continued this downward tendency into the 1980s, except a short period in the early 1970s, where foreign loans turned the curve (Lewis, 1994: 101). The aiming at heavy industry fuelled by coal led to environmental degradations. The consequences for the environment was not taken into consideration during the early industrialisation partly due to the fact that initially pollution levels were low, partly as environmental degradation was not an issue in the mid-twentieth century. As the environmental problem became visible the countries in Central and Eastern Europe introduced impressive environmental legislation, although in general it was weakly enforced (Pavlínek & Pickles, 2000: 11).

The technological development in Western Europe and Central and Eastern Europe seriously parted when the oil crisis showed the way for alternative energy sources and new technologies and industries in Western Europe. On the contrast in the 1970s, Central and Eastern Europe got subsidised low-price oil from the Soviet. Throughout the 1970s the indebtedness in the foreign currency expanded putting a pressure on the Polish economy, which reduced the investments in environmental protection (Pavlínek & Pickles, 2000: 14).

In the 1980s, the fundamental restriction for economic growth in Poland was the energy sector and its lack of ability for providing energy for both industry and households. Thus, in the mid-1980s approximately one third of all industrial investments went to the energy sector (Nielsen, 1987a: 25), and at the same time the energy efficiency of the overall industrial production was low. According to some estimates, in the early 1990s energy consumption per unit GDP was five times higher in Central and Eastern Europe than in Western Europe (Pavlínek & Pickles, 2000: 17). On this background the aiming at purely supply-side policies regarding the unbalanced energy situation could bring about astonishment (Pavlínek & Pickles, 2000: 15).

After 1989, the situation has changed although not in the expected way. The period of the early 1990s was marked by economic collapse, which led to reduction in emissions as the industrial production declined. In Poland the industrial output reached the 1989 level in 1996 (Aage, 1997:8). The economic decline reduced the capacity for

environmental cleanup and investments in non-polluting efficient technologies (Pavlínek & Pickles, 2000: 7). Throughout the 1990s, the “implementation gap” between the words of environmental policy and its enforcement has been reduced, although problems still exist. Many new problems have been added to the Polish situation, e.g. the many new laws hastily drafted (Millard, 1998: 156). In the light of the developments described above it is interesting how the relation between technology and environment connects to the specific situation in the different Polish firms.

Environment and Energy

The discussion of energy and environment as separate issues or not is almost non-existing in the established research discussions. The reasons are partly found in the historical foundations of the fields and partly in the educational background of the scholars in the fields.

In the late 1960s, the environmental debate arose worldwide on the background of new societal problems from chemical risks to air pollution. This began institution building around the world. On the international arena the United Nations held its conference on Human Environment in Stockholm in 1972 (Jamison, 2001: 9-10). In the same period national environmental ministries were established. The federal U.S. Environmental Protection Agency was established in 1970 (EPA, 2001), in October 1971 the environmental ministry was established in Denmark (Rehling, 1996), and in 1972 the Polish Ministry of Territorial Management and Environmental Protection was established (Anderson, 1999: 49).

The first oil crisis put the issue of energy security on the political agenda. In public the debate on energy in some cases related to that of the environment e.g. regarding nuclear security (Jamison, 2001: 10). However, institution building on energy issues occurred separately from the environmental institutions.

The employees of the two areas also have different backgrounds; despite many of them are engineers. The environmental people have chemist and civil engineering as background, while the energy people have mechanical and electronic engineering as background. Even though the Danish Environmental and Energy ministries have been united in a period, great differences still exist in the energy and the environmental policy strategy and requests towards industry.

The Danish Energy Agency finances this project; therefore the issue of energy considerations in firms were from the beginning central for the project. Even though the energy and environmental

field are not identical, when it comes to energy savings in industry the motivations are often identical with those of environmental considerations. Therefore and on the background of my previous work, I quest to construct an approach, which is open to both firms where energy is a specific issues and firms where it is a part of environmental considerations.

Actors and Structure

The question of the relationship between actor and structures is a fundamental question of all social theories, and therefore in this thesis also. I employ the research theme to frame some of the questions raised by my pervious work, i.e. the relationship between understandings and behaviour, and how this relationship frames future possibilities for acting. By the term *actor* I mean the “acting unit” in the social model I apply for this study. By the term *structure*, I think of both physical items and organisations existing around the actor as well as concepts and practices guiding and structuring actions of actors.

The fields of interests, described in the beginning of this section, to a high degree refer to studies with a social constructivist point of departure. This point of departure is also reflected in the framing of actors and structures in the following. In a social constructivist approach, the actor acts corresponding to her understanding. This should not be taken literally, thus the actors could still act strategically, the position is relating to the epistemological approach of social constructivism. The actor cannot observe the world unproblematic. Pictures of the world are not reflections of the reality “out there”, but instead products of the actor’s way of categorising the world, and more fundamentally the reality is only assessable through categories (Burr, 1995: 3). Therefore, the actor can only act in relation to her understanding of reality.

In a social constructivist perspective actor and structure are linked in an innate relationship. In her actions the actor reproduce and at the same time modify existing structures. Thus, future acts are related for present acts although the precise relationship will be hard to predict.

General and Specific Findings

The discussion of actor-structure relations raises the question of whether structures and actors are inseparable or items existing separately. A relativist approach takes the first stand while a rational approach takes the second. I have a relativist point of departure in this

thesis; thus actors and structures are inseparable. By this I mean that actors encompass views of the world – in their mind; and these views are collectively invented, and therefore they are dependent of the context, in which they occur (Scott, 1995: 50). In this way structures as well as actors are historical and cultural specifics, Burr (1995) explains:

The ways in which we commonly understand the world, the categories and the concepts we use, are historical and cultural specific. Whether one understands the world in terms of men and women, pop music and classical music, urban life and rural life, past and future, etc., depends upon where and when in the world one lives. [...] This means that the ways of understanding are historically and culturally relative. Not only are they specific to particular cultures and periods of history, they are also seen as products of that culture and history, and are dependent upon the particular social and economic arrangements prevailing in that culture at that time. The particular forms of knowledge that abound in any culture are therefore artefacts of it, and we should not assume that our ways of understanding are necessarily any better (in terms of being nearer the truth) than other ways.

(Burr, 1995: 3-4).

This *context-dependency* has great implication on the investigation, and as statements of actors always are cultural and historical specific, generalisation becomes tricky. Qualitative research has its strength in the in-dept inquiry of a few numbers of phenomena in their own context, while the quantitative research has its strength by investigation of the diffusion of a phenomenon in all of society. Still it is possible to make generalisation in qualitative research by the selection of a specific case or a specific theoretical construction, it is called analytical or theoretical generalisation (Andersen, 1997: 14-15). Yin (1994) explains regarding the issue of generalisation on basic of case studies:

A common complaint about case studies is that it is difficult to generalize from one case to another. Thus, analysts fall into the trap of trying to select a “representative” case or set of cases. Yet no set of cases, no matter how large, is likely to deal satisfactorily with the complaint.

The problem lies in the very notion of generalization to other case studies. Instead, an analyst should try to generalize findings to “theory”, analogous to the way a scientist generalizes from experimental results to theory. (Note that the scientist does not attempt to select “representative” experiments.)

(Yin, 1994: 37)

In this way, generalisation should be possible. In my context it raises the question of how to design research thus context-dependent findings include general aspects.

1.1.3 Question of the Thesis

The research question stated below builds on my fields of interests and the related research themes as explained in the two previous paragraphs. Nevertheless, the personal interest does not exclude considerations of how the research could contribute to societal debate, a brief discussion of this is located in the sub-paragraphs theoretical and empirical objectives as well as under the headline *1.3.2 Target Groups*.

This paragraph begins with the presentation of the overall research question. On this background follows three sub-paragraphs discussing central parts of the overall research question and how these relate to the research themes from the previous paragraph. The next two sub-paragraphs consider the empirical and theoretical objectives of the thesis; while the last sub-last paragraph sums up the assumptions that form the foundation for the point of departure of the investigation.

The Overall Research Question

The overall research question of this thesis is:

How do industrial environmental practices in Polish industrial firms relate to discursive developments within the identity, environment, and industry areas?

On this background the investigation falls into three parts. The first part relates to the industrial environmental practice in Polish industrial firms. The concept “industrial environmental practices” embodies the practices regarding environment issues on different firms, thus it relates to a firm’s usually actions in the environmental area. Thus, the industrial environmental practice is context dependent and thereby different at different firms. This part of the investigation is designed as case studies.

The second part of the investigation relates to Polish discursive developments within the identity, environment and industry areas. This part of the analysis is designed as discursive historical analyses, and in the end I discuss how the industrial environmental practices and the discursive developments interact. Figure 1.1 below sketches the design of the overall study, which is discussed in greater details in section 1.2 *Design of the Investigation*.

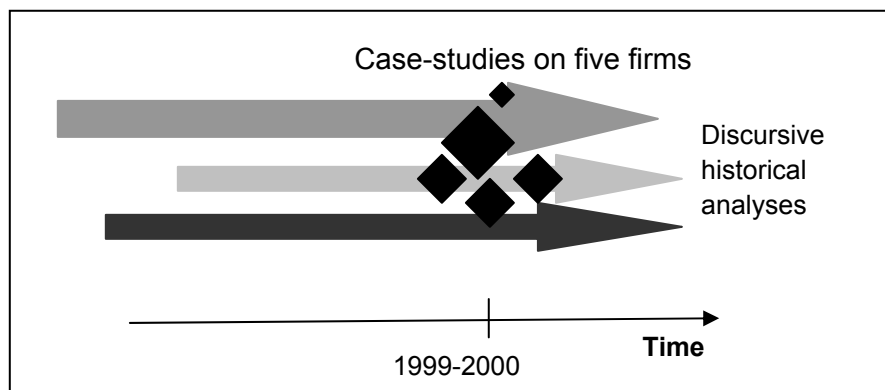


Figure 1.1: Design of the investigation. The five case studies of industrial environmental practices are represented by the black diamonds. The different sizes indicate the different dept in the cases. The three grey arrows represent the discursive developments in the identity, environment and industry areas.

Below I outline the investigation of the industrial environmental practices, the Polish discursive developments in the environmental and technological areas, and the relation between these two phenomena.

Industrial Environmental Practices

Industrial environmental practices refer to the practice regarding environmental issues at the industrial firms. The word practices direct

the focus towards the usual way of doing things, the almost unconscious behaviour of everyday life. The practices in focus are restricted to those regarding environmental issues on industrial firms.

The industrial environmental practices are constructed, maintained and modified by the ongoing actions. In this way, the industrial environmental practices frame future actions within the firms. This interaction between past and future actions embodied in the concept industrial environmental practices refers to part of the dichotomy of actors and structures outlined in *1.1.2 Research Themes*.

Another issue raised under the research themes was how to construct a concept sensitive towards understandings of energy as both an independent issue and an integrated part of environmental considerations. How far the concept of industrial environmental practices solves this task depends on the formulation of the questions in the interview situation. If I ask for environmental actions the replies reflects the firm's understandings of what environmental actions are. The industrial environmental practices is an open concept, thus by proper utilisation I should be able to include both understandings of the energy issue.

The scope of a specific industrial environmental practice is central in this study, as it deals with the specific and general quality of the case studies. As a point of departure for the particular data collection I look into industrial environmental practices as practices covering one particular firm. I am aware that the practices might be more local, e.g. relating to a specific division of a firm, or more global, e.g. covering all of the EU. Thus, research indicate that firms seems to have different types of practices regarding environmental behaviour. In the Danish context Remmen (1995: 211) points to four types of environmental strategies among Danish firms, i.e. interactive strategy (we prevent); proactive strategy (we are ahead), reactive strategy (we obey the law), and inactive strategy (we have no problems). The existence of such typologies indicates that firms have different strategies, which with my vocabulary corresponds to different types of industrial environmental practices. During the investigation, I assume that the industrial environmental practices I dig out of the data material cover the whole firm, whether or not the industrial environmental practices also relate to more national specific features is a task for the analysing part of the project.

In the following section *1.2 Design of the Investigation*, I work out the overall design of how to approach industrial environmental

practices, while I in chapter 4 in paragraph *4.1.1 Application of the Theoretical Framework* discusses some of the methodological consideration of the concept of industrial environmental practices.

Polish Discursive Developments

The Polish discursive developments in the identity, industry, and environment areas are the second phenomenon in focus in the overall research question above. The “discursive” imply with origin of a discourse, where a discourse in broad terms constitute “a particular way to talk and understand the world or parts of the world” (Jørgensen & Philips, 1999: 9). Such understandings are embedded in the concepts and wording we use in our talk, but the understandings are also embedded in e.g. organisations and legislation of a given time. Like this the existence of an environmental division in an organisation indicates that environmental issues are something of importance in the organisation’s life. Discourses are context and time specific. When I use the concept discursive developments, I think of the development in a specific discourse over time. In this thesis, the context is Polish; consequently, I do not distinguish between discourses exclusive Polish and discourses of more global origin.

I apply the discursive analysis to three areas, i.e. environment, industry, and identity. The overall environmental developments have, I assume, influenced possible industrial environmental practices at Polish firms. Along the same lines, I assume that the overall industrial development also have had influence. However, while accomplishing this part of the analysis I realised that I lacked some kind of overall description of the Polish development in the period from 1919-2000. This general description became greatly governed by identity issues, and therefore the third area in the discursive analysis deals with identity. Chapter 2 *Theoretical Inspirations* considers the concept of discourses, and the way to approach it in more details are dealt with in chapter 3 *The Patchwork Model*.

In the paragraph *1.1.2 Research Themes* I raised the question of whether some kind of interesting relation exists between environmental consideration and technological development in Poland and possibly in all of Central and Eastern Europe. In this thesis I limit the investigation to the Polish context, so the last part of the question I am unable to answer. The analysis of Polish discursive developments aims at potential relation between the three areas, i.e. identity, industry and environment.

Relation between Practices and Discursive Developments

The investigation explores possible relations between the discursive developments and the industrial environmental practices. I presume that this relation will take different forms at different firms, but some kind of shared characteristics of the relation might exist.

Two of the questions raised in the paragraph *1.1.2 Research Themes* relate to the analysis of the relations between industrial environmental practices and Polish discursive developments in the identity, industry, and environmental areas. The objective is to get a picture of some of the factors behind the specific industrial environmental practices embedded in the Polish context, or formulated in another way around the question of how the relation among identity, industry, and environment connect to the specific situation on the different Polish firms.

The objective is to find trace of some of the channels where overall discursive developments are embedded in specific practices. Along these lines I seek trace of how *general* developments are embedded in specific practices.

Empirical Objectives

Political scientists¹³ and economists¹⁴ dominate the research theme of Central and Eastern Europe with the task of comparing the variance of institution building in the region. Analyses of that kind are able to conclude on the degree of democracy and market economy in the respective countries as well as they might be able to point to barriers and fostering factors in this development primarily by comparing national institution building.

The objective of this thesis is to move the focus from the degree of market economy and democratisation to the specific practices at industrial firms and its relation to discursive developments. Thus, the analysis is context-dependent, and could not be transferred to another national context. Such an approach has the potential to contribute to the research theme of Central and Eastern Europe with specific Polish characteristics in the environmental and technological fields and also give some ideas of their influence on practices.

It is my hope that the findings will illustrate that the present course of development is not the *only* possible course. In this way it might open the eyes for discussion of a third or maybe fourth course of development within Poland. It might also make the EU a bit worried of the consequences of unconscious implementation of EU legislation

in a Polish context. Thus, beside the specific empirical findings, I hope to contribute to both European and Polish debate regarding the future course of development.

Theoretical Objectives

One of the phenomena investigated in this thesis is the Polish discourse development in the identity, industry, and environmental areas. This part of the investigation calls on some kind of discourse analysis. The challenge of a discourse analysis is to relate the overall discursive development to specific practices. In my eyes some beneficial fragments might be found in sociological approach to institutional theory along with elements from Bijker's SCOT model. Thus, the theoretical objective is to construct a patchwork model combining discursive approaches, institutional elements, and the Scot model, and subsequently I will apply the model to the empirical field.

Realisation of this objective might also contribute to developments in the three involved theoretical fields. The patchwork model proposes a specific operational type of discourse analysis examined by empirical utilisation. This might not remodel the whole field of discourse analysis, but it offers a suggestion for a piece in the puzzle of building an empirical discourse analysis.

Within the field of sociological institutional analysis¹⁵ a central discussion is how to make the institutional approach more sensitive towards the behaviour of actors. E.g. Karnøe (1997) criticises the neo-institutional perspective and the new business system perspectives, as two theories within the field of sociological institutional analysis.

Both approaches depend on the assumption of active social construction at the level of the social actor, but both approaches need to conceptualise the process by which social actors create, reproduce, and change institutions in their ongoing social activities. This calls for a view of sense making and enacting institutions as inseparable from the social being in specific social contexts.

(Karnøe, 1997: 419)

The patchwork model developed in this project might contribute to this discussion both theoretical and empirical, e.g. by the concept of industrial environmental practices, which mixes the actor and structure elements.

Bijker's SCOT model is a central piece in the Science, Technology, and Society (STS) field¹⁶. On the basis of detailed case studies he develops a theoretical model of how to study technological development. As the rest of the STS field this study underlines technological development as context-dependent, and the same artefact might include different understandings of e.g. the functions in different social contexts. I have big sympathy with this aim, but sometime I cannot help to wonder how the local social context absorbs ideas from less local contexts e.g. the idea of sustainability. In this study, the objective is to seek a relation between the local and the more general ideas, which might work as inspiration in the STS field.

The Point of Departure

The point of departure in this thesis is a *Social Constructivist* approach. I understand the world out-there as ambiguous, fluid, and chaotic (Dyrberg, et al., 2000: 9) and the world exists on an ontological level. In a Kuhnian approach the view of the world is social constructed as a consequence of that we cannot acknowledge the world independent of a paradigm. Thus the question of social constructivism becomes an epistemological issue as the world, as some something ready-made exist outside our reach (Kuhn, 1996: 198-199).

In the ongoing happenings of everyday life we construct a limited unambiguous, constant, and ordered view of the world through practices. E.g. industrial environmental practices of managers and employees regarding energy savings are structured by views of whether the potential exist based on earlier experiences, rather than the "true" potential for energy savings. A social constructivist approach inevitably focused on people's understandings in relation to their actions gathered in the concept of industrial environmental practices. The question of whether these understandings are corresponding to the real world in an ontological sense is beyond the scope of this thesis.

1.2 Design of Investigation

The research question lays down the structure for the investigation as combination of a study of the discursive developments in the identity, industry, and environmental areas combined with studies of industrial environmental practices at manufacturing firms, see also paragraph *1.1.3 Question of the Thesis* and figure 1.1.

The design of the investigation was inspired by Åkerstrøm Andersen and his interpretation of discourse analysis by Michel Foucault¹⁷. Åkerstrøm Andersen (1994 & 1999) advocates for an analysis of the diffusion and uniformity of a phenomenon in a cross-sectional study¹⁸ combined with a historical study of the origin and modifications of the phenomenon formed by historical conflicts and domination¹⁹. Åkerstrøm Andersen calls this a Foucauldian discourse²⁰.

I see many advantages in such an investigation design, besides that it fits the research question or maybe the research question fits the design. The historical study emphasizes the origin and domination of phenomena and, consequently things we “take-for-granted” become visible and thereby possible to debate and question. The cross-sectional study exposes the diffusion and uniformity of the phenomena. Such an analysis opens for debates on the present course in the Polish development, which is one of the empirical objectives of this thesis. Another advantage is that the historical study provides me, as a non-Pole, with some background for understanding the Polish context, when conducting the cross-sectional studies. Finally, this design gives me a framework for discussing the relation between general and specific findings. The historical study represents indications of findings with a possible national extent, while the cross-sectional studies represent findings related to the individual firm-context. A possible link between these two types of findings signifies a combination of what I have called specific and general findings. Below I will discuss the design of the historical study, the cross-sectional studies, and possible ways to combine these two approaches.

1.2.1 Historical Study

This paragraph describes my approach to the historical study by four sub-paragraphs defining my approach to the historical study, the unit of analysis in the study, the research method, and methodological considerations arising on this background.

The Historical Study

The historical study employed in the investigation draws on a social science tradition rather than the historical discipline. In social science you talk of longitudinal studies. Longitudinal studies are designed to permit observation over an extended period (Babbie, 1995: 95), which is the intention with the part of the investigation regarding discursive developments in the identity, industry, and environmental areas. The term: discursive developments underlines that the study finds a great deal of its inspiration within the field of discourse analyses. This calls for other approaches than traditional longitudinal studies²¹, which focus at developments in populations, where the discourse analysis emphasises developments of phenomena. That is the background for talking of a historical analysis in this thesis rather than a longitudinal study. The guidelines guiding the historical analysis are the dichotomies of continuity and ruptures/changes and stability in history²². By guidelines I mean the concepts guiding the analysis of the collected data.

Changes deal with ruptures in understandings and practices, i.e. new ways of communicating and new characteristics of limits of understandings and practices. Stability deals with how *the old* is integrated and getting new value in understandings and practices after a rupture, thus creating continuity (Åkerstrøm Andersen, 1994: 7). In this way new understandings and practices always carry parts of the *old* understandings and practices within them, although it might be reorganized compared to the old. With the guidelines of continuity and rupture/changes and stability the analysis emphasises, how the new Poland carry within it rearrangement of the old.

I define the specific approach for the analysis of the discursive development in the identity, industry and environmental areas in section 3.1 *Theoretical Framework for the Historical Analysis*.

The Unit of Analysis

The unit of analysis is the objects/items studied in the empirical inquiry. In the historical study I examine written materials looking

after continuity and ruptures/changes and stability in history regarding understandings and practices. Thus, the unit of analysis is written materials with points of focus at understandings and practices within these materials.

Understandings and practices might be embedded in institutions as legislation or organizations. For example if air pollution is considered to be a substantial environmental problem in Poland this might lead to establishment of a division responsible for air pollution in the environmental ministry. Then procedures for measuring of air discharges at manufacturing firms might results in changes in their industrial environmental practices. In this way understandings and practices are embedded in institutions, and therefore institutions are also a point of focus in the longitudinal study.

Research Areas

Guidelines in the historical analysis is the dichotomies between continuity and ruptures / changes and stability in history. The dichotomies are found in the empirical materials based on written texts (unit of analysis) with focus on understandings, practices and institutions. These issues are sought in the identity, industry, and environmental areas. Below, figure 1.2 lists the guidelines, unit of analysis, points of focus, and research areas for the historical study.

Design of the Historical Study	
Guidelines (guiding the analysis of data)	Continuity and ruptures/ Changes and stability in history
Unit of analysis (Empirical unit studied)	Written materials
Points of focus (focus for the empirical study)	Understandings, practices and institutions
Research area (limits of the empirical area studied)	Identity, industry and environmental areas

Figure 1.2: Guidelines, unit of analysis, points of focus and research areas for the historical study.

Methodological Considerations

The brief framework for the historical study listed above raises some methodological questions. Below I discuss how to limit the

description of a discursive development, my access to the written materials, and how to recognise understandings, institutions and practices of this materials.

Modern society is complex, unstable, non-transparent, and therefore explanations of causes and effects are questionable. The rationality dominating at one time might not be dominating at another time, and even in a stationary perspective, various mutual competitive rationalities and subcultures always exist (Thomsen, 1996: 172).

A description of discursive developments will in its nature never reach a ready-made reality out-there; it is always the researcher's story of connecting elements. Nevertheless, I have to be critical regarding the findings of this thesis. Besides that any researcher might emphasize different elements, the continuous modification of domination and competition among discourse and subcultures makes the story different at different moments in time. This does not imply that anything goes, but it is a fundamental precondition of the design that it will never be sufficiently possible to replicate the study.

The unit of analysis in this study is written materials. As a non-Pole and also non-Polish speaking person my access to written materials is limited. This is also a fundamental condition for the study. The written materials used are mostly in English, and before 1989 that means mainly written by non-Polish people or at least Poles with residence outside Poland. This raises another important concern as the ideological struggle between Capitalist West and Communist East during the cold war have coloured all writings e.g. by the admission to information. Both the ideological imprinting of the written materials and the non-Polish language has consequences for the analysis. It becomes an analysis of a Dane's view of foreign description of the Polish reality. On the other hand my non-Polish background might also benefit the analysis, as I am able to go into the materials without the Polish "taken-for-granted" reality, and therefore I might be able to point to connections that would be invisible for most Poles.

The limitations for the analysis of written materials discussed above also makes it hard to identify Polish understandings, institutions and practices, as the materials I base the analysis of the Polish reality on is seen through foreign glasses. This could reflect connections normally indistinguishable in a Polish context, but it could also provide a story with tiny links to the Polish context.

Above, I have listed some methodological questions, but not responded to them, that I do in relation with the specific analysis of the discursive development, i.e. in chapter five to seven.

1.2.2 Cross-Sectional Study

This paragraph follows a structure parallel to the one for the previous on the historical studies. Thus, I begin by defining my understanding of cross-sectional studies, and then I discuss the unit of analysis, and the research method. Finally, I touch upon the methodological considerations arising on this background.

The Cross-Sectional Study

The cross-sectional study is designed to study some phenomena by taking across section at one time (Babbie, 1995: 95). The phenomenon studied here is industrial environmental practices across Polish manufacturing firms with in the region of Łódź surrounding the second biggest city in Poland. I use the approach of case studies for forming this cross-sectional study.

Case studies differ from other research strategies by the object they study:

A case study is an empirical inquiry that investigates a contemporary phenomenon in its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.

(Yin, 1994:13)

This definition leaves case studies as a very all-embracing methodology, and so it is. Andersen (1997: 9) describes a case study including more than 100 cases, but most frequently an analysis includes one case described by its own premises in great details. In my project each industrial firm and its relations regarding environmental issues makes up a case study. I have five cases in the analysis, each with different level of details of the information - coarse-grained case studies.

The purpose in each case study is to find industrial environmental practices, i.e. the firm's usual actions related to the environmental area. Thus, industrial environmental practices are the guidelines for the analysis of the empirical materials.

The Unit of Analysis

The unit of analysis is the empirical unit in the inquiry. In all cases this includes interviews with persons at each firm that know something about environmental actions at the firm, it might also include annual accounts or interviews with persons involved in the environmental actions at the firm. The level of details varies among

the cases.

The focus for the empirical studies is environmental projects at the firm. I take a point of departure in what the manufacturing firm defines as environmental. By project I mean a process of activities dealing with the same subject, e.g. reduction of chemicals in wastewater. The environmental projects are studied with focus on the process, from the moment the idea showed up to the follow-up activities. Central is also the actors involved in the environmental projects and their position and tasks. The main research questions regarding the different environmental projects on the firms are:

- How come that the firm began on this environmental project? (initiating event)
- Which environmental activities did take place? (environmental problems and solutions)
- Who was involved? and what was their tasks? (actors)
- What was the result of this environmental project? (Outcome)
- How did you follow-up on this environmental activity? (continuity)
- How has the process influenced future environmental projects in this firm?

In this way the interviewed reconstruct a picture of the history of environmental activities at each firm. Thus, the time dimension is in some degree reflected in the approach to the case studies. It is a hypothesis that the interviews will show how specific understandings of the environment frame the future environmental activities, e.g. embedded in what is characterised as environmental problems and how these problems can be solved.

At the foundation of the collected data it is not possible to assess the outcome of the environmental project regarding improvements in relation to sustainability or resource consumption. Two kinds of argumentation are connected with the lack of results regarding quantitative improvement.

First, the point of focus is the process of the environmental projects and how this frames industrial environmental practices. Quantitative outcome of the environmental project might be an issue at the firm or it might not.

The second line of arguments related to the difficulty getting reliable information on the outcome. The effects of an environmental project might not be seen before a long time after the implementation, and therefore it is hard to part from other changes in the firm. This is especially true for environmental projects regarding changes of the behaviour of employees e.g. campaigns on turning the light off when leaving a room. Furthermore, it is complicated and often expensive to measure the actually outcome of an implementation process. E.g. the firm's electricity-meter often cover the whole firm, thus, changes in electricity consumption at one line of production are hidden in the firms overall variation in electricity consumption. The firm might state the potential savings or reductions as the promised by consultants instead of the actually outcome when asked in an interview. However, research shows that great differences might exist between the potential reductions promised by consultants and the actual outcome of an implementation, e.g. of a new machine.²³ Finally, it is important to see the actual outcome at a manufacturing firm in relation to sustainability in society; thus, increasing production might eat up less resource consumption due to an environmental project either on the level of the individual firm or on the level of society.

Research Area

The cross-sectional studies include five case studies at manufacturing firms in the Łódź region. The purpose of the analysis is to sketch industrial environmental practices at individual manufacturing firms. The units of analysis are interviews with persons at each firm that know something about environmental actions at the firm, it might also include annual accounts or interviews with persons involved in the environmental actions at the firm. The point of focus in the empirical study is environmental projects, and I limit the research area to one or two of these environmental projects at each firm. Figure 1.3 sums up the guidelines, unit of analysis, points of focus, and research areas in the cross-sectional studies.

Design of the Cross-Sectional Studies	
Guidelines (guiding the analysis of data)	Industrial environmental practices
Unit of analysis (Empirical unit studied)	Persons knowing something about environmental actions at the firm and outside, annual reports, and other written materials
Points of focus (focus for the empirical study)	Environmental projects at the firm
Research area (limits of the empirical area studied)	One to two environmental projects at each firm

Figure 1.3: Guidelines, unit of analysis, points of focus and research areas for the cross-sectional studies.

Methodological Considerations

The description of the design of the cross-sectional studies above raise some methodological considerations. These considerations include discussion of who the interview persons represent, the language problem, what kind of information does the interviews provide, and which implications do the selection of firms have on possible results.

The interview persons I talk with at the individual firms give their interpretation of how they understand the environmental project at the firm. If they have been directly involved in the project, they will know much more about the process, than if they have only heard of the project on second-hand, e.g. as the case often is with the directors. Therefore, it is important to reveal the interviewed person's position in the different environmental projects.

Similar to the historical study, the case studies are also affected by my lack of Polish language skills. Some of the interviews are made in English, where both the interviewed and the interviewer speak a second language, which might be the breeding ground for misunderstandings. Other interviews are made with the support of translators, which also might give rise to some confusion.

Another consideration regards the outcome of the interview. When interviewing about something that has happened, people tend to forget many issues; thus, the told story is a rewriting of history. To get by this tendency I seek to get information as annual reports in order to support the possible lacking memory of the interview persons. This would enable me to say something about the environmental project

based on more than one source. In the paragraph *1.1.1 Fields of Interests* I raised the issue of that as the history of energy saving activities in one firm give a good picture to the actual energy saving behaviour of the firm. In this thesis I talk of environmental projects, the history of all these activities at an individual firm indicate the direction of the firm's continuity in the work with environmental issues. To some degree, the specific analysis will discover whether this is a tendency also found in the empirical materials.

The five firms in the cross-sectional study are located in the same region, but they differ regarding economic situation, ownership and industrial sector. This might have some influence on the industrial environmental practices occurring from the analysis. I raised the issues of whether "successful" examples on energy savings or resource consumption might be an entrance to the initiating event and the motivation behind continuous energy savings. In order to investigate on this issue it is necessary to select firms, which have had some kind of success regarding their environmental projects. In section *4.1 Case Studies* I discuss this issue in relation to the selected firms. The discussion of the other methodological questions raised above is also found in that section.

1.2.3 Relation between the Two Approaches

The possible combination of a historical study and a cross-sectional study is the basic aspiration of the whole investigation. Figure 1.4 provides a graphical picture of the combination between the longitudinal and the cross-sectional study. As the figure shows it is rather unclear what the items compared are and what type of relation they form. Below, I will discuss these two issues along with a few methodological considerations.

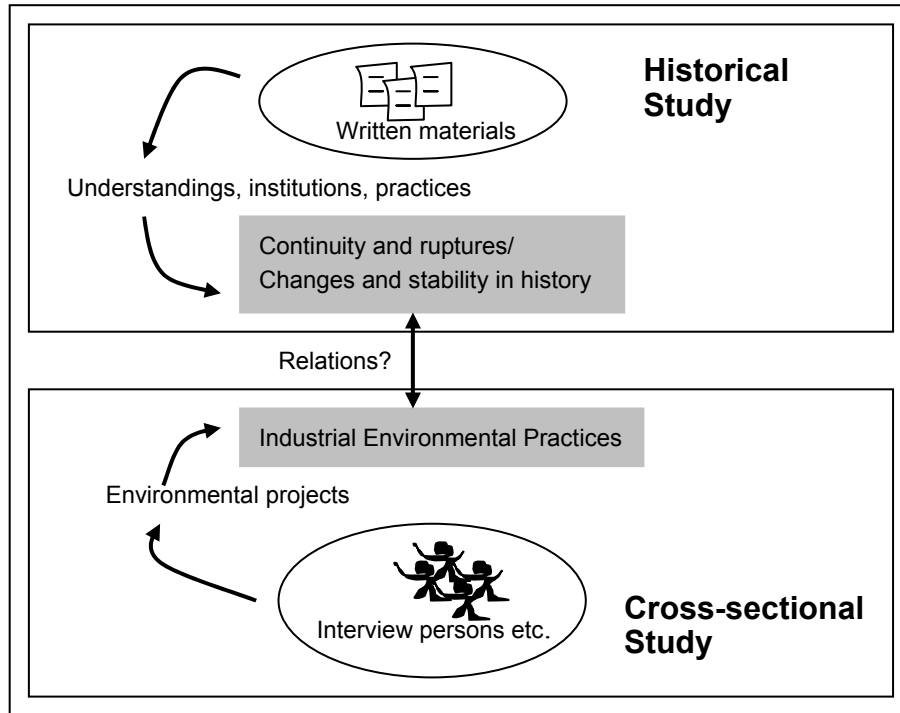


Figure 1.4: The relation between the historical and cross-sectional studies. The grey squares represent the guidelines of the analyses, i.e. the features guiding the analysis of data. The ellipses represent the units of analysis in the studies, which is related to the focus point before reaching the features guiding the analysis of the data.

Items Relating?

The historical study offers a picture of ruptures and continuity/changes and stability through the Polish history of development of in the identity, industry, and environmental areas. The focus is on the society level, which might include threads regarding implementation on firm level, but is will foremost concentrates on societal developments.

The cross-sectional study, on the other hand, provides a picture of industrial environmental practices at individual firms. This builds on data related to individual firms with focus on practices regarding environmental activities consequently focusing on the implementation of environmental initiatives.

The comparison between these two studies seems difficult to relate to each other as they operate on different levels. However, the historical study includes fragments that might be a part of the firm's context, e.g. the development in specific environmental legislation. In this manner, the discussion of relation between the historical study and the cross-sectional study is a discussion of how identity, industry, and environmental developments on national level affect industrial environmental practice. Thus, if I could point to harmony between the industrial environmental practices and elements in the discursive developments, it could point towards areas where many Polish firms might have the same kind of relations, although I can not quantify the number of firms.

Types of Relation

I do not expect to find a direct relation between the two studies, but I think the discursive development to some degree is reflected in the industrial environmental practices.

The lack of direct relation between the two studies is due to several issues. For one thing I find it naive to think that the discursive developments within the identity, industry, and environmental areas are the only areas affecting the industrial environmental practices. Other issues as the opinions of the neighbours, the networks the firm are connected to, ideas of essential employees, etc. might at least play just as big a role.

A time span might also exist between the discursive developments at national level and implementation at firm level. E.g. an environmental act passed in parliament would have to be implemented in the central environmental authorities, the regional, and maybe also the local environmental authorities, before it really has consequences for the firms to break the rules.

Finally, differences in interpretation might exist among all levels of central, regional, local authorities as well as within individual firms. The priority of an environmental problem on national level as e.g. lack of clean drinking water might have less impact in some regions as drinking water is no problem there, or the regional authorities see other problems as more important. Likewise, the individual firm might see other problems than drinking water as an issue for their production. Therefore, it would be a mistake to assume that the discursive developments would more than be reflected in the industrial environmental practices.

Methodological Considerations

The combination of the two studies is a bit of an act of balance. I combine results on very different levels with each other. That raises the questions of ecological fallacy and reductionism.

Ecological fallacy considers the danger of making claims about e.g. individuals when the unit of analysis based on the examination is a group (Babbie, 1995: 92). In my case this become vital in the combination of the two studies, for how could I claim anything about firms on basic of the analysis of the discursive developments. Despite, I conduct five case studies; they could not be said to represent the Polish firms. Thus, the claims of the analysis become an act of balance.

The question of reductionism, on the other hand, refers to over strict limitations on the kinds of concepts and variables to be considered. In my case this could relate to what could be said of firms' behaviour on the basis of the discursive developments.

1.3 The Structure of the Report

The report falls in two parts. The first part includes an introduction to the research (*1 Issues of the Project*) and an outline of the theoretical framework employed in the empirical studies (*2 Theoretical Inspirations* and *3 The Patchwork Model*). The second part contain the empirical studies, the cross-sectional study (*4 Industrial Environmental Practices*) and the discursive analysis (*5 Poland in the Interwar Period*, *6 Communist Poland*, and *7 Poland in the New Europe*) and the overall conclusions (*8 Concluding Remarks*).

1.3.1 Point of Departure

The Research Question

Chapter one, that is *chapter 1 Issues of the Projects*, deals with the overall research question and the design of the investigation. In this way it forms a fundament for the whole project. The rushed reader should at least read *1.1.3 Questions of the thesis*.

The Theoretical Framework

Chapter two, i.e. *2 Theoretical Inspirations*, briefly describes the theoretical sources of inspiration in the project, while chapter three, i.e. *3 The Patchwork Model*, develops the theoretical framework employed in the following empirical analyses. The third chapter also considers the methodological implications of combining the selected theoretical fragments, i.e. discourse approaches, institutional theories, and the specific SCOT model. The rushed reader might skip these two chapters.

1.3.2 Empirical Findings

The rest of the report contains the empirical analyses and the main conclusions. The findings of the cross-sectional study and the historical study are found in the respective chapter, while the main conclusions for the most part relates to the connection between the cross-sectional study and the historical study.

Cross-Sectional Study

The five case studies are analysed in chapter four, i.e. *4 Industrial Environmental Practices*. The first section relates to specific methodological considerations connected to the case studies, i.e. *4.1 Case Studies*. The next section analyses the individual firms, i.e. *4.2 Industrial Environmental Practices*; while the third and last section is the conclusion and discussion of the whole cross-sectional study, i.e. *4.3 Features of Industrial Environmental Studies*. The rushed reader could read paragraph *4.3.6 Findings of the Case Studies*.

Historical Analysis

The historical analysis covers three chapters covering the interwar period (*5 Poland in the Interwar Period*) the Communist period (*6 Communist Poland*) and the 1990s (*7 Poland in the New Europe*), respectively. The chapters are equally structured. The first three sections deals with the analyses of the discursive developments in the identity, industry and environmental area in the specific time period. Brief summaries of the findings are found in the paragraphs headed *Discursive Developments regarding...* Section four in each of these chapters includes the conclusions, while section five discusses the specific methodological issues. The rushed reader could read the paragraphs headed *Discursive Developments regarding...* as well as section four in each of these chapter.

Concluding Remarks

The last chapter, i.e. *chapter 8 Concluding Remarks*, of the report deals with the relation between the cross-sectional study and the historical study. The empirical findings are found in section *8.1 Empirical Findings*. The second section evaluates the employment of the theoretical framework, i.e. *8.2 Theoretical Findings*. The last section reflects on the overall methodology of the project, i.e. *8.3 Methodological Reflection*. The rushed reader could read section *8.1 Empirical Findings*.

1.3.3 Target Group

The target group of this work is twofold. The direct target group is the assessment group for the PhD thesis. More indirect and in a rewritten form the findings of the project might have interest of the Danish and European debate on aid for Central and Eastern Europe, as well as the Polish debate on future environmental policy.

My background as engineer along with my previous work with applied science in AKF have left me with a desire for revealing the policy implication of the findings on firm level. However, I have found it to be a tall order to actually deal with this issue inside the investigation, although I do not drop the perspective. The investigation of industrial environmental practices exposes among other things, how policy has supported and prevented environmental activities in the firms. This information I could use as a fundament for drawing perspective on what kinds of policy designs appear to support improvements in environmental performance in Poland.

2 Theoretical Inspirations

Theories are used in many different ways in social science. Babbie (1995: 40) talks about three functions of social science theories. Theories help us prevent our being taken in by flukes by insisting on answering the question why. As a result interesting changes in observations should not lead to proclaiming a new trend without explaining, how and why the factors supporting such a development can continue. Theories also help us to make sense out of observed patterns and to suggest other possibilities than the most obvious. On the other hand, theories can mislead us to fail to see valuable observations, because these observations are less important for an employed theory. Thus, it is an important task of every researcher to be aware of the limits of employed theory. Finally, theories can shape and direct research efforts to areas that will most likely have interesting phenomena to study. The negative interpretation of the last

statement is that theory-use leads to reproduction of existing knowledge, while the positive understanding, which I prefer, is that theories help to build studies upon already existing knowledge.

In this study I employ different theory fragments in a joined patchwork model. By patchwork model I mean a juxtaposition of concepts from different theories that in their interaction bring out a new approach as an alternative to employing the three different approaches separately. The focus of this study is the interaction between industrial environmental practices and discursive developments. However, these concepts are employed on different levels and described in different theories, therefore, I need a patchwork model combining the levels in order to describe interaction between them.

Many social science theories and analyses are carried out either on micro-level or on macro-level. According to Babbie (1995: 41) macro-theory deals with large, aggregated entities of society or even whole societies, while micro-theory deals with issues of social life at the level of individuals and small groups. This split-up is more complex than it appears at first sight. The interface between the two levels cannot be brought together by simple aggregation, as phenomena existing on macro-level, e.g. mass hysteria, cannot be refound on micro-level, in other words the entirety is more than the sum of the parts (Mortensen, 1991: 46). This project lives in the dichotomy between micro and macro approaches with an intention to unite the incompatible. I see the historical analysis as a macro approach that focuses on discursive developments at societal level, while the case studies of industrial environmental practice are taking place on micro-level.

In order to employ theoretical concepts, which operate on both micro- and macro-level, this chapter introduces three sources of theoretical inspiration, i.e. discourse analyses, institutional approaches, and the specific Social Construction of Technology (SCOT) model. The chapter is divided in three sections each devoted to one of the theoretical sources of inspiration. In the end of each section I discuss the specific elements of inspiration for the patchwork model developed in chapter three. The following chapter discusses the interaction of the three different sources of inspiration, i.e. chapter 3 *The Patchwork Model*.

2.1 Discourse Approaches

The field of discourse analysis is a mixture of many empirical and theoretical orientations covering from linguistic to societal analysis, and still, the majority of discourse analysts refer to Michel Foucault²⁴ in some way or another.²⁵ However, Foucault is a complicated theorist to use, as his work is not very methodical and it lacks a completed “life work” e.g. on theories of discourses. Foucault sees the overall focus of his discourse analyses to illuminate:

How discourses produced by the modern western society, which (at least for a period) are charged with the value of truth, relate to the different mechanisms and institutions of power.

(Foucault, 1976:14, own translation)

I sympathise very much with this overall goal, which implies that discourse analyses portray existing power relations in society and through this consciousness-raising investigation points out the possibilities of changes.

The study here promotes a methodological version of Foucault that combines a genealogical approach, which is represented by the historical analysis, and an archaeological approach, which is represented of the case studies, as persuaded by Niels Åkerstrøm Andersen (1994 & 1999). The combination of these two approaches enables the researcher to re-find discourse fragments of the historical analysis on micro-level in the case studies. The purposes of this section on discourses are to present the main concepts of discourse analyses.

2.1.1 Discourse Concepts and Dynamics

This paragraph presents some of the basic discursive concepts and dynamics. In this description I draw on the works of Ernesto Laclau and Chantal Mouffe²⁶. The motivation for this approach relates mainly to two issues. Firstly, the approach is developed for describing societal changes, which also is the intention for the historical analysis in this study. Secondly, this discourse approach, as all other discourse

approaches rests upon a social constructivist foundation (Jørgensen & Philips, 1999: 13). In this way it forms a good point of departure to investigate the actor-structure dichotomy.

Discourses and Phenomena

In very broad terms a *discourse* presents a specific way to talk about and understand the world or parts of the world (Jørgensen & Philips, 1999:9²⁷). In other words a discourse is an active constructed horizon of meaning and actions, making up the mechanisms, which define, delimit, and determine meaning in relation to a specific field of society (Thomsen and Andersen, 1996: 175). A discourse relates to the on-going streams of phenomena popping up in its surroundings by trying to include them in its existing knowledge system or, if they do not fit into the knowledge system, the discourse ignores them, giving them a status as non-essential (Jørgensen & Philips, 1999: 38).²⁸ The discourses exist in an everlasting effort to create unambiguity among the phenomena, establishment of such unambiguity is called closure (Jørgensen and Philips, 1999: 38).

The phenomena are both linguistic and non- linguistic (Thomsen and Andersen, 1996: 175), thus Laclau and Mouffe understand the discourses as material and from this follows that the physical world is entirely overlaid by the social (Jørgensen & Philips, 1999:46-47)²⁹. In this way a discourse is a connection between a number of phenomena, which linked together support the general view of the discourses (Laclau and Mouffe, 1985: 105). Any discourse is constituted around the crystallization of a privileged phenomenon in relation to which all the other phenomena are structured and gaining meaning. Such a privileged phenomenon is called a nodal point (Laclau and Mouffe, 1985: 112). The fixed structure among the phenomena within a discourse excludes diversities of interpretation of the included phenomena (Jørgensen and Philips, 1999: 37). However, a nodal point could be located in different discourses at the same time. In this case, the nodal point's different links to other phenomena would provide it with different meaning in the different discourses. Such a phenomenon, which is especially open for different interpretations of meaning, is called a floating signifier. A floating signifier denotes a possible point of discursive struggle of conclusively setting the meaning of the phenomenon (Jørgensen and Philips, 1999: 39).

The following example illustrates how a phenomenon is taken into a discourse if it fits the discourse's general view or ignored if it does not fit. Around 1947, Poland was still a liberal democracy, although

highly dominated by communist ideas (Millard, 1996: 96; Rothschild & Wingfield, 2000: 29). The Polish industry had been greatly damaged during the war (Lewis, 1994:40)³⁰ and in this situation two different views existed on the future societal horizon of Polish industry. The rebuilding of the Polish industry works as a floating signifier in this example. One discourse saw a future Polish industry building on a Soviet ideal with planned economy and emphasis on heavy industry. The other discourse saw a future Polish industry building on an American or at least Western ideal with market economy as the mechanism to point to central industrial sectors. In 1947, the Marshall Plan was launched. It was an American aid programme for Europe established to mainly rebuild Europe and expand trade (OECD, 2000a). To begin with Poland showed interest in the programme (Jensen, 1989: 18), but it had to redraw its interest as the split between the Soviet and Yugoslavian paths towards socialism developed (Rothschild & Wingfield, 2000: 127).

In a discursive perspective I would view the launch of the Marshall Plan as a phenomenon. The two discourses have different interpretation of the phenomenon. The *Soviet Model* discourse viewed the Marshall Plan as non-essential. It was just a “decadent” attempt from the Capitalist West to undermine the Communist dominance of Central and Eastern Europe. It had no relevance for the building up of a Polish industry, and therefore the discourse ignored the phenomenon. The *American Model* discourse viewed the Marshall Plan as an essential phenomenon as it would support its view on industrial rebuilding by the free trade phenomenon.

The Polish interest in the Marshall Plan illustrates that the *American Model* discourse had the strength to challenge the dominating *Soviet Model* discourse, although in the middle of 1947 the split between the Soviet and Yugoslavian was the starting point for Stalinism in Poland, which undermined the *American Model* discourse, and created a dominating *Soviet Model* discourse regarding the future societal horizon of Polish industry. Figure 2.1 below illustrates the two discourses’ relation to the phenomenon: the Marshall Plan in 1947.

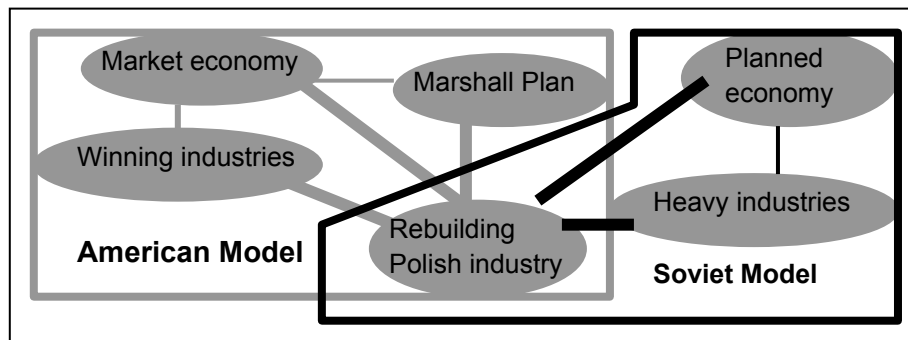


Figure 2.1: Relation between the phenomenon the Marshall Plan and the two discourses American Model and Soviet Model in Poland in 1947. The American Model discourse has included the phenomenon in the discourse, while the Soviet Model discourse has ignored it. The nodal point of both discourses is the phenomenon “Rebuilding Polish industry”, and thus it performs as a floating signifier.

The Never Complete Discourses

The main driving force in the continuous development of a discourse is the ambition of creating harmony among the phenomena arising in its surroundings, but the rising of new phenomena, which do not fit into the discourse, challenges the harmony. The harmony is sought re-established through articulation, which is any practice founding a relation among the phenomena that modifies their previous identity (Laclau and Mouffe, 1985: 105). Due to the continuous search for harmony, a discourse is always incomplete, never finally fixed.³¹ The discourse structure is never able to close over itself entirely. On the contrary the structures tend to break down from within, as they are never able to fix their phenomena in a fully solid relation (Åkerstrøm Andersen, 1999: 91). This incompleteness of the discourse structure is central as it brings room for unpredictability in the analysis.

Discourses have no God-given hierarchic order among them, however often hegemony³² could fix the relation among the discourses during a specific time period in a specific field (Jørgensen and Philips, 1999: 61). The never complete structures of discourses imply that all phenomena contain extra meaning than the one fixed in a specific discourse. This flexibility in understanding of phenomena instigates a competition among discourses to establish the future societal horizon of development so that it fits their knowledge systems.³³ Thus, the flexibility in meaning is the driving force behind the emergence of a

possible hegemony (Åkerstrøm Andersen, 1999:97). Once established, a hegemony discourse will force other discourses to relate to its understanding as essential. Hegemony is based on active consent and not open conflict. The broader and the deeper hegemony becomes, the more it appears as “the social order of society” (Thomsen, 1997:100).

In order to illustrate hegemony among discourses I will continue the tale of Polish industrial development in the late 1940s. In the middle of 1947, Stalin dictated the lines of developments in Poland to a higher degree than earlier (Lewis, 1994: 76). In this way the Soviet Model for industrial development became hegemonic. It could *not* be questioned in anyway, and all statements and actions had to take the views of the Soviet Model discourse into account. As time passed by the views of the Soviet Model became taken-for-granted. However, an important line of reasoning with the incomplete fixed discourse is the unpredictability. Thus, by the end of the 1960s, internal resources for extensive economic growth labour, raw materials and financial resources were becoming exhausted (Pavlínek & Pickles, 2000: 13). This opened for questioning and discussing the lines of developments determined by the Soviet Model discourse and thereby its hegemonic position was undermined.

2.1.2 People Construct Discourses – Discourses Construct Subjects

My understanding of the relation between discourses and individuals is highly inspired by the work of Berger and Luckmann (1966). The view of a societal discourse Berger and Luckmann call the objective reality.³⁴ The objective reality appears as an objective truth, which the different individuals relate to in different ways each creating a subjective reality. The objective reality is passed on to individuals through socialisation process, e.g. adoption of some general rules of how one should act in a given situation. In this ways humans are social constructed. On the other hand humans ascribe subjective meaning to the objective reality and on this basis subjective habits are built. The subjective habits are institutionalised and enrolled in the objective reality. It is in this way individuals construct society. Consequently, reality always has two sides: an objective and external side as well as a subjective and inner side. Figure 2.2 below illustrates the duality of reality for one single individual.

Berger and Luckmann (1966) discuss how one individual relates to the objective reality creating one subjective reality. However, just adding one individual more complicate the situation a great deal, and a whole group of individuals or a whole society will complicate the description extremely. Discourse approaches operating on macro level are often criticized for neglecting a concept like human agency. As actions, words and thoughts of human beings appear to be reduced to the level of by-products of bigger discursive entities of which we may be largely unaware, our hopes, desires and intentions become the products of cultural discursive structures, not the products of human agents (Burr, 1995: 59). I partly agree in this critique as discourse analyses operating on macro level tend to emphasis the normalisation processes for individuals brought about by discourses, while these approaches lack concepts to include the characteristics of the individuals, which make the individuals relate to the discourse in different ways. Instead the individuals are largely understood as a uniform cluster.³⁵

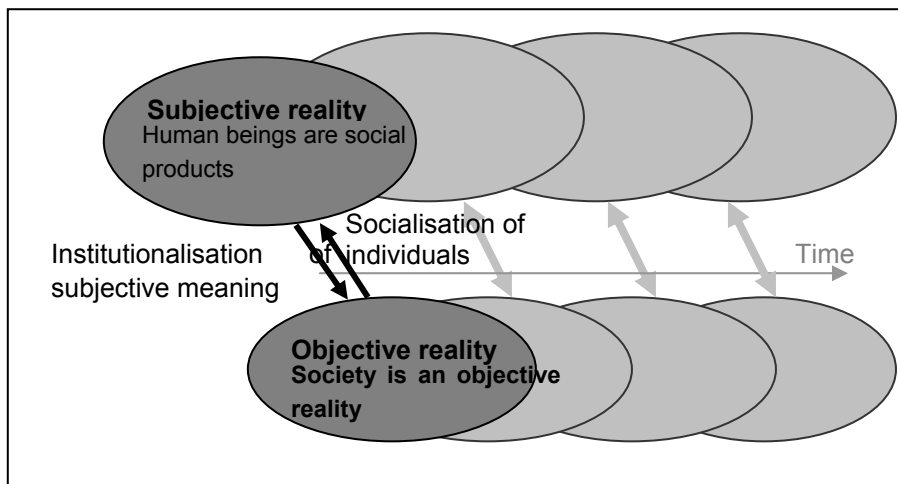


Figure 2.2: The relation between the objective and subjective realities for one individual. The light grey ellipse illustrates the dynamic nature of the objective and subjective realities, which by continuous interactions will develop over time. Deriving from Berger and Luckmann, 1966.

Subject Positions

The discourses socialize individuals in two ways, i.e. through subject positions and through the disciplinary processes. A subject position is

the roles prescribed different persons in relation to a specific discourse along with guidelines of actions, e.g. what is appropriate and what is not (Jørgensen and Philips, 1999:58). Due to the discursive origin, the subject position cannot be fully fixed (Laclau and Mouffe, 1985: 115). At the same time the individual is fragmented split over many subject positions in different discourses (Jørgensen and Philips, 1999:53). The individuals are constrained to fill out the openings in the structure of the discourse through the process of identification (Åkerstrøm Andersen 1999: 93).³⁶

Burr (1995) explains about discourses and identity:

“We can now say that our identity is constructed out of the discourses culturally available to us, and which we draw upon in our communication with other people. People’s identities are achieved by a subtle interweaving of many different “treads”. All these (and many more) are woven to produce the fabric of a person’s identity..... We are the end-products, the combination, of the particular “versions” of these things that are available to us”

(Burr, 1995: 51).

The following historical analysis operates on macro-level and leave out subjects as units of analysis. Thus the concept of subject position becomes nonessential. I have included the description here to illustrate the line of thoughts within discourse approaches.

Discourses *discipline* individuals to comply with the knowledge system available by a discourse with the help of different techniques of control. Among these are the ban e.g. in forms of taboos and rights, and self-control mechanisms, where the latter is the far-most reaching. Self-control mechanisms comprise the processes were we come to monitor and control our own behaviour according to the prevailing standards of “normality”. The self-control mechanisms expand their range today, as individuals freely subject themselves to the scrutiny of others (especially experts) and to their own self-scrutiny (Burr, 1995: 67-68).

I will illustrate the mechanisms of self-discipline by the Pozńan riot. In June 1956, after the death of Stalin in 1953, Poland experienced a riot protesting against shortages of food and consumer goods, bad housing, declining real income, shipments of commodities to the Soviet Union, inept management, waste, and bureaucratism (Rothschild & Wingfield, 2000: 151). However, yet none of the

protests questioned the communist regime, even though the critique indirectly points in that direction. At that time hegemony existed, which involved that remaining an independent Polish nation implied staying communist, and the non-challenge of this understanding is the self-discipline mechanism.

Empowering People

The concept of empowering³⁷ people is closely related to the Foucauldian power and knowledge relation. It is a concept of my creation in the discourse relation in order to underline the productive side of discourses, which in my eyes is often neglected for the more repressive mechanisms. Foucault understands power and knowledge as existing in a mutual immanent and productive relationship, it is the force creating the social (Jørgensen and Philips, 1999: 49).

Power is not something some processes and which other do not have. It is more than simply preventing or forcing others to do something (Darier, 1999: 17). Power is exercised in particular situations, and that is why it should be seen as a flow from below existing only on micro level in concrete situations. Power produces on one hand a habitable world and on the other hand it prevents alternative possibilities (Jørgensen and Philips, 1999: 49).

To illustrate this I will continue the discussion of Polish industrial development in late 1940s. After 1947, the followers of the Soviet Model discourse were empowered by the dominance of this discourse. Their statements and actions seemed suitable, as they were never questioned.

In a historical view change and stability in discourses become central concepts. Changes deal with ruptures in knowledge systems, i.e. new ways of communicating limits of a discourse and new characteristics of the discourse's limits. Stability deals with how "the old" is integrated and getting new value in the discourse after a rupture. (Åkerstrøm Andersen, 1994: 7) Thus, in contravention of the ruptures in history and thereby in discourse and deposited knowledge systems in institutions, new institutions always carry parts of the "old" institutions inside though it might be in a different form.

2.1.3 Discursive Elements of Inspiration

This paragraph briefly summarises the main concepts and ideas for inspiration in the patchwork model in the following chapter. The important concepts are italicised in the text.

Functions of Discourses

Discourses are structures of meaning among a group of *phenomena* crystallized around a *nodal point*, i.e. privileged phenomena. Discourses work as the glasses we look through in order to make sense of the continuous flow of new and challenging phenomena in the surroundings. The phenomena are both linguistic and non-linguistic. An arising phenomenon could be taken into a discourse and establishing an unambiguous connection to the nodal point by which it's meaning is fixed – a *closure* is established. Occasionally a phenomenon is open for meaning structure relating to different discourses, and then it is called a *floating signifier*.

Unpredictability

The structure among phenomena within a discourse is *never complete* as new phenomena continuously challenge the meaning structure of the discourse. Between the different discourses a societal consensus of meaning could freeze for a time periods, i.e. called *hegemony*. Again the structure is never complete parallel to the discourses.

Ambiguous Character of Discourses

On one side the discourses disciplines the individuals to think, talk and act in a specific way, e.g. through *disciplinary processes* as the ban and self-discipline. On the other side the individuals are *empowered* by the discourse, they make sense in ongoing happenings and provide the individuals with appropriate knowledge.

Limits of Discourse Approaches

In my eyes the central limit of the discourse approaches is that discourse approaches operating on macro level *lack concepts to understand individuals* as different than a uniform cluster. On the other hand, discourses approaches operating on micro level tend to give room for more differentiated understanding of individuals, but *only produce a fragmented description of macro developments*.

2.2 Institutionalism

The second source of theoretical inspiration is neo-institutional approaches emphasising cognitive elements of institutions.³⁸ Paul J. DiMaggio and Walter W. Powell (1991a) first defined the term Neo-institutionalism.³⁹ The main shared features of the so-called new and old institutionalism are scepticism towards rational-actor models of organisations and both emphasizes the relationship between the organisations and their environment. The difference of the two schools is expanded in *Appendix V Institutionalism and Neo-Institutionalism*.

The term institution is very ambiguous.⁴⁰ E.g. Scott (1995) presents the following omnibus definition of institutions:

"Institutions consist of cognitive, normative and regulative structures and activities that provide stability and meaning to social behavior. Institutions are transported by various carriers - cultures, structures, and routines - and they operate at multiple levels of justifications."

(Scott, 1995: 33)⁴¹

DiMaggio and Powell (1991a) define institutions as cognitive and cultural frames for explanations stressing ethno-methodological and phenomenological aspects. The core purpose of the institution is in either case to set the stage for social behaviour – making sense of the ongoing happenings of everyday life. Both definitions stress the importance of the cognitive aspect through whose glasses' norms and regulative aspects are seen. With departure in the core of the definitions above, institutions are in the following understood as frames for sense making. This section considers the connection between human agency and institutions, as well as transformation of institutions. The last paragraph of the section outlines the institutional elements of inspiration for the patchwork model in chapter 3.

2.2.1 Human Agency and Institutions

Institutionalist approaches emphasising cognitive elements of institutions work from a social constructivist set of assumptions. The "reality" to be investigated is then the product of individual consciousness - a product of one's mind. At the same time the construction processes construct the actors, no matter if they are

individuals or collectives. Thus, the actors are inseparable from the context in which they occur. The actors do not discover the world and its ways, but they always collectively invent the world - in their minds (Scott, 1995: 50). The relation between action and actors is twofold as on one side the actors is empowered by the institution and on the other side they are constrained. Åkerstrøm Andersen (1994) explains it in this way:

Firstly, the institution is productive creating positions from where individuals and collectives can see themselves as rational beings, who are capable of acting as if they were rational actors. Secondly, the institution is a restriction as it establishes rules of accept for who have access to the position from where they can act as a rational being, and it defines rules of accepts, for what it is to talk and act rational.

(Åkerstrøm Andersen, 1994:2)⁴²

A central critique of neo-institutionalist approaches have been that they focus so much on institutions that they do not present a conceptualisations of individual practice in social reality (Karnøe, 1997: 420). Many neo-institutionalists assume institutionalised rules such as ideologies, cultures, and norms highly singular homogenous and compelling for larger set of people than closer inquiry shows to be the case, both Karnøe (1997) and Zucker (1991) underline. Part of the reason for neglecting variation among people's understanding of institutions can be found in the unit of analysis. Often the unit of analysis is the collective pattern rather than the processes and actors who create the patterns.

Carriers of Institutions

Institutions exist as objective facts for the actors, despite the institutions are created by the actors themselves in the process of social construction of meaning. Consequently, institutions are constantly maintained, developed and embedded in various types of repositories. Scott (1995) identifies three general types of carriers of institutions, i.e. culture, social structure, and routines. The *culture carrier* primarily rely on interpretative structures and is understood as categories, distinctions and typifications all together a codified pattern of meaning. The *social structural carriers* rely on social pattern expectations connected to networks of social positions: role system.

Routines as carriers of institutions are forms of habituated behaviour, routines, and performance programmes. It is among these three repositories changes in institutions can be identified (Scott, 1995: 52).

2.2.2 Stability and Changes in Institutions

One consequence of the lack of appropriate conceptualisation of actors and their shaping of social practices and social reality in relation to the Neo-Institutionalism is that institutions are frequently considered very stable (Karnøe, 1997: 421). This delimitation is to some degree dissolved when looking at micro- and macro approaches of Neo-Institutional theories. In general, the micro-level approaches⁴³ emphasises the individual actors' and organisations' employment of institutions with focus on the specific social construction process and thereby highlighting the variances among actors and organisations. The institutions in this way become dependent of the organisation in which they are employed.⁴⁴

In general, the macro approaches⁴⁵ focus on universal patterns among organisations such as different recipes for management of organisations. These immaterial ideas of e.g. policy and management spread via speeches and texts throughout the world. In this observation the macro neo-institutionalism has a good point, however, the micro neo-institutionalism also have a good argument in pointing at the different organisations taking on these ideas in different ways. Empirical studies support this claim of more or less universal ideas with unique appearance in different organisations. E.g. Arthur Mol (1999) demonstrates how the understanding of Ecological Modernisation has different presentation in different national contexts (Mol, 1999: 177-178).

Lynne G. Zucker (1991: 85) has jet another explanation of difference between micro-level and macro-level of Neo-Institutionalism. She underlines that institutionalisation is both a process and a property variable. It is the process by which individual actors transmit what is socially defined as real, and at the same time, at any point in the process the meaning of an act can be defined as more or less taken-for-granted part of this social reality (Zucker, 1991:85).

One could say that the micro neo-institutionalism throws light on how the property variable, i.e. the content of the institution, through the process of social construction constantly is transformed and

maintained. On the other hand the macro approach to neo-institutionalism registers the “universal” characteristic of the property variable highly neglecting how institutions are transformed and maintained, i.e. the process variable.

Level of analysis

Institutions as frame of sense making are according to neo-institutionalism focused on macro issues not individual but collective shared and increasingly becoming universal⁴⁶, while neo-institutionalism focused on micro aspects tends to give more room for variances among institutions in organisations.⁴⁷

In this thesis I combine the macro- and micro-approaches, and by doing so I apply different aspects of the concept of institutions. Scott (1995) operates with six levels of analyses divided from exiting empirical studies in the field of institutionalism. The levels are described in figure 2.3 below.

Level of Analysis	Explanation
World system	Universal features of institutions in the world
Societal	Universal features of institutions in a society
Organisational field	Institutions in an industrial system
Organisational population	Institutions in similar organisations, e.g. in one industrial sector
Organisation	Institutions in one organisations
Organisational subsystem	E.g. institutions in a division

Figure 2.3: Varying levels of analysis. Source: Scott 1995: 59.

Some of these levels overlap more or less each other, and the list cannot purely be understood as a hierarchic order. The main point is to be aware of which level one is operating on.

2.2.3 Institutional Elements of Inspiration

This paragraph briefly summarises the main concepts and ideas for inspiration in the patchwork model in the following chapter. The important concepts are italicised in the text.

Function of Institutions

Institutions are frames of sense making facilitating the actors in the process of making sense in the ongoing events in the surroundings. The institutions are carried by *carriers* in form of codified patterns of meaning, role systems and performance programmes. The institutions on one hand creates positions from which the actors can see themselves as rational, but on the other hand these position are embedded in rules for acceptance. The institutions then both *empower and constrain* the actors.

Limitations of Neo-Institutionalism

Institutionalisation is both a *process and a property variable*. The *micro approaches* emphasise the content of the institution through the *process* of social construction by which the institution constantly is transformed and maintained. On the other hand, the *macro approaches* to neo-institutionalism register the “universal” characteristic of the *property* variable highly neglecting how institutions are transformed and maintained, i.e. the process variable

2.3 Social Construction of Technology

The Social Construction of Technology (SCOT) model is the last source of inspiration. Contrary to the fields of discourse theories and neo-institutionalism this is a very specific theoretical model. It was developed in order to illuminate the multi-directed lines of developments of technological artefacts by utilising the model in historical analyses. I will not use the model directly in this work but seek inspiration in some of the terms and methods of the SCOT model, especially in the analysis of industrial environmental practices in Polish production firms. The chapter briefly describes the central elements of the SCOT model.

2.3.1 Overall Objectives of the Approach

A theory is like all other things a child of its time and context - this is also true for the SCOT model. In the middle of the 1980s the first stones of the model was laid with the early version of the bicycle case. The main purpose was to verify the multi-directed development of technical artefacts and at the same time underline the social construction of these artefacts. The purpose was basically the same in Bijker's book from 1995 on the development of bicycles, Bakelite, and electrical bulbs, where he also improves the theoretical approach⁴⁸. This book is also the main source for the description in this section. Below, I briefly present the objective of the SCOT approach as described by Bijker, and the main concepts of the approach. However, concepts of a theory are not neutral stones one can build together in any random pile. Within the concepts are embedded values and objectives connected to a specific empirical field. The intention of this paragraph is to examine these values, objectives, and empirical fields in order to discuss their implications for my adoption of concepts from the SCOT approach into a patchwork model.

Technology and Society

A central issue in the field of science-technology-society is the issue of social shaping of technology and the technical shaping of society. This is also a central issue for Bijker (Bijker, 1995: 3).⁴⁹ These two sides of technology and societal development are interlinked and inseparable. Bijker speaks of the seamless web of social and technical. Thus, no a priori choices exist regarding the technical or the social character of the development (Bijker, 1995: 15).⁵⁰ Embedded in Bijker's theoretical framework exists a sensibility towards both the technical and the social characters of a development without any being a priori dominant. I consider it a force that no issue in the analysis a priori has dominance.

The Linear Model of Technical Development

The objective of the SCOT model is to integrate case studies of technological development with theoretical generalisations and political analyses in order to understand the relation between technology and society, and to act on issues of sociotechnical change (Bijker, 1995: 5-6). An explicit objective of Bijker's work is to avoid

any implicit assumption of linear development of technical development (Bijker, 1995: 5). This is one of the places where he is arguing against positivist scientists without explicit mentioning it.

Bijker introduces the principle of symmetrical analysis of technical development, i.e. an analysis that includes both failures and successes. In doing so, he underlines the multi-directed development of technology (Bijker, 1995: 7-9). He sees technical development as a kind of trial and error model, where artefacts, which failed in the beginning, might form a departure for later success. A symmetric analysis of technological development opens for explanation of social acceptance of an artefact as the issue making it a success rather than its working or not.

Even through I am working with industrial environmental practices and not technological development the principle of looking at both failures and successes might be beneficial in my analysis. The reality as we see it is coloured by the present, thus the failures of the past is explained in the light of the present.

2.3.2 Concepts of the SCOT Model

This paragraph briefly presents some of the central concepts of the SCOT-model, i.e. the relevant social group, the artefact, definition of problems and solutions, the interpretative flexibility of the artefact, closure and stability, the technological frame, and actors' inclusion into it, and finally concepts of power.

The Relevant Social Group

Bijker does not operate with a typical actor concept, but what he calls *relevant social groups*. The relevant social groups are the social groups relevant for the actors (Bijker, 1995: 41), and methodologically they are found by asking each interview person, who are the relevant actors for the study of development of this specific technical artefact, and subsequently interviewing these people and asking the same question, the so-called snowball method. Thus, ontologically the groups exist as categories in people's heads – it is an “actor's category” (Bijker, 1995: 48). However, it is also an “analyst's category” (Bijker, 1995: 48), as it is the job of the researcher to reveal the missing groups, i.e. the groups which might have influence indirectly, e.g. the non-users of a machine. Thus, Bijker (1995: 49) does not advocate for a simple identity between the researcher's and the actor's categories of relevant social group.

In my eyes he makes a logical choice of method for a social constructivist as merely identifying the relevant social group by the snowball method might exclude non-privileged groups, which is an integrated part of societal development that might influence the development of a specific artefact. Also in a social constructivist approach the stories told differ depending on the storyteller.

The relevant social group is Bijker's point of departure in the analysis, thus he seeks to avoid the analysis to be dominated by structural elements. The relation between individuals and the relevant social groups is ambiguous, thus, an individual is not bound to one relevant social group but could be the member of many relevant social groups (Bijker, 1995: 139).

Artefact, Problems and Solutions

The point of departure in the SCOT model is the relevant social groups, and the relevant social groups are those who relate to a specific invention in focus the *artefact*, e.g. the bicycle or Bakelite.

The focus on problems and solutions is preferred as it enables the researcher to investigate the process in disturbances by which you learn more of the hidden properties and processes than only looking at the stable system (Bijker, 1995: 50). E.g. to look at different understandings of what problems and solutions attached to the development of the bicycle tell us more of the bicycle, than to look at it as the mean of transportation it is today.

Each relevant social group has its interpretation of the artefact, along with specific understandings of which problems and possible solutions are attached to the artefact. Bijker (1995: 46) calls for a "follow the actor" methodology in the analysis, i.e. a method of following the different relevant social groups' understanding of the artefact, problems and solutions attached to it.

Interpretative Flexibility

The different social relevant groups do not only interpret the invention in focus, e.g. a bicycle, in different ways, the artefact actually represent different artefacts for the different groups. Bijker puts it this way:

Relevant social groups do not simply see different aspects of one artefact. The meaning given by a relevant social group actually *constitutes* the artefact. There are as many artefacts as there relevant social groups; there are no artefact not constituted by a relevant social group.

(Bijker, 1995: 77)

Interpretative flexibility then is the degree of flexibility in the interpretation of an actual invention. In the case of the bicycle Bijker identifies two different artefacts linked with the first bicycles. For the non-users it was an “Unsafe bicycle” and therefore a non-working machine. For the users (young men of means and nerve) it was a Macho Bicycle working to show of their capability for the ladies. These two artefacts are hidden inside the same machine of steel, wood and rubber. The process of finding such hidden artefacts related to different relevant social groups is a process of deconstructing the artefact (Bijker, 1995: 76).

Closure and Stabilisation

Where the concept of interpretative flexibility is a concept in the deconstruction of an artefact, closure and stability illustrate the construction of an artefact (Bijker, 1995: 84).

In the period of early bicycle design the interpretative flexibility was big as several numbers of artefacts were hidden in the invention. Then the interpretative flexibility declined as consensus was created *among* the relevant social groups on the understanding of the invention. This consensus ended earlier controversies, e.g. by rhetorical closure mechanism or redefinition of the problem decreases the interpretative flexibility and increases the degree of closure. The process of closure is almost irreversible – almost, but not completely (Bijker, 1995: 84-86).

Where closure deals with the controversies between different relevant social groups, stabilisation deals with the debate *within* a relevant social group. E.g. inside the relevant social group of bicycle producers a debate exist on the problems and their solutions in connection with the bicycle.

Technological Frame and Inclusion

Bijker (1995: 123) introduces the concept of *technological frame* to describe the structures framing the actors within a relevant social group.

A technological frame structures the interaction among the actors in a relevant social group. Thus it is not an individual's characteristic, nor a characteristic of systems or institutions; the technological frame is located between actors, not in actors or above actors. A technological frame is built up when interactions "around" an artefact begins. Existing practice does guide future practice, though without local determination. If existing interactions move members of an emerging relevant social group in the same direction, a technological frame is built up; if not, there will be no frame, no relevant social group, no future interactions.

(Bijker, 1995: 123)

Bijker sees his concept as an analogy to Kuhn's disciplinary matrix, however the technological frame is more heterogeneous, including elements as goals, key problems, problem-solving strategies, requirements to be met, problems, solutions, current theories, tacit knowledge, perceived substitution function, and exemplary artefacts (Bijker, 1995: 123-126).

An actor of a relevant social group can be more or less structured by the technological frame. Bijker (1995: 143) speaks of the degree of inclusions - a many dimensional concept as there are many elements in the technological frame, where an actor might have different score of inclusion.

Concepts of Power

Bijker (1995: 263) introduces two concepts of power, i.e. semiotic power and micropolitics of power. The semiotic power represent the fixity of the meanings e.g. regarding the understanding of an artefact, while the micropolitics of power relates to the disciplining power of framing actors in specific practice and theoretical lines of thoughts. The semiotic power is linked to the process of closure among relevant social groups while the micropolitics of power is linked to the process of stabilisation within a relevant social group.

Opposite many of the other terms in the SCOT model, the power concepts are less unfolded in the empirical analysis, and therefore the ideas seem additional to the model.

2.3.3 Elements in the Theoretical Framework

This paragraph briefly summarises the main concepts and ideas for inspiration in the patchwork model in the following chapter. The important concepts are italicised in the text.

The Actors

Relevant Social Groups (RSG) are groups that have an opinion of the *artefact* in focus along with the groups the researcher finds relevant, e.g. non-users. These groups are identified by *the snowball method*. The researcher distinguishes between each relevant social group's *understanding* of the artefact over time and the *problems and solutions* attached to this understanding. This is called *follow-the-actor method*. The map drawn of understandings, problems and solution attached to an artefact for the different relevant social groups, makes a focus on differences among the relevant social groups.

Structural Elements

The relevant social groups are attached to the different *technological frames*, which are parallel to Kuhn's paradigm concepts. The different groups can be more or less structured by the technological frame. Bijker talks of degree of *inclusion*.

Social Construction of Technology

The social construction process emphasizes both later success and failures and do not beforehand point to social or technical factors as the most important. During the discussion among the different relevant social groups along with the development the artefact consensus of the meaning of the artefact might arise. Bijker calls this *closure*. Closure is almost irreversible, but not completely.

3 The Patchwork Model

This chapter gathers elements of the three sources of theoretical inspirations into a theoretical framework designed for the historical analysis and the case studies. The three theoretical inspirations are discourse approaches, neo-institutionalism, and the SCOT model described in the previous chapter.

The first section below deals with the similarity and differences among the three sources of theoretical inspirations and how I tackle these issues in the theoretical framework. The two following sections outline the specific theoretical framework for the historical analysis and the case studies, respectively. Finally, the last section discusses methodological issues of the patchwork model.

3.1 Coupling the Three Approaches

The three approaches all have a social constructivist point of departure, however, they understand the social construction in different ways, see also the last section in this chapter 3.4 *Methodological Considerations*. In the following I highlight three issues, i.e. similarities in the social construction processes, the structure surrounding the social construction processes, and the level of analysis.

3.1.1 Social Construction Process

The three different theoretical inspirations all have a point of departure in social constructivism; however, they construct meaning, sense making, or understanding in relations to different items, see figure 3.1 below. Even though, the three approaches have different vocabulary for the signification attached to the items, the connotation is pretty much the same. In the following I use the term construction of *understanding* as equivalent to construction of meaning or sense making.

	Social Construction of..	Similarities & differences
Discourse approaches	Meaning of phenomena	All social construction of understandings in relation to up-popping things, although different things
Neo-institutionalism	Sense-making of ongoing happenings	
SCOT-Model	Understanding of artefact and attached problems and solutions	

Figure 3.1: Social constructions of understandings in the three different theoretical approaches.

Phenomena and Artefacts

The discourse approaches construct understandings of new or challenging phenomena in relation to an already existing structure of understanding. The phenomena are both linguistic and non- linguistic. Thus, the structure of understanding in a discourse is not only a relation among ideas it is also including physical phenomena as e.g. technology and organisation. The social construction of understanding

in relation to a phenomenon makes the phenomenon come into existence for that specific discourse. The neo-institutionalism approaches study cognitive institutions, which are constructed over time. Thus, these approaches focus entirely on the construction of ideas. We are only able to understand these ideas through the social constructions. Finally, the SCOT approach constructs artefacts, i.e. physical items. The physical items are only understandable through the social constructions and different social constructions of the same physical item results in different artefacts. In this manner, a discrepancy exists among the three approaches regarding whether the construction is regarding entirely physical items, or cognitive items, or a mixture of these. In the following I adopt the approach of the discourse approaches, accordingly a mixture of physical and cognitive items are constructed in the process. I also adopt the discourse vocabulary, thus *phenomena, which are both physical and cognitive items*, are made understandable through social construction processes.

The reason for this preference relates to the problem of relativism, which is an often-heard critique in relation to social constructivism (see e.g. Elam, 1998: 69; Collin, 1998: 42; and Bertilsson, 1998: 21). Shared by all social constructivist approaches is a critical stance towards taken-for-granted ways of understanding the world (including ourselves). This is an invitation to be critical of the idea that our observations of the world unproblematic yield its nature to us. Pictures of the world are not reflections of the reality “out there”, but instead products of our way of categorising the world, and more fundamental, the reality is only assessable through categories. Therefore, our knowledge of the world is not an obvious truth, but historical and cultural specific (Burr, 1995: 3). However, the critics object in the fields of scientific knowledge known and documented scientific “facts” exist and these facts must be truer than radon social constructions (Collin, 1998: 44-46). I find the discussion a bit misleading; Actors relates to their understandings of knowledge and act upon it, whether or not it is scientifically proved knowledge seem less essential in this connection.

The so-called problem of relativism above refers to a discussion of whether the nature is real, which is what the ontological approach to social constructivism rejects. However, for the epistemological approach social constructivism is a methodological aim. Instead of *a priori* giving scientific knowledge or economic relations a decisive position in an analysis, the social constructivists claim that all

knowledge in the starting point should be treated equally then subsequent the analysis will reveal the dominant knowledge in that specific context.

Despite with my social constructivism point of departure, I do not reject the existence of the physical world, although I see it as entirely overlaid by the social. Still, the physical world limits the way we can social construct items. E.g. a house does not become a flying machine even we believe it is able to fly. In order to catch these dilemmas I include both physical and cognitive items in the social construction process. In this way I adopt an enlarged interpretation of Bijker's (1995: 15) ideas of the seamless web of social and technical, see section 2.3 *Social Construction of Technology*.

3.1.2 Framing the Process

The three approaches all operate with a kind of frame setting the stage for any social construction process. The discourse approaches have the discourses, the neo-institutionalism has institutions, while the SCOT model has technological frames. The function of these concepts are basically the same, they represent pre-constructed understandings on which foundation the social constructions are made. In the following I briefly discuss the dynamics of these frames and their carriers.

Frame Dynamics

Development of discourses is generated through the search for a complete defined relation among all phenomena. The almost complete relation is continuously challenged by new and objecting phenomena in the surroundings and therefore the completeness is never complete. The discourses are organised around a privileged phenomenon, a nodal point, which all phenomena in the discourse relate to.

The neo-institutionalism has a more vague idea of the dynamics of institutions. People draw on them and are restrained by them, and in this process they are transformed and maintained, but beside that no driving force is involved.

The SCOT model employs technological frames for structuring the social constructions. Technological frames are parallel to Kuhn's paradigms, thus more relevant groups could be attached to the same technological frame. The relevant social groups could also be more or less included in the technological frame. These different positions of the dynamics of the different types of frames in the three different theoretical sources are outlined in figure 3.2 below.

Regarding the dynamics of frame, the three approaches are somewhat different. Even though all social constructions occur on the background of some kind of frame, it is only within the discourse approaches that a specific driving force preserves the frame, namely through the search for a complete relation of understanding among the phenomena.

The neo-institutionalism approaches do not have a driving force that keeps the institutions together. It is assumed that they are maintained as well as transformed as they are employed in the social construction processes. Internal inconsistencies within the institution or challenging views from outside are not issues discussed among the neo-institutionalism approaches. The cognitive institutions are just assumed to be there.

Technological frames of the SCOT model are also just there, with the possibility of the actor draw on them in higher or lesser degree. Possible driving forces keeping the technological frame together are out of the scope of the model.

	Dynamics of frame
Discourse approaches	Maintain unambiguity among the phenomena within the discourse – search for complete relation
Neo-institutionalism	People maintain and transform institutions as they draw on the institutions in their reactions to on-going happenings
SCOT-Model	Social relevant groups draw on the technological frames in higher or lesser degree depending on their inclusion

Figure 3.2: Dynamics of the frames in the three theoretical approaches.

I find the explanation of the discourse approaches powerful, as it gives the discourses an internal logic that goes beyond the incidental different pressures that form the development of a discourse.

Carriers of Frames

The three theoretical approaches all see the frames as relating to understandings guiding future understandings and actions. However, especially the neo-institutional approaches work with different types of carriers that preserve the institution. The first carrier is the understanding, the second role systems, and the third is practice, see also section 2.2. *Institutionalism*.

Through these carriers the understandings of a discourse are build into organisations, legislation, and other items, which then assist in preserving the discourse. Therefore parts of a discourse consist of previous understandings embedded in organisations, legislations or other items, which were constructed earlier. I only talk of parts of the discourse as other discourses might also have their carriers embedded in e.g. the organisation. In this way, organisations, legislations and other items become the carriers of earlier discourses. I find the idea of carriers convincing and will therefore employ it in the patchwork model.

3.1.3 Level of Analysis

The three approaches have many similar concepts, however, the focus on three different levels of analysis are also notable. On micro-level the SCOT model ties the analysis closely to a specific technological artefact operating on the level of organisational field, organisation, and sub-organisation. However, the approach also touches broader issues especially through the concept of technological frame. Neo-institutionalism is a broad set of different approaches all focusing on social construction of institutions on all levels from world systems to local institutions in small groups, although each approach usually concentrates entirely on one of these levels. Finally, the discourse approaches mainly focus at world systems or societal levels, but a concept as subject positions points also towards the individual analysis level. Figure 3.3 below illustrates the main level of analysis for the three theoretical inspirations.

Not only are the three sources of theoretical inspirations mainly focusing on different levels, also my empirical analysis operates on different levels. The historical analysis primarily focuses on the Polish society developments, while the analysis on the five case firms operates at organisation level. Therefore, I apply the discourse approaches combined with the neo-institutionalism approaches for the historical study and mainly the SCOT model along with the neo-institutionalism approaches for the case studies. Nevertheless, it is important to think all three inspirations sources into both parts of the empirical analysis in order to make a consistent relation between to two parts. In the next two sections I develop the Patchwork model, which works as a theoretical framework for the empirical analysis.

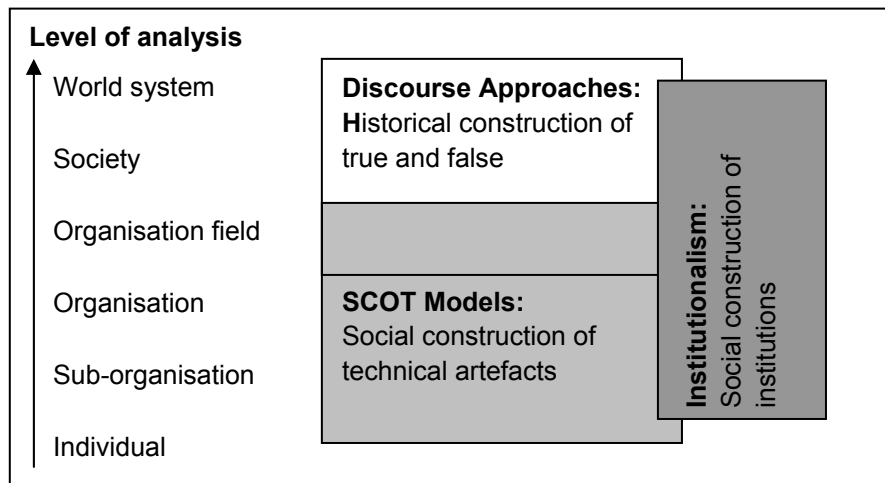


Figure 3.3: The main level of analysis in the three theoretical inspirations for the theoretical framework.

3.2 Theoretical Framework for the Historical Analysis

The main research question of the thesis was: “How do industrial environmental practices in Polish industrial firms relate to Polish discursive developments within the identity, environment, and industry areas?” On this background the historical analysis should reveal the Polish discursive developments in the identity, industry, and environmental areas. In the following I deal with how the theoretical concepts of the historical analysis will be applied.

3.2.1 Discursive Developments

In the main research question I use the concept *discursive developments*, and this raises the question how the discursive developments relate to discourses. I want to underline the word *development* as my focus is on the development of different discourses over time. In this way, the focus becomes the dissimilarities among different discourses rather than the inner logic of the specific

discourse. I have chosen to emphasize controversies between the discourses as disagreements reveal more of the nature of a system than stability. This argument is parallel to arguments for looking at problems and solutions in the SCOT model; see section 2.3 *Social Construction of Technology*.

Identifying Discourses

Discourses are active constructed horizons of meaning and actions, which structures the relation among phenomena in a specific field. In the following analysis I look for controversies and out of these controversies I identify the different discourses. In this way, the phenomenon the discourses struggle to assign meaning to (the floating signifier) become the nodal point of the discourses, i.e. the privileged phenomenon to which all the other phenomena have to relate. The controversies will primarily have forms as opposite meanings, these different meaning I understanding as assignment of meaning possible even to the same phenomenon.

Discourses are categories of the researcher and not physical structure to be found in exactly the described form in “reality”, although this does implicate that the discourses are without connections to the empirical world. Consequently other researchers might have laid other lines in a discourse analysis of the same period.

3.2.2 Power Relations Among Discourses

The focus on controversies inevitably lead to description of more than one discourse, thus the power relation between the discourses becomes important.

Institutionalising Discourses

Discourses are always embedded in time and space, however, building up organisations as ministries or industries, settles features of the discourses within the organisations. In this way, institutions appear as conserved discourses, or at least preserved fragments of discourses as different discourses might be embedded in the same institutions.

The institutions are carried by codified patterns of meaning, role systems, and performance programmes, see section 2.2. *Institutionalism*. I interpret the first carrier, i.e. codified patterns of meaning, as targets and aims embedded in a organisation, as the target and aim represent the objective and purpose of e.g. an organisation. The second carrier, i.e. role systems, are interpreted as the divisions

within the organisations all having different role and relations. The third and last carrier, i.e. performance programme, is interpreted as the practice of the organisation, e.g. embedded in procedures and guidelines within an organisation, see also figure 3.4 below.

Carriers of institutions in the historical analysis	
Meaning	Targets and aims e.g. embedded in an organisation
Role system	The divisions within e.g. the organisations all having different role and relations
Practice	E.g. embedded in procedures and guidelines

Figure 3.4: Carriers of institutions in the historical analysis.

These three carriers of institutions are points of focus in the analysis of organisations as including a conservation of features belonging to a specific discourse at a specific time and space. The phenomena structured by meaning in a discourse are not just linguistic, and therefore I understand institutions as phenomena in the discourses.

Hegemonic Constellations

Hegemony describe the power relations between different discourse at a given time and space, especially the situation where one discourse is dominating society or a specific field. In such a situation a kind of “consensus” is created in the field or society. Consensus is not meaning that everyone agrees, but a great part of the population accept and support the general view, and people arguing against are not taken serious, they are neglected in the public debate.

The word hegemony is somewhat tricky to understand, as it seems to lack the subject of what is hegemonic, therefore I in this study uses the term *hegemonic constellation*. It is a constellation established between institutions and discourses with same consequences as hegemony in discourse relation. By the word constellation I want to underline the temporary aspect of the hegemony, something never finally fixed.

3.2.3 Main concepts in the Historical Analysis

The main conclusions regarding the theoretical framework for the historical analysis are summarised in figure 3.5 below.

Historical Analysis		Elements in the analysis
Guidelines for historical analysis	Controversies as point of departure for identifying different discourses	Polish identity: What are the worries for Polish identity and how to solve these problems Industry: What is industrial problems and how to solve such problems Environment: What is environmental problems and how to solve such problems
Discourses	Active constructed horizons of meaning and actions, which structures the relation among phenomena	Phenomena to look for: Meanings Institutions (and their relations)
Institutions	Contain fragments of conserved discourses from the time they were constructed carried by institutional carriers	Carriers: <ul style="list-style-type: none"> • Target and aim of the organisation • Divisions in the organisation • Practice within the organisation
Hegemonic Constellations	“Consensus” in field or society supported by constellation of discourses and institutions	Consensus, issues not questioned

Figure 3.5: Fundamental concepts in the historical part of the analysis.

3.3 Theoretical Framework for the Case Studies

The case studies reveal industrial environmental practice within the five case firms in relation to specific environmental projects; see also section *1.1 Scope of the Thesis*.

3.3.1 Industrial Environmental Practice

The objective of the case studies is to reveal industrial environmental practices within the five case studies. The broad definition of industrial environmental practices is the practices relating to a firm's usually actions related to the environmental area. However, such a broad definition is impossible to apply directly in the analysis. In order to make the concept more operational I employ the institutional carries, see also section 2.2. *Institutionalism*.

These carriers of institutions are the points of departure in the analysis of industrial environmental practices. In relation to environmental projects at the individual firms I see the construction of environmental problems and solutions as the way to create *meaning*. This definition follows the focus in the SCOT cases and opens the possibility to focus on controversies.

The *role system* refers to images of how to organisation of the project. Such images are reflected in the way the firm organise the project in relation to the outer world, e.g. the divisions involved in cooperation.

The *practice* element refers to the routines surrounding the environmental projects within the firm. This element connects to the internal organisation of the environmental projects within the firm and the way to follow-up on the individual environmental projects. In other words the element of practice describe the degree to which the environmental projects lead to new routines, see figure 3.6 below.

Carriers of industrial environmental practices in the case studies	
Meaning	Construction of environmental problems and solutions
Identity Forms	Project organisation in relation to the external environment
Practice	Internal project organisation and follow-up activities

Figure 3.6: Carriers of industrial environmental practices in the case studies.

These institutions exist within the individual firm, but they could reflect institutions outside the firm, as environmental legislation and economic conditions.

3.3.2 The Actor

The SCOT model makes a case of taking the point of departure in the actor in order to give emphasis to the agency instead of focusing on the restrictions of possible actor behaviour, see section 2.3. *Social Construction of Technology*. I have sympathy with this approach as the SCOT cases illustrate new sides of technological developments compared with the conventional histories of technology. Therefore, the actor is also the ideological point of departure in my analysis of industrial environmental practices.

In the SCOT-model, Bijker employs a “follow-the-actor” methodology. Thus, he follows the different understandings of actors over time. Even though it is risky to build on what persons remember they meant, said and did earlier, that will be the point of departure for the case studies. In order to deal with this uncertainty I connect the interviews closely to actually environmental projects.

The actors in the analysis are the individuals involved in an environmental project. However, I assume that these actors represent more than just their individual story of a specific environmental project; they also reflect the firms’ understanding of environmental problems and solutions. The environmental projects are located within the framework of the firms, and one might assume that these set out the guidelines for the projects, and in this way the individuals also reflect the idea of the firm. However, the actor’s view might also reflect many other things, e.g. personal interests, specific Polish views, or regional views. I am aware of these uncertainties in the interview data.

The question is then how to approach the analysis of industrial environmental practices. My supposition is that the actors are those persons involved in an environmental project at a firm. It is individuals but I assume that their views reflect part of the firms understanding.

3.3.3 Social Construction of Environmental Projects

At each production firm I focus on environmental projects, which are a process of unbroken activities dealing with the same issue, e.g. reduction of chemicals in wastewater. The environmental projects are studied with focus on the process, from the moment the idea showed

up to the follow-up activities. Central are also the actors involved in the environmental projects and their position and tasks. Figure 3.7 below lists the main question in relation to an environmental project.

Main question asked in relation to an environmental project
<ul style="list-style-type: none">• Why did that the firm begin on this environmental project? (initiating event)• Which environmental activities did take place? (focus on environmental problems and solutions)• Who was involved? - and what was their tasks? (actors and tasks)• What was the result of this environmental project? (Outcome – quantitative and qualitative)• How did you follow-up on this environmental activity? (continuity)• How has the process influenced future environmental projects in this firm?

Figure 3.7: Main question asked in relation to an environmental project.

The purpose of this investigation is to reveal possible industrial environmental practices at the five individual firms. The approach is parallel to the SCOT model's focus on artefact and uncovering the processes of development connected to the artefact. I uncover the developments connected to the environmental projects at the case firms.

3.3.4 Main Concepts in the Case Studies

Figure 3.8 below summaries the main concepts of the case studies.

Case Studies		Elements in the analysis
Area of research	Environmental projects	Organisational level
Guidelines for case studies	Industrial environmental practices	Carried by: <ul style="list-style-type: none"> • Problems & solutions • External relations • Internal organisation
Actor	Interview persons tell stories of specific environmental projects	Through which meaning, role systems and practice is identified
Environmental projects	Specific environmental episode at the case firm	Centrum for the analysis parallel to the artefact in the SCOT model

Figure 3.8: Fundamental concepts in the case studies

3.4 Methodological Considerations

This section considers the consistency of the patchwork model, regarding especially the relation to theory of science and how the two parts of the empirical analysis connects.

3.4.1 Point of Departure

In section 3.1 *Coupling the Three Approaches* I attached importance to the social construction of the three theoretical sources of inspirations, i.e. the discourse approaches, the institutional approaches and the SCOT model. A main point was that the approaches construct different things, from entirely physical items to entirely cognitive items. However, another aspect is the theories point of departure to theory of science. In this discussion I relate to the two concepts of

ontology and epistemology. Ontology is the way the theories comprehend the nature of reality; and epistemology is the way the theories suppose to study the reality.

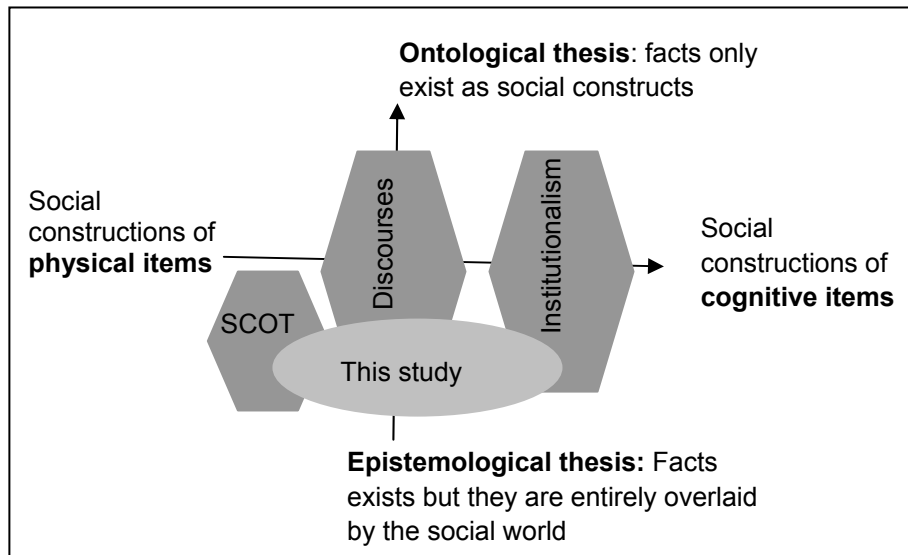


Figure 3.9: Inspired by Collin (1998: 41) the figure distinguishes between different forms of social constructivism, by their radicalism of social constructivism (ontological to epistemological thesis) and the social constructions of physical or social items.

Figure 3.9 above illustrates one way to distinguish between different forms of social constructivism inspired by Collin (1998: 41). Collin (1998) classifies a scale of social constructivism running from epistemological thesis and to ontological thesis. The epistemological thesis refers to an understanding of facts as depended on social factors, while the other extreme, i.e. ontological thesis, sees facts as entirely social constructed. Thus, the epistemological thesis perceives the reality to exist outside our social construction, although we can only reach it through social constructions. The ontological thesis distrusts the existence of a reality outside our social constructions.

The SCOT approach relates more to the epistemological thesis emphasising the technical artefact as a fact but always embedded in social issues. The discourse and institutionalism approaches consist of different approaches, which cover almost the whole scale. I take the point of departure in the understanding of the physical world as existing but totally overlaid by social interpretations. In this way my

approach to discourse and institutionalism approaches is in line with the SCOT model regarding the level of social constructivism.

The empirical field studied differ a lot between the SCOT model and the discourse and neo-institutionalism approaches. The SCOT model studies physically phenomena of technological artefacts, while most discourse approaches studies social phenomena. However, the approach I have taken includes construction of physical items. The neo-institutionalism approaches focus entirely on cognitive constructions, nevertheless the institutional carriers are embedded in physical items, e.g. as organisations. On this background, my approach applies the discourse and institutional approaches to the physical world to a higher degree than usually is the case, but to a less degree include the physical world than the SCOT model does.

3.4.2 Connecting the Two Empirical Parts

The output of the historical study is the history of conflicts in Polish identity, industry, and environment areas, while the findings of the case studies are developments of five individual firms' industrial environmental practice. These two findings cannot directly be connected. In chapter one, *1 Issues of the Project*, I stated that I was looking for this relation. The relation is understood as the influence that the historical development have on the case studies. The case studies also interact with the historical study, however, due to among other things the few cases studied this interaction is out of the scope of the thesis. The conclusion is that the investigation concentrates on the connection between the discursive developments and industrial environmental practices. It is a research question if and in which way this possible relation exists.

4 Industrial Environmental Practices

This chapter contains an analysis of the five coarse-grained case studies dealing with industrial environmental practices at five Polish firms nearby the city of Łódź. Thus, this part of the analysis represents the “cross-sectional” part of the study, see paragraph 1.2.2 *Cross-Sectional Study* in chapter one.

Guiding the case studies is the concept of *industrial environmental practices*, which is the environmental practice within the specific firm. Thus, I am not assessing the level of environmental practices in these firms, but taking the point of departure in their understanding and practices. This opens the black box of environmental activities in production firms as other than conventional stories of rational and

profitable actions. A central assumption is that the firms perform according to their understanding, irrespective of my view of the performance. The key purpose of the whole project is to expose how the industrial environmental practices relate to the discursive developments in Poland, and this chapter establish the foundation for the understanding of industrial environmental practices.

The chapter is divided into three sections. The theoretical framework for the case studies and the choice made in connection with the actual carrying out of the study is described and discussed in the first section, i.e. *4.1 Case Studies*. In the next section, i.e. *4.2 Industrial Environmental Practices*, I discuss features of the industrial environmental practices found at each of the five firms. The third and last section compares the industrial environmental practices among the five firms, i.e. *4.3 Features of the Industrial Environmental Practices*.

4.1 Case Studies

In *chapter 3 The Patchwork Model* I developed the theoretical framework for the coarse-grained case studies. In a retrospective perspective this section discusses the application of the framework in the case studies and its influence on the reliability of the findings. The first paragraph below deals with the application of the theoretical framework, i.e. *4.1.1 Application of the Theoretical Framework*, while the second paragraph deals with the considerations and problems regarding the selection of cases, and its consequences for the reliability of the analysis, i.e. *4.1.2 Reliability of the Findings*.

4.1.1 Application of the Theoretical Framework

The theoretical framework for the case studies developed in chapter 3 is listed in figure 3.8. The theoretical framework includes four elements, i.e. area of research, guidelines, focus point, and unit of analyse. In the following I deal with these issues under three headings, namely environmental projects (research area and point of focus), the actors (unit of analysis) and industrial environmental practices (guidelines).

Environmental Projects

The environmental projects at the individual firms are the research area in case studies and the process of the individual projects is the point of focus. Originally, I planned to have one or two projects described in more details at each firm, but in the end I have only one detailed description of an environmental project at each firm. On the other hand all these projects are the first environmental project occurring at the firm.

The first environmental project is special in that way that it illustrates the ways the firm change behaviour. As these projects are they first the must indicate a change from what they did earlier. Therefore, they might indicate what make firms change direction towards environmental consideration.

The focus is describing the process from the moment the idea showed up to the follow-up activities. Central are also the actors involved in the environmental projects and their position and tasks. Figure 3.7 lists the main questions relating to the process and *Appendix I Case Studies* includes a detailed list of the question guide for the interviews.

The subsequent projects, following the first one, are described briefly in order to analyse the continuity in the environmental work at the firms. The process approach enables me to make an approximate study of the history of environmental projects at each firm by building on the stories people recall.⁵¹

The Actors

The inspiration from the SCOT-model takes in the “follow-the-actor” methodology, i.e. a method following the different understandings by the relevant different actors over time. The point of departure is the involved persons and their understandings of the relevant actors in the relation to the project. The task is then to follow the development in problems and solution among the relevant actors in relation to a specific field, see also section 2.3 *Social Construction of Technology*. This methodology was hard to employ in my case for two reasons. Firstly, it was difficult to identify the relevant actors and secondly, it was difficult to follow the development in understandings of problems and solutions.

The actor category is an analyst category, and in that way I use the method, but focus on a very narrow field of relevant actors, i.e. the persons involved in the environmental projects that I have spoken

with. I assume that these interviewed persons represent more than just their personal story of a specific environmental project; they also reflect the firms' understanding of environmental problems and possible solutions, as the environmental projects are located within the framework of the firms. This makes the relevant actor in the case studies *the industrial firm*. However, an interviewed person's story of a specific environmental project might also reflect many other things, e.g. personal interests, specific Polish views, or regional views. Which statements that reflect the different spheres, I am not able to assess on the basis of the few interviews I have made, see also the discussion of reliability of the analysis in the next paragraph. Therefore, my approach is to the analysis build on interviewed persons' stories as representing the firms' views, despite the stories reflect more than that.

The other problem regards the development in understanding of problems and solutions as I only visit the firms once. During this visit I ask them about the history of environmental activities at the firm and who have been involved in these activities. But such data building on what persons remember they meant and did earlier is a very risky business. You forget things, you see the past through the light of the present, and might not want to tell some of the things, which happened in the past. This would be tragic if I was to develop a versatile history of the individual environmental project. However, my objective is to identify the industrial environmental practice and relate it to the discursive developments in general and then this shortcoming of employment of the method is least significant.

Industrial Environmental Practices

The industrial environmental practices guide the case studies. These practices are assumed carried by construction of environmental problems and solutions (meaning); project organization in relation to the external environment (identity form); internal project organization and follow-up activities (practice); see also figure 3.6.

The easiest part to deal with was the construction of environmental problems and solutions, as it was straightforward to interpret from statements and could be supplemented by the following the different environmental projects at the firm. However, the project organization and the external environment are harder to detect as some of the actors have forgotten all the involved parts and only point out those most relevant for themselves. Thus this carrier is less developed in the

analysis. The last carrier, i.e. the internal project organization and the follow-up activities was possible to detect as it to some degree was embedded in the organization charts and in the history of environmental projects.

4.1.2 Reliability of the Findings

This paragraph deals with the consequences of the methodological choices in the case studies in relation the reliability of the findings. The first two subparagraphs deals with issues of data collection, i.e. the selection of case firms and the quality of the information sources. The third and last subparagraph estimates the reliability of the case studies' findings.

Selection of Case Firms

Originally, I meant to focus on successful firms within the energy area with the perspective that the initiating events for these firms might be something that could be replicated in other firms. However, the term successful in the energy area soon became hard to grip as success in one area often was followed by failure in other parts of the firm. However, I kept the term with a pragmatic approach. Thus, I do not estimate or rank the level of success in each firm; instead I base the selection process on a skilled energy consultant in the Łódź, Mr. Hoeronim Andrzejewski⁵². The idea was that he could point out some firms that were successful in his eyes, which I understand as some firms that appear distinctive compared to the average firm in the region. I did not make my own definition of energy successful but focused on the process within the firm leading for improved energy efficiency.

The major obstacle to this approach was that it was very hard to find firms who were willing to participate. Some of the reasons for the lack of willingness to participate I believe was my foreign background. Not that Polish firms dislike Danish people in general, but the number of foreign investigators and consultancies working within the boundary of Poland have risen dramatically throughout the 1990s, and in many cases the firms feel that participation is time consuming and does not given them anything. Another barrier to participation was my lack of Polish language skills, which implied that the interviews had to be in English or at least with an English interpretation. Another barrier was that the economic questions I planned to ask in the start of the interview seemed to worry many of

the firms. This was what some of the firms told Mr. Andrzejewski, but I also experienced that some of the firms was very sensitive about this issue, e.g. at the power station and the printing firm this was issues to be discussed with the economic director, and not many question were allowed. Many of the economic questions was less important to the study, so I regret that I announced it beforehand and that I asked the number of questions I did in this field. In Denmark these question would not be confidential or sensitive, and in 1993 when I was an exchange student in Poland and also made interviews at firms, the Polish firms were much more open about economic issues. I think the transition processes and the strengthen competitiveness along with the many foreign investigations have limited the firms openness in the economic field. In the end the five firms might not be called energy success, but they all have had some contact with an energy consultant and they were willing to talk with me.

At the start of the project I was very focussed on energy issues within the firm, e.g. I based the selection on an energy consultant, however, during the project I came to realise that some of the firms saw the energy activities as an integrated part of their overall environmental activities, while other firms saw the energy and environmental issues as different areas. In order to illustrate these issues I broaden the research area to environmental issues and made the question of energy and environmental relations a question of the research.

As case firms I wanted old firms, which had experienced the transition processes enable them to tell, how the changes influenced them. All the firms have been established before 1989, thus they all have a communist past. In this way, the study is in no way representative for a general development in Polish industry. On the contrary, it focuses on how the transition processes influenced the "old" firms in the environmental and energy areas.

I also wanted to have more than one type of ownership to be represented among these old firms, in order to see if the type of ownership influences the environmental behaviour. The five case firms have fulfilled this criterion. Two of them are state firms, but facing future privatization (the energy sector), two of them is in the middle of the privatization process (the textile sector), and finally the printing house has a long private history. The privatization process occurs primarily sector-by-sector after a central privatization plan, as these sectors presented among the five firms indicate. Though, it is

possible to privatize earlier if a specific firm wants to do so, this has mainly happened among the economic sound firms, the printing house is an example.

Another issue central in the case selection was whether I should select firms from one specific sector or focus on more sectors. I have chosen to look into more than one sector. Part of the explanation is found in the wish to include more than one type of ownership discussed above, but another explanation is found in the industrial environmental practices. The industrial environmental practice is partly specific on the individual firm, but part of the perspective of this study is to see if I could point to areas that seem to be important in all firms and relate it to discursive developments in Poland.

	Ownership and year of founding	Sector	Products	Łódź region
Power station (4320 MW)	Public owned founded in 1981	Energy	Electricity & district heat (two percent) based on lignite	No
Thermal power station (1060 MWt)	Public owned founded in 1977		Thermal power & electricity based on stone coal	Yes
Textile producer	Facing privatization founded in the early 1970s	Textile	Original woven ribbons, but today mainly elastic, straps, labels for cloths and nylons	Yes
Yarn producer	Newly privatized founded in 1973		Aniline yarn	Yes
Printing house	Private since 1991 founded in 1947	Printing	Newspaper, magazines, & advertising brochures	Yes

Figure 4.1: The selection criteria and the five cases

The last selection criterion related to the location of the firms. I would like to have all the firms located in the Łódź region. The reason was that the regional development in Poland has been rather uneven distributed and tendency deepened during the 1990s. Thus, the regional development would be similar for the cases. I did not fulfil this criterion as one of the firms (the power station) is located south of the old Łódź region, but it is included in the new administrative unit established in 1999. The other reason for choosing the Łódź region is

more pragmatic. I was an exchange student at Łódź University in 1993, and therefore I had contacts in this region. Furthermore, grouping the case firms regionally would reduce the travel time during the field study. Figure 4.1 above gives a brief overview of the five case firms and their relation to the selection criteria. Beside the selection criteria the case firms also have other similarities, thus they are all oriented towards a domestic market.

Data collection and materials

I visited the firms only once and talked with a viable number of people, see figure 4.2 below. On this background I wrote a summary of the environmental development at the firm, which they all have had the opportunity to comment on. No fundamental comments have been made to these summaries, which all can be seen in appendix I.

I came to this field as a stranger, in that sense that I knew something about energy and environmental issues in Denmark, but my knowledge of these issues in Poland was very limited. Thus, the possibility for failures and misunderstandings was broad, especially when I spend so little time at each firm. I sent the summaries of the visits to the firms in order to deal with this drawback. However, all in all it is external descriptions of the firms, in the way that it is impossible to go behind the official version of activities with these short visits. As I do not speak Polish I am not sure that a longer stay on a firm would improve the empirical data, and I also would question whether it would be possible to find firms willing to participate if I had to stay more than just a couple of hours. The strengths of the chosen approach is that no one can blame me to be a part of the investigated field, and that gives me the possibility to question issues that are taken for granted and see relation within the field with new and curious eyes.

I do not speak Polish and that was the major challenge to the data collection as part of the interviews were made in English, which is not my first language and either the interviewed person's mother tongue. This gives the basic for misunderstanding. However, I felt that the interviews made with help of interpretations much more difficult, as everything goes through another person, and I felt more as an observer than actually taking part in the interview. In order to strengthen the

empirical study I have sought to get written materials on the firms additional to the interviews. Figure 4.2 lists the information sources at each firm.

I only spoke with representatives for the managements at the firms and consequently I am not able to say anything about the environmental organization in practice at the firms other than what I have been told. Furthermore, some of the firms did not have materials about themselves in English, which also indicate lack of their focus on international relation. This accounts for the two textile firms, which also were the firms in a less favourable economic situation.

	Interview persons	Additional materials	Use of interpretation
Power station (4320 MW)	<ul style="list-style-type: none"> • Dir. of Economy • Technical responsible engineer 	<ul style="list-style-type: none"> • General brochures • Annual report (1997) • Fact sheets 	No
Thermal power station (1060 MWt)	<ul style="list-style-type: none"> • Environmental engineer • Two energy engineers 	<ul style="list-style-type: none"> • General brochures 	Yes
Textile producer	<ul style="list-style-type: none"> • Dir. of technical production 	-	Yes
Yarn producer	<ul style="list-style-type: none"> • Engineer responsible for maintenance 	-	Yes
Printing house	<ul style="list-style-type: none"> • Dir. of economic • Dir. of energy • Dir. of environmental 	<ul style="list-style-type: none"> • General brochures 	Yes/no

Figure 4.2: Overview of the information sources at the five case firms.

Reliability of the Case Studies

Often when I have presented the scope of my PhD-study in different contexts and told that I did not speak Polish, the reactions have been that it is impossible. Therefore, the nickname for my study could be “the impossible PhD”, in that way that I do many of the things you according to methodological books should avoid. E.g. I discuss understanding of environmental issues based on interviews not conducted in the interviewed persons’ mother tongue, which means that I have to put less emphasis on language analysis; I only visit the

case firms once; I have limited additional materials etc. The purpose of this sub-paragraph is not to reject this criticism, but to point out some of the strengths of the approach.

The industrial environmental practices are practices on the individual firms, but they are reflected in the institutional surroundings, thus it is not the individual firm that is in focus but the link between the firm and the surroundings. I know it does not solve the problem of external description of the firm, but it limits its consequence. Also I will point the fact that I - as a stranger - is more sensible to things taken for given. Finally, the report does not imply recommendation to the Polish ministries, but should be seen as an input in a scientific debate.

What I can say something about is the institutional settings carried out on e.g. environmental legislation, and its interaction with firms approaches and understanding of the environmental and energy field. I will underline that I cannot say anything about Polish firms in general or even “old” Polish firms in general, and that is not the purpose. The study is qualitative focusing on exploring relations between firms and their institutional settings and general discursive developments, and therefore I do not intend to incorporate all Polish firms in the findings. Another level of generalization relates to the process of getting interested and continue environmental activities, here I am able to describe some way to support industrial environmental activities, but I will not claim that these are the only ways, or that they fit all Polish firms.

4.2 Industrial Environmental Practices

This section deals with the industrial environmental practices of each of the five firms. The descriptions are structured by the three carriers of institutions identified in chapter three, i.e. construction of environmental problems and solutions, project organization and external relations, internal organization and follow-up activities.

The industrial development is briefly presented in the first paragraph for the three sections represented among the case firms, i.e. the energy sector, the textile sector, and the print and publishing sector.

4.2.1 Developments in Industrial Sectors

The transitions processes had massive influence on the Polish industrial sectors; these developments are discussed in more details in chapter seven and chapter eight. Figure 4.3 gives a view of the development of labour productivity and industrial production during the 1990s. However, the development between the different sectors are very uneven distributed and therefore this section briefly presents the developments of the three industrial sectors represented in the case studies, i.e. the energy sector, the textile sector and the print and publishing sector.



Figure 4.3: Development in industrial production and labour productivity in Poland during the 1990s. Source Havlik, 2000: 88-89.

The Energy Sector

The energy sector had right from the start of the communist regime a high priority, as it was the engine of the growing industrial sector. On this background the coal production was enlarged and the electricity production doubled in the early 1950s, however, at the same time many small water power stations was closed down (Pedersen, 1995:245). In the early communist period, the Soviet Union extracted resources from the Central and Eastern Europe, through trade agreements, war reparations, and especially low export prices (Lewis, 1994: 207-208). Thus, Poland was to deliver 100 million tons of coal

to the Soviet over some years (Pedersen, 1995:246). By the 1970s the pattern had clearly shifted so the Soviet subsidized Central and Eastern Europe with cheap energy, a situation that stopped in the mid-1980s (Lewis, 1994: 222).

During the 1970s, the Soviet put pressure on the Central and Eastern Europe to use their own energy resources, no matter the costs, and often with tremendous environmental consequences. Another consequence was insecurity in energy productions in the early 1980s - among other things reduction of import of Soviet energy resources (Nielsen, 1987b: 25).

In the late 1980s, the Polish energy sector was a bottleneck for the limited Polish industrial investments. The government was forced to use approximately one third of the yearly industrial investments in the energy sector in order to provide the needed energy. The big investments in the energy sector were one of the conflict points in the reform policy, as it reduced the investments in light industry (Nielsen, 1987b: 24-25).

A result of the described policy was that the coal production more than doubled between 1945 and 1975. After 1989, the Polish energy sector remained depending on domestic coal and especially brown coal, as hard coal had been an important export product (Andersson, 1999: 43). Thus, in 1998 approximately two third of the Polish energy production was based on coal (OECD, 2000b: II.179).

The price control of coal was abolished in 1990; as a result the power stations could negotiate their own coal supply directly with the mines (Salay, 1996:207). This was part of the reason for significant sulphur emission reductions in the early 1990s in Poland (Salay, 1996: 208-209).

The privatization of sensitive sectors have been postponed and therefore the energy sector is first involved in privatization in 1999 (Kort Nyt. Polske privatiseringer, 1999:18).

Two of the case firms belong to the energy sector. The lignite-fired power station was built in the 1980s during the period where Polish energy policy concentrated on domestic resources and enlargement of the sector. This case firm is analysed in paragraph 4.2.2 *The Power Station*. The hard coal fired district heating supports part of the city of Łódź with heat, and it was built in the 1970s. Paragraph 4.2.3 *The District Heating Producer* analyses the industrial environmental practices at this firm.

The Textile Sector

The city of Łódź became a centre of textile production already in the middle of the 17th century with the major trade relation directed towards the Russian empire (Zamoyski, 1987). The area kept its specialization in textile production during the communist period still with trade directed towards the Soviet. Therefore, the transition processes resulted in a deep recession in 1990 with the industrial production falling with 41 % especially due to the collapse of the Soviet and Polish markets. Thus, in 1994 almost a fifth of the labour force was without work in the area. (Czyż, 1997: 11). The textile industry in Poland was expected to be a losing sector during the early 1990s as the collapse of the Soviet market with one stroke removed the traditional markets and the quality and consumer taste differences made it hard to shift the trade towards Western Europe over night. Thus, the growth in the Polish textile industry fell with 6,8 percent during 1990 to 1992 compared with the national growth rate (Urban, 2000: 23-25). As also figure 4.3 illustrate the Polish industrial production in general fell until 1992, hereafter it began to grow, but it did not reach the level of 1989 before 1996 (Aage, 1997: 8).

After 1992 the development of industrial sectors began to adjust to the new markets, and along these lines former losing sector might turn into winning sectors (Urban, 2000: 26). E.g. opposite an old industrial centre as Katowice, the Łódź area was able to transform to more flexible textile production, and after 1992 the area face a raising number of new small textile industries as well as slowly falling unemployment (Czyż, 1997: 11). However, still in general most of the Polish textile sector ended up as the losers, probable due to low-quality product, which made the sector compete with low-wage countries in Asia (Urban, 2000: 27).

Two of the case firms in this study belong to the textile sector, i.e. a ribbon producer (paragraph 4.2.4) and a yarn producer (paragraph 4.2.5). Both these firms are old founded in the 1970s, and both are in the process of finding investors in order to become private firms. None of these firms are among the new flexible textile firms in the Łódź area, thus none of them produce at full capacity. The ribbon producer face the hardest problems using approximate 20 percent of the production capacity, while the number is 60 percent for the yarn producer.

The Print and Publishing Sector

During the communist period paper and pulp products as well as publishing and printing were significant underrepresented. On this background the sector grew 4,1 percent more than the national average in the period from 1990 to 1992. This tendency prolonged in the period from 1993 to 1997 where the sector grew 5,5 percent more than the national average. (Urban, 2000: 23-30). For the print and publishing industry, it is not only a question of catching up as the market is also expanding with new magazines and advertisements (Urban, 2000: 37).

Among the case firms one belongs to this sector. It is a printing house established in 1947; hence it has a long history. The industrial environmental practice of the printing house is analysed in paragraph 4.2.6 *The Printing House*.

4.2.2 The Power Station

The 4320 MW power station (1,5 percent co-produced heat) was established with full capacity in 1988. The power station is based on lignite coming from the opencast mine close-by. Due to the lowest production price of electricity in Poland (approximately 0,14 Euro in 1997)⁵³, the power station can hold a constant production level without seasonal fluctuations corresponding to approximately 20 percent of the domestic electricity demand.

The firm is state-owned but it stands before privatization in the near future. On this background the firm reorganized during 1997 establishing internal divisions with separated budgets and cost control functions and it also concentrates on modern human resource schemes.

A fundamental challenge for the firm is that the existing mine is running out of coal between 2004 and 2009. Therefore, the power station plans to establish a new power station at a new location close by another open-cast mine.

In the following I look into the sulphur removal project, which was the first environmental project at the firm. Subsequent environmental projects are described briefly in box 4.1 below and all issues are discussed in more details in appendix I-B.

Constructing Environmental Problems and Solutions

In 1990, the power station was included on the list of the 80 greatest point polluters in Poland, as the firm was the biggest point polluter of

sulphur (SO₂) in Poland.⁵⁴ In 1988, the power station had a sulphur emission on 342.000 tons approximately, corresponding to the total emission of sulphur from Belgium that year (Salay, 1996: 205).

The 80 firms listed were put under a special strict environmental regulation, where fines for violating emission standards were increased tenfold for each unit of pollutants and furthermore, each firm had to present an environmental action plan (Millard, 1998: 153-154).

Also in 1990, the firm decided to implement a Flue Gas Desulphurisation (FGD) system due to the high environmental taxes, for sulphur the tax was around 25 thousand Euros in 1991.⁵⁵ Thus, the overall reason for beginning working with sulphur removal project was the stricter environmental regulation and the following environmental taxes and high-levelled fines. According to the firm the environmental legislation was fully enforced at that time. The interviewed stated:

“We have to pay because we are a big firm, maybe small firms do not have to pay”

(Interview at the power station, February 1999).

This statement indicates that the power station questions the equality among firms confronted with the environmental legislation. However, it might just be a question of the justice in putting the power station at the list of the 80 biggest point polluters.

Nevertheless, it is clear that the changes in the environmental tax level and the stricter enforcement of the environmental legislation were the main factors triggering the first environmental project at the power station. Box 4.1 below is a brief overview of the environmental project following the first decision on four FGD units in 1990.

The construction of environmental problems on the firm's agenda was guided by the emission taxed. In this way, the environmental authorities were the ones constructing the central environmental issues for the firm. The firm did not actively question the kinds of environmental problems constructed via the environmental taxes, but it questioned the importance of these problems, e.g. by installing automatic measuring stations and also by the political discussion of leaving the list of the 80 greatest point polluters. Thus, the

environmental problems at the firm seem to be constructed as *a pure question of expense*, without any consideration of possible green markets or responsibility towards the common nature.

Box 4.1

Chronological view of environmental projects at the power station

1990

Decided to implement Flue Gas Desulphurisation (FGD) systems at four of the twelve units due to the high environmental taxes. The project was completed by the end of 1996, and the result was reduction of sulphur emission with one third corresponding to 120.000 tons per year.

1992

Adjustment of the combustion processes reduces the emission of nitrogen oxides (NO_x) with 40 percent from 1992 to 1997. The reason for the project is the high environmental taxes.

1993

Installation of modern fly ash disposal due to high environmental taxes.

1994

Installation of automatic measuring stations in the two chimneys in order to prove their environmental emission level, which were questioned by the environmental authorities.

1996-1997

Decision to build a new lignite based power station close by when the present mine runs out of coal

1998-1999

Negotiation with the national environmental authorities of leaving the list of 80 greatest polluters. The permission was given in year 2000.

2000-2002

Planned installation of two new FGD units.

After the decision to implement FGD equipment at the station, the firm called a tender for reduction of the sulphur emission. The chosen supplier was a Dutch supplier as it was “the best and the cheapest offer”. The formulation of a tender calling for reduction of a taxed emission most probably leads to end-of-pipe solutions. Along these lines the firm expressed astonishment that in addition to the reduction of the taxes the installation of FGD had economic beneficial elements namely sale of the gypsum by-product and sale of expertise to Polish firms implementing FGD units. Again, the firm constructed environmental problems closely connected to the environmental taxes and thus the solutions become a tax reduction. The astonishment relates to the fact that the solution did not only solve the expense problem relating to environmental taxes, but also include other economic beneficial activities.

The lessons learned here could have challenged the firm's understanding of environmental problems as a pure question of expense, but that does not seem to be the case. At any rate the firm does not look into alternatives to end-of-pipe solution when dealing with fly ashes in 1993. Thus, despite the experiences from the first environmental project the firm seems to stick to the understanding of *environmental solutions as technical reduction of emissions*, and subsequent tax reductions

Overall, the firm seem to *stay within the frame of the existing production system* when considering solutions, e.g. when building a new lignite-fired power station close-by. Lignite has a higher content of sulphur than stone coal, so a change of fuel would have reduced the environmental costs. However, the firm argues that it produces the cheapest electricity in Poland due to this production form and it has a responsibility for all the workers living in the town close by. The firm also has many non-productive activities for the employees such as health and social activities, as well as cheap electricity. Thus, the firm seem to put emphasis on straightforward costs and social responsibilities towards the employees in its strategically decision making. Asked about possible demand-side management the interviewed answered:

“Energy savings are not a duty of an electricity plant, we have to sell electricity, not reduce the demand.”

(Interview at the power station, February 1999).

The objective of production in the firm's eyes is to produce as much cheap electricity based on lignite as possible without long transportation of the fuel. This understanding limits the possibility of realization of co-produced heat and the possibility of changing to a less sulphur containing fuel.⁵⁶

Internal Organization and External Relations

A big issue in relation to implementation of FGD units was the financial issue. A strong argument for choosing the Dutch supplier was a grant from the Dutch Electricity Generating Board covering approximately fifteen percent of the total costs of the project. Other external financial supporters were the regional state administration, the Provincial Environmental Protection and Water Management Fund, the local authorities, and the Clean Air Fund together covering

approximately one fourth of the project. Another fourth of the cost was covered by soft loans from the Regional Environmental Protection and Water Management Fund, the National Environmental Protection as well as Water Management Fund, and Environmental Protection Bank. The last part, a bit over half, was paid by the firm itself, see figure I-B.6 in appendix I for more details. The many permanent environmental financial funds indicated that that the Polish society viewed the economic issues as a major obstacle to environmental projects in the industrial sector. The firm also considered the financial issue as important, but it was not the only factor involved in choosing a solution.

Despite, all the financial support the project was a big investment for the firm; a very rough estimate suggests a payback period on seventeen to eighteen years.⁵⁷ However, it was also a part of the firm's environmental action plan, which it had formulated as a consequence of inclusion on the list of the 80 greatest polluters. Another central issue was the question of staying below the emission limits in order to avoid penalties. Thus, the emission limits were also mentioned as the reason for building the two new FGD systems by 2000 and 2002.⁵⁸

The Dutch supplier of the FGD units established a three-year trainee programme in order to educate the employees to run the FGD units. The process was surprising to the Polish employees. This indicates that trainee programmes in relation with technology implementation are unusual at least at the level given by the Dutch suppliers. Internal in the firm a unit was organized to be responsible for running the FGD unit and preparing the environmental reports required for the environmental authorities. The employees in this new unit were the ones primarily educated by the Dutch supplier.

The relation between the firm and the environmental authorities is of a lasting kind; which also reflects in the firm's internal organization. The firm has to produce yearly - and in some cases monthly - reports on levels of environmental emissions; on basis of this the taxes and fines are fixed. The environmental authorities measure the state of the surroundings of the firm; they do not measure the emissions themselves. Thus, the firm has an expertise in levels of emissions, but not a general knowledge of which kinds of emissions that create environmental problems. That is probably the reason why the firm only question the level of the environmental problems and not their existence. On the other hand, the knowledge on environmental

consequences of production seemed almost entirely located at the environmental authorities, while the knowledge of technical running an end-of-pipe equipment is almost entirely located at the firm. In this way, the environmental authorities seem to treat the firm as a black box only focusing on the outlets.

The technical knowledge on the end-of-pipe solution was primarily based on the technical supplier in the FGD-case. No independent consultancy or industrial sector organization were involved in choosing the supplier.

The second phase of the FGD project from 2000 to 2002 was different in that respect that at this time the firm possessed a great deal of knowledge about the FGD process. The choice was a Polish supplier that had been subcontractor on the first project. Acquaintance with the supplier might also have been important for the choice. At any rate, the interview person underlined the patriotism in the choice:

“Polish firms are very capable of building such plants, without help from foreign firms”

(Interview at the power station, February 1999)

Internal Project Organization and Follow-up Activities

Internally, the environmental work at the firm is organized in units responsible for running the different end-of-pipe technologies and producing environmental reports for the environmental authorities. The environmental projects after the first four FGD units, e.g. regarding reduction of nitrogen oxides in 1992 and removal of fly ash in 1993 were also motivated by environmental taxes and fines; so were also the sub-sequence planned enlargement of the FGD plants in 2000 to 2002.

Despite the fact that the environmental authorities have been the driving force in all the projects, the environmental results have been considerable. Annually, the installation of the four FGD plants has led to a reduction in sulphur dioxide emission with approximately one third corresponding to 120.000 tons, even though only one third of the emission is treated here. The optimizing of the combustion processes reduced the emission of nitrogen oxides (NO_x) with around 40 percent in the period from 1992 to 1997. Figure 4.4 below sums up the major carriers of industrial environmental practices at the power station.

Carriers of Industrial Environmental Practices at the Power Station	
Construction of environmental problems and solutions	<ul style="list-style-type: none"> • Environmental issues are constructed by the environmental taxes • Environmental problems a purely a question of expense • Solutions are expensive technical reduction of emissions (mostly end-of-pipe) • Alternatives are found within the present production concept
Internal organization and external relations	<ul style="list-style-type: none"> • Permanent relation with environmental authorities regarding construction and level of environmental problems. Environmental knowledge with in the environmental authorities and technical knowledge at the firm • On and off relation with financial environmental funds, which benefit considerable to environmental projects • On and off relation with suppliers within specific end-of-pipe techniques • No independent consultancy involved
Internal project organization and follow-up activities	<ul style="list-style-type: none"> • End-of-pipe units responsible for running technology and writing environmental reports • Environmental authorities driving force for new environmental projects • Considerable environmental improvements

Figure 4.4: The carriers of the industrial environmental practices at the power station.

4.2.3 The District Heating Producer

The 1060 MW thermal power plant produces district heating for approximately 20 percent of the flats in the city of Łódź. It was built in 1977 as the newest of the four thermal power stations in the city. The firm employs around 600 people.

Today, the firm operates with full capacity as the industrial surplus heat decreased throughout the 1990s as a consequence of the economic recession. On this background the firm does not fear the planned privatization, which is to take place in 2001. However, full production capacity does inevitably imply full payment, however, I have no information of this issue from the thermal heat producer.⁵⁹

In the following, I look into the activities to reduce the airborne emissions, which was the first environmental project at the firm. It is discussed in more details in appendix I, section I-F.

Constructing Environmental Problems and Solutions

Airborne emissions were a vital environmental problem in the early 1990s, thus the correlations between air pollution and total mortality was strong in Łódź (Pavlínek & Pickles, 2000: 148). The major source of air pollution in the region of Łódź was the energy sector, and within the city limits the fourth thermal power station was a significant point source (Łódź Voivodship Office & Environmental Research and Control Centre in Łódź, 1990: 44). In this way the airborne emissions with focus on sulphur and particles were constructed as a central environmental problem by the environmental authorities.

The environmental taxes, on sulphur among other things, were raised in 1989, followed by annually increases in order to adjust for inflation (Salay, 1996: 211). At the same time price control of coal was abolished and as a result the power stations could negotiate their own coal supply directly with the mines (Salay, 1996:207).

Regarding the construction of environmental problems, one of interview persons stated:

“Today we have to pay these taxes, I do not know whether private firms pay, but we have to. In the communist days the environmental authorities were not so strict and also the level of environmental taxes is higher.”

(Interview at the district heat producer, February 1999)

Furthermore, the environmental problems are to a high degree defined by the *environmental taxes and the stronger enforcement* of these, and to a less degree something the firm feels responsible for. The statement also indicates that the firm questions the equality towards the environmental law.

Reduction of the airborne emissions was realized by changing fuel to hard coal with lower sulphur and ash content and a higher calorific value. In the period from 1988 to 1994 the ash content of coal fell with approximately eight percent. The earlier supply of low quality coal in the communist days was criticized by many of the plant managers as it increased maintenance, and lowered the energy efficiency of the plants (Salay, 1996: 209). In this way the change to higher quality coal is not just an environmental sound solution, it is

also a technical sound solutions and also requested by the managers. Box 4.2 below lists the environmental projects at the firm. All these projects were also motivated by the environmental taxes or plans of future environmental policy.

Box 4.2

Chronological view of environmental projects at the district heat producer

1989

Change of fuel for less sulphur and ash content

Early 1990s

Modernization of electrostatic precipitators, supported by the regional environmental fund.

1999

Plans of implementing flue gas desulphurisation equipment.

The solutions to the environmental problems are also partly outlined by the environmental authorities, as one of the interview persons stated:

We do not implement environmental projects unless we get economical support from the regional environmental fund.

(Interview at the district heat producer, February 1999)

Again this underline that the responsibility for environmental problems an their solutions are in the hand of the environmental authorities.

Internal Organization and External Relations

The change in coal quality did not imply a new supplier, but a new relation to the old coal supplier, and also a freedom to buy a better quality of coal. In this way, *the relation to traditional suppliers has got a new form*, due to the liberalisation of the coal market.

The relation to the environment authorities has also changed, one of the interviewed stated:

“The relationship to the environmental authorities has changed fundamentally, now we have to pay taxes”.

(Interview at the district heat producer, February 1999)

Thus the firm is forced to take environmental problems seriously. At the same time, they require that the environmental authorities support environmental projects through the regional environmental fund. In this way, *they have to comply with environmental legislation, but do also require economic support for environmental projects.*

Internal Project Organization and Follow-up Activities

The firm runs an environmental division in cooperation with the other three thermal heat producers in the city. This division produces the environmental reports and data required by the environmental authorities. Also, in this relation the association with the environmental authorities has changed, as the cost of monitoring has been transferred from the authorities to the firms. Thus, the firm is forced to support the environmental monitoring economically. Thus, *the internal environmental organization is focused on producing the data required by the environmental authorities.*

Carriers of Industrial Environmental Practices at the District Heating Producer	
Construction of environmental problems and solutions	<ul style="list-style-type: none"> • Environmental problems are defined by the level of the environmental taxes and their strong enforcement • The solution are partly constructed by support from the regional environmental fund
Project organization in relation to the external environment	<ul style="list-style-type: none"> • The relation to traditional suppliers has got a new form • The firm has to comply with environmental legislation, but also require economic support for environmental projects from the environmental authorities
Internal project organization and follow-up activities	<ul style="list-style-type: none"> • The internal environmental organization is focused on producing the data required by the environmental authorities • The environmental authorities are the driving force in environmental projects • Considerable environmental improvements

Figure 4.5: Carriers of industrial environmental practices at the thermal power station.

The firm are making long-term planning on the environmental area. The long-term planning is governed by the prospect of future environmental regulation. E.g. the planned decrease in sulphur emission limit with approximately 40 percent in 2006 has resulted in plans of implementing flue gas desulphurisation equipment. Also the modernization of the electrostatic precipitators was motivated by environmental taxes and supported by the regional environmental fund. In this way *the environmental authorities are the driving force* in the environmental projects.

The change in coal in 1989 resulted in considerable *environmental improvements*, thus, between 1989 and 1990 the emissions were reduced with approximately 10 percent for sulphur and 40 percent for Nitrogen.⁶⁰ Figure 4.5 above sums up the carriers of industrial environmental practices at the thermal power station.

4.2.4 The Textile Producer

The history of this firm dates back to the late nineteenth century, although the present production site was established in the late 1970s. Originally, the firm produced woven ribbons, but as the present demand for this item is low, the firm has broadened the production to also include elastics, straps, labels for cloths, and nylons. The present production is approximately 5.000.000 m/month corresponding to twenty percent of the full capacity. The firm has 200 employees.

Like the rest of the textile sector, the firm faces privatization and it is in the process of finding investors. The firm mentions a new German dyeing machine as their first environmental project; this project is the point of departure in the analysis below. The firm is described in more details in Appendix I-C.

Constructing Environmental Problems and Solutions

The interviewed person motivated the purchase of the new German dyeing machine by the energy saved, however, he is not able to quantify the amount of energy actually saved by the new machine. The interviewed person stated:

“New machines are always more energy efficient than old ones”
(Interview at the textile producer, February 1999)

Without much data of the specific energy saving potentials of the new machine, the interviewed person is convinced that it is an energy saving solution. One might almost say that *the environmental solution or any solution is new technology*. Along these lines *the environmental problem or any problem is the old machinery*. On the other hand, other motives than the above analysed might lay behind the statement, e.g. the coming privatization might have a large influence on the decision, as new technology is attractive to the coming investors. The argument is also supported by the fact that it is the first environmental project at the firm. The focus on the environmental benefits of the new machinery might be somewhat overestimated in the interview as I, a foreigner, appears and begins to ask questions on the subject.

Internal Organization and External Relations

The environmental project of buying a dyeing machine did not include any internal organization, e.g. in relation to how to use the equipment. Thus, the purchase involved *a simple buy/sell relation*. The firm had put emphasis on German nationality of the machine, as the interview person stated:

“Germany is a guarantee of the quality.”
(Interview at the textile producer, February 1999)

No subsequent network building occurred with this supplier, but on the other hand limits exist to the number of dyeing machines needed at a firm like this.

Internal Project Organization and Follow-up Activities

The firm *does not have an organization for environmental issues*. It has a sedimentation tank built in connection with establishment of the present production site, but it does not have any association to the environmental authorities as the low production prevents emissions close to the limits. Thus, environmental consideration takes parts in other parts of the organization.

The main driving force behind the buying of the new dyeing machine has been the technological investment in order to make the firm attractive to new investors. Along these lines, *new “environmental projects” most assembly will be technological investments in new production equipment, pushed by the new investors*

or the hope of finding investors. The present production volume and the consequent emission level, does not designate investments in environmental technology in the near future. Figure 4.6 below summarises the industrial environmental practices at the textile producer.

Carriers of Industrial Environmental Practices at the Textile Producer	
Construction of environmental problems and solutions	<ul style="list-style-type: none"> • The environmental problem is the old machinery - driving force the coming privatization • The solution is new "western" machinery - driving force the coming privatization
Project organization in relation to the external environment	<ul style="list-style-type: none"> • A simple buy/sell relation
Internal project organization and follow-up activities	<ul style="list-style-type: none"> • Possible energy savings • No internal environmental organization • New "environmental projects" most assumable will be technological investments in new production equipment arranged in the long run • Driving force new investors or finding new investors

Figure 4.6: Carriers of industrial environmental practices at the textile producer

4.2.5 The Yarn Producer

The yarn producer spins and colours artificial yarn and to a less degree also mixes of artificial fibres and wool. The annual production is approximately 100.000 tons corresponding to 60 percent of full production capacity. The firm has 343 employees working in triple shifts.

The firm was founded in 1973 as a state firm and it was privatized in 1998. In this relation a new board was established, while the rest of the organization mainly remained the same except from new functions of accounting and budget control. The first environmental project at the yarn producer was energy saving activities through production optimisation. This project is the point of departure for the following analysis. See also appendix I-E for more details.

Constructing Environmental Problems and Solutions

The new board wished to improve the economy of the firm by cost reductions and in this connection, among other things energy consumption came in focus due to the raising energy prices.

The actually energy saving activities concentrated on the dyeing process along with lighting and ventilation. The firm reorganized the dyeing process, thus the process ran at full capacity in two weeks during a month instead of running continuously utilising half capacity. The firm had no idea of how much it had saved yet, but a meter had been installed recently.⁶¹

The other energy saving activities regards ventilation and lighting in the production halls. The production halls all have high ceilings upon which the lights and ventilation are installed. The lights and the ventilation have been lowered, and are now located just above the machines. Furthermore, there have been installed more switches enabling the employees to turn off light and ventilation over the machines that are not running. The exact savings of this project are not known yet.

In this way, *environmental problems were not constructed, but environmental solutions appeared as investment in reduction of costs.* Supporting this analysis the firm underlined that the energy savings were purely a question of reducing costs.

Internal Organization and External Relations

The energy savings activities have not involved external expertise. It is placed *within the usually production organization as an additional task.* In this way it *builds upon the knowledge already available* in the organization.

The resources seem to exist within the organization. In this way, the areas in focus are central in energy saving connections. The dyeing process is one of the much energy consuming processes in the textile industry (Johansen et al., 2000).⁶²

Two other major posts of the electricity consumption is lighting and ventilation (Johansen et al., 2000).⁶³ In this way, the firm is picking the low hanging fruits, i.e. small and cheap technical and organizational changes resulting in substantial energy savings.

Internal Project Organization and Follow-up Activities

Despite the substantial energy savings the firm has *no plans of continuing work in the area.* This implies an understanding of energy savings and environmental improvement as something that can be

done with once; instead of a continuous process including issues within the production.

The employees mainly at the maintenance division made the suggestions for energy savings. No new energy projects are planned. Such new projects would demand new knowledge within the firm and properly also more complicated technical changes.⁶⁴ On the other hand, the raising energy prices could be a catalyst of series of energy saving projects, as it was seen in Western Europe in relation to the energy crises in the 1970s (Pavlínek and Pickles, 2000: 14).

Still, the firm's learning of energy savings might lead to a positive attitude towards energy savings, however, how positive this attitude depend to some degree on *how much energy the firm has saved, which, however properly they will never be able to tell*. Figure 4.7 below summarises the carriers of industrial environmental practices at the yarn producer in relation to energy savings.

Carriers of Industrial Environmental Practices at the Yarn Producer	
Construction of environmental problems and solutions	<ul style="list-style-type: none"> • Environmental problems are <i>NOT</i> constructed • Environmental solutions appeared as investment low cost reduction
Project organization in relation to the external environment	<ul style="list-style-type: none"> • Takes place within the usually production organization as an additional task • Builds upon the knowledge already available
Internal project organization and follow-up activities	<ul style="list-style-type: none"> • No plans of continuing working in the area. • The size of the energy saving is unknown

Figure 4.7: Carriers of industrial environmental practices at the yarn producer in relation to energy savings.

4.2.6 The Printing House

The printing house produces newspaper, magazines, catalogues, and advertising brochures. The firm operates by rotary offset technique based on its own production of plates for the printing process, and the production facilities also include cutting and packing.

The economic state and prospects are good for the firm⁶⁵. The Polish printing capacity does not meet the present printing demand, thus, part of the printing take place abroad.⁶⁶ All products are sold at

the domestic market. Today, the firm has 500 employees producing on two different locations and it is the third largest printing house in Poland. The firm was founded in 1947, and privatized in 1991.⁶⁷

The first environmental project, considering reduction of VOCs, took place in 1992, and this is also the point of departure for the following analysis. For more details please see appendix I-D.

Constructing Environmental Problems and Solutions

The firm installed the burners on the printing machine due to the high environmental taxes. The environmental taxes rose dramatically after 1989 (Millard, 1998:149)⁶⁸ among other things due to the high priority of green issues in the round table discussion. However, I assume that the newly privatization also had an important role to play in the decision making, as it have led to more focus on costs. The firm also says that indirectly. They state:

“As a private firm, we have to pay the taxes, while it for state firms are different. Furthermore, the level of the taxes is high.”
(Interview at the printing house, February 1999)

This indicates that the firm feels injustice in the environmental authority's treatment of private contra state firms. But it could also be a quote building on own experience as a state firm before 1991. In this interpretation the statement means that the taxes have to be paid to a much higher degree today than previously. Finally the complaint of high environmental taxes could also relate to the higher focus on costs in the newly privatized firm. Thus, *the environmental problems are defined by the level of the environmental taxes and their strong enforcement.*

The gas burners were purchased from the German firm VITS. The supplier was selected among visiting suppliers at the printing house due to its nationality and as the holder of an ISO9000 certificate. These qualities were seen as a guarantee of high quality. In this way, the solution to the environmental problems is *western “high quality” end-of-pipe technology.*

Box 4.3

Chronological View of Environmental Projects at the Printing House

1992

Installation of gas burners on the two printing machines motivated by high environmental taxes. The German supplier VITS delivers and installs the burners, chosen due to its ISO 9000 certificate. The burners clean the air 98,9 percent and the newly installed rotation-printing machine also includes a burner.

Mid-1990s

Installation of a system for sucking up paper and dust including a heat recovering system in the cutting and packing department, installing a close system for reproduction chemicals, and a close system for each printing colour, where the colours are lead to the printing machine via tubes from big tanks in the cellar. Also these projects were motivated by the high environmental taxes. A noise wall within the production area was also mentioned as an environmental project.

Internal Organization and External Relations

The firm sends an obligatory environmental report to the Environmental Inspectorate twice a year. In order to produce the data for the reports, a division of the firm is a certified laboratory, which measures the emission levels according to the law. Furthermore, outsiders verify the data. In this way, *the firm has build up a considerable knowledge of levels of emissions.*

It is also clear that the *future environmental taxes are directing the focus of the environmental projects*, thus the paper reduction project is initiated by a prospect of a coming tax on solid waste.

The solutions to the environmental problems are dominated by end-of-pipe solutions, where the technology is brought from western firms that hold an ISO9000 certificate. In their search for solutions the firm builds on the suppliers' proposals. The suppliers are selling technical apparatuses; therefore, the solutions are also technical apparatuses, rather than e.g. good house keeping approaches or radical changes in production mode. Thus, *the range of a solution is limited to the technical suppliers known by the firms.*

Internal Project Organization and Follow-up Activities

The firm has achieved *considerable environmental improvements by a row of individual environmental projects mainly directed by the environmental taxes.* Its organization is also focused on responding to environmental demands from the environmental authorities with own laboratory, as well as both an environmental and an energy division. Despite this sizeable organization the firm operates primarily as reaction to environmental taxes. One exception to this statement is the

implementation of a noise wall within the production area. Nevertheless, *the firm has no proactive environmental strategy*. As the interviewed person said:

“Environmental issues might be a competition factor in other countries, but it is not in Poland, and it does not seem to become a competition factor in the near future, thus we see no reason to work within this area.”

(Interview at the printing house, February 1999)

Figure 4.8 below reviews the industrial environmental practices at the printing house.

Industrial Environmental Practices at the Printing house	
Construction of environmental problems and solutions	<ul style="list-style-type: none"> • Environmental problems are defined by the level of the environmental taxes and their strong enforcement • Solutions are western “high quality” end-of-pipe technology
Project organization in relation to the external environment	<ul style="list-style-type: none"> • The firm has build up a considerable knowledge of levels of emissions. • Future environmental taxes direct the focus of the environmental projects • The range of possible solutions is limited to the technical suppliers known by the firms
Internal project organization and follow-up activities	<ul style="list-style-type: none"> • Considerable environmental improvements by a row of individual environmental projects mainly directed by the environmental taxes. • The firm has no proactive environmental strategy

Figure 4.8: The carriers of the industrial environmental practices at the printing house.

4.3 Features of Industrial Environmental Practices

In this section, I compare the different features of the industrial environmental practices at the five firms. The objective is to point to similarities and differences among the firms and subsequently to

discuss consequences of these industrial environmental practices. Thus, when I call this section: “Features of Industrial Environmental Practices”, it does relate to the practices at the individual firm, but common features among the five investigated firms.

The structure of this section follows the configuration used to describe the process of the environmental projects, i.e. initiating event, activities divided in a part on problem construction and one on construction of solutions, outcome and follow-up. The last paragraph in the section sums up the conclusions of the analysis.

4.3.1 Initiating Event

The first environmental projects at the case firms were motivated by three different types of events; i.e. environmental taxes and their enforcement, increasing energy prices, and privatization processes. Thus, it is clear that the environmental projects were not something coming out of the blue, they were pushed by external forces; which pressed the firms to think differently. Figure 4.9 below illustrates the chronology of the first environmental projects and their connections to the initiating events I have found.

The five firms fall into two groups; i.e. the firms under environmental pressure through environmental taxes, and firms motivated by the energy prices. In the early 1990s, the first environmental projects at the case firms were motivated by the increasing environmental taxes, while in the late 1990s the first environmental projects seem to be motivated by the increasing energy prices. On this background the following discussion of initiating events is divided in two, the first one relating to firms under environmental pressure and the second one to the firms reacting on the rising energy prices.

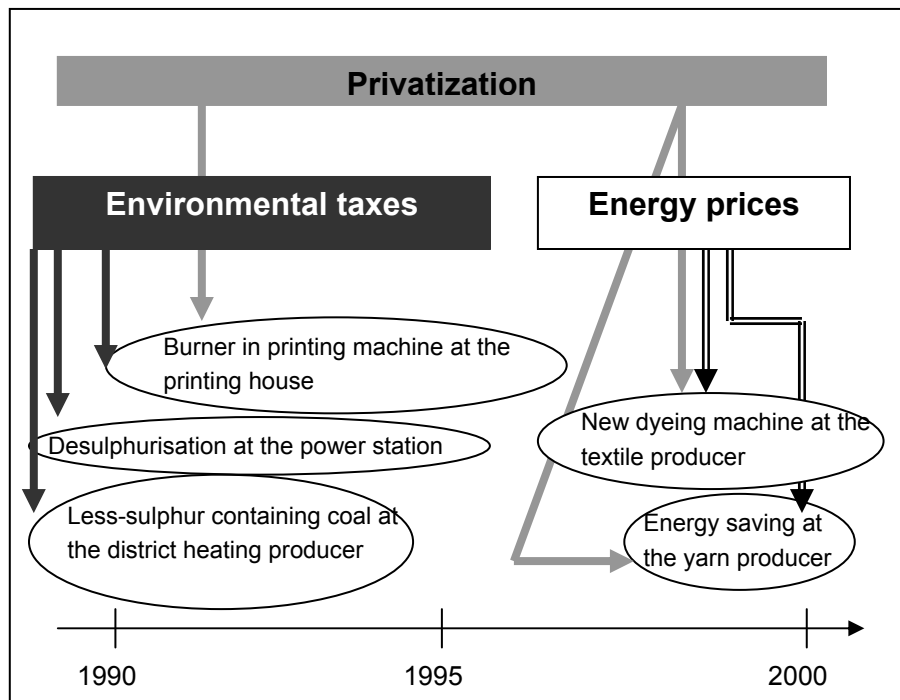


Figure 4.9: The chronological order of the first environmental projects at the five firms and their relation to the initiating events.

Firms under Environmental Pressure

Firms under environmental pressure are the firms that somehow relate to the development in the Polish environmental legislation, not that they surpass the emission limits, but they are close by these limits and therefore aware of them. Three firms come under this category, i.e. the power station, the district heating producer, and the printing house. Please note that figure 4.9 only considers the initiating events for the very first environmental project at the firms, later projects might have other motivations.

In the early 1990s, the Polish power sector was under considerable environmental pressure, as the major environmental target of the government was reduction of the air pollution. As a result charges on emission increased, especially on dust, sulphur dioxide, and nitrogen oxides. The two firms within the power sector both state the raising environmental charges and their stronger enforcement as the reason for making environmental projects. For the firms within the energy

sector the privatization issues played a minor role in the argumentation for the first environmental projects, as the processes had not yet begun.

The printing house was not under the same environmental pressure as the firms in the energy sector. Still, also here the firm mentions the environmental charges as the motivating factor for the first environmental project. The printing house was privatized in the early 1990s, so this issue also played a role as a driver for the first environmental projects by directing a greater focus towards cost.

Briefly, I conclude that the initiating event for environmental projects for the firms in the energy sector is the level of the environmental charges. Although the environmental charges also plays a major role for the printing house also other issues are at stake. Thus, in the early 1990s the environmental charges worked as a major motivator for the first environmental projects for the three Polish firms producing at full production capacity, and emitting problematic airborne substances.

Along these lines, other Polish firms in a similar situations would also be influenced by the environmental charges, as some of them would bring about their first environmental project. The assessment of the actually effect of the raise of the environmental charges on the Polish industry in general is beyond the scope of this project.

Firms Reacting on Rising Energy Prices

The two textile firms produce considerably less than full production capacity, and therefore the environmental charges are low and they are not under the threat of penalties.

For these two firms the environmental legislation has no influence. Instead the ongoing privatization processes seem to have great influence, as it directs the focus towards cost reductions and attractive technology investments. The rising energy prices have guided the attention towards energy issues, and as a result both firms seek to optimize the energy intensive dyeing process.

For both these two firms the first initiating event has been the decision of privatization. The firms have primarily aimed at improving the economic situation and as a side effect they have also improved the environment.

4.3.2 Construction of Environmental Problems

The construction of the environmental problem is part of the carriers of industrial environmental practices analyzed for each firm in the paragraphs 4.2.2 to 4.2.6; however in this paragraph, I combine the part of environmental problems with the second carrier of industrial environmental practices, i.e. the carrier of internal organization and external relations. Consequently, the paragraph deals with the construction of environmental problems, internal and external actors involved, especially regarding knowledge, economic resources, and activities performed.

Similar to the argument on initiating event for the first environmental project, i.e. paragraph 4.3.1 Initiating event, the five case firms fall into the same two categories.

On one hand it is the firms under environmental pressure, that is the power station, the district heating producer, and the printing house. These firms define the environmental problems as purely questions of expense, where the environmental authorities construct the environmental issues in focus. These firms are discussed under the heading “*A Question of Expense*”.

On the other hand are the textile firms, which does not really construct environmental problems. Among these firms the environmental solutions are more or less unaware of beneficial side-effects of projects with other main objectives, such as reducing costs or implementing new technology. I deal with this group below under the heading “*Non-Constructed Environmental Problems*”.

A Question of Expense

The three firms under environmental pressure, i.e. the power station, the district heating producer, and the printing house, consider environmental problems as purely a question of expense. This is due to the environmental pressure transmitted through the environmental taxes on emissions and the threat of penalties.

In this way, it is the environmental authorities and not the firms that define what environmental problems are, which problems are important, and subsequently the acceptable damage level on nature. Environmental problems are reduced to environmental policy on emissions leaving out issues as damages to the nature, public protest, or possible green markets.

This distribution of roles between the environmental authorities and the firms also sediment a specific division of knowledge, where the environmental authorities have knowledge of how emissions damage nature, while the firms have knowledge of the amounts of outlets, which they have to document. Thus, the environmental authorities construct the environmental knowledge alone, but the level of the emissions is to some degree questioned by the firms; e.g. see box 4.1 previous in this chapter. In fact all the firms under environmental pressure question the equality of the firms for the law. I see this critique as more a question of the rightness in industrial production being restricted by environmental aspects, than necessarily mistrust in the environmental authorities.

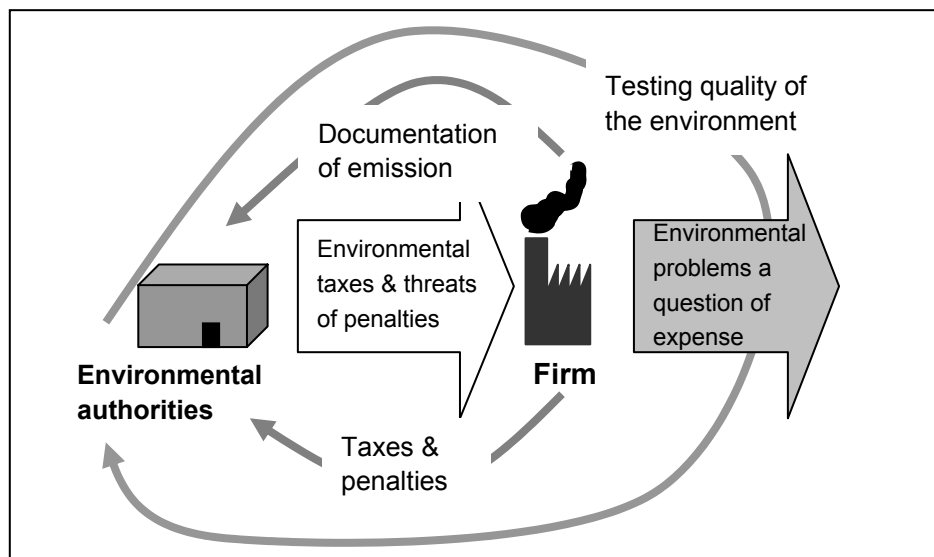


Figure 4.10: Actors, resources, activities, and knowledge involved in the construction of environmental problems on the firms under environmental pressure.

The firms provide the data needed to document the levels of emissions, while the authorities control the damages on nature. Economically, the firms have to pay the taxes and maybe also penalties. Figure 4.10 above illustrates the relation between firms and environmental authorities regarding construction of environmental problems.

Non-Constructed Environmental Problems

In the cases of the two textile firms the driving forces for the so-called environmental projects only in a minor degree relate to environmental issues. The external pressure for privatization in the sector is the overall driving force in both cases. In the case of the textile producer, investments in a new German dyeing machine are a way to be more attractive to investors. Energy saving is a side effect as all new machines are considered more efficient and thereby an environmental improvement. The newly established board at the yarn producer has called for cost reductions, also within the energy field; but the firm does not consider this an environmental project.

In this way, the environmental projects in the textile industry are side effects of privatization problems, constructed by the management without interference from external actors. Figure 4.11 below illustrates the non-constructed environmental problems in the textile sector.

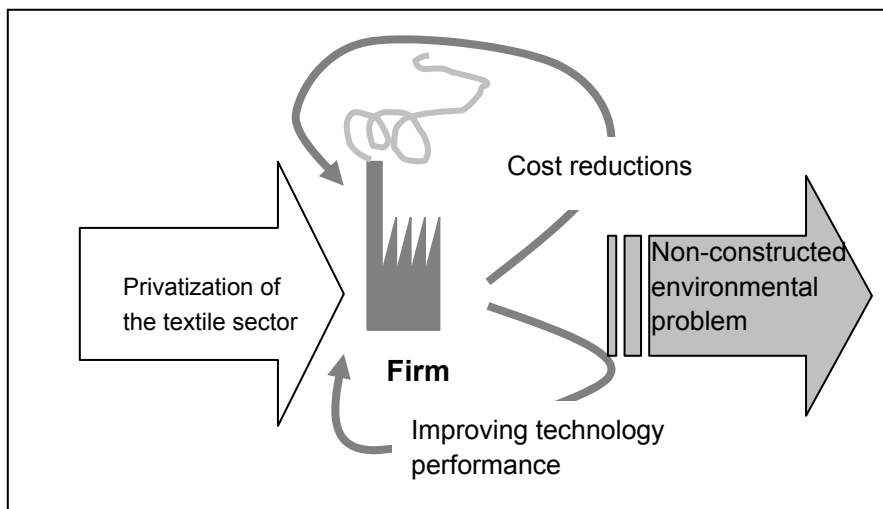


Figure 4.11: Main pressure involved in the non-construction of environmental problems in the textile sector.

4.3.3 Construction of Environmental Solutions

In this paragraph, I deal with solutions of the first environmental project at the five case firms. In this work, I draw especially on parts of the two first environmental carriers; i.e. construction of environmental solutions and project organization in relation to the

external environment. The solutions to the environmental projects are closely connected to the problems which they are meant to solve, and in this way the solutions reflect the priority of the environmental authorities for the firms under environmental pressure, and the rational of privatization for the two textile firms facing privatization. Below these two types of solutions are dealt with under the headings *Reduction of Environmental Expenses* and *Improving Privatization Capacity* respectively.

Reduction of Environmental Expenses

For the three firms under environmental pressure, i.e. power station, district heating producer, and printing house, the environmental problems are the environmental expenses. Therefore, the solutions are reductions of these costs. To begin with this lead to reduction of emissions as it is the emissions that are taxed. However, the firms single-handedly are responsible for finding a solution to this problem, and how they do so differ from firm to firm.

The power station called out a tender. By doing so they define the solution beforehand. Reduction of sulphur by other than desulphurisation is very hard unless one considers changing fuel or radical change in technology, which was not an option for the power station. Within the frames of the defined tender, the project was to a high degree defined by the winner of the tender. The district heating producer changes coal to a less sulphur-containing type, which was made possible by the liberalization of the coal market in 1990 (Salay, 1996: 207). At the same time this fulfilled a strong request within the hard-coal fuelled power sector for access to better quality coal. The printing house heard of the solution burners among the visiting suppliers at the firm and bought it.

Along these lines, solutions to the environmental problems, defined by the environmental authorities, are constructed by the firms themselves without much systematic consideration of alternatives. I do not assess the quality of the different solution; I merely note that the firms do not have a broad search for solutions. Furthermore, the firms' knowledge on especially environmental outlets also seems to direct the focus when searching for solutions.

Another issue that differs among the firms is the degree to which the environmental projects include a learning project at the firm. At the printing house the installation of the burners did not include any training activities; however, the firm realized that this issue was important, thus the later purchased printing machine also has burners

installed. The district heat producer had to adapt to the new liberalized coal market, but regarding technology no major new learning was involved. The power station contrast this picture as the Dutch winner of the tender set up a two-year training programme, and established a new division responsible for running the new desulphurisation equipment and providing documentation on emission for the environmental authorities. The interviewed person emphasized the uniqueness of this procedure. This might indicate the training in relation to technology implementation is not usually in a Polish context. Subsequently, the power station has worked as consultant for Polish power firms implementing desulphurisation equipment.

Figure 4.12 below illustrates how the type of solution associates with the actors and phenomena involved in the construction of the solution. The involvement of technology suppliers leads to end-of-pipe solutions, while the liberalized market for the resources points towards resource optimizing. These conclusions only relates to the first environmental project at the three firms under environmental pressure.

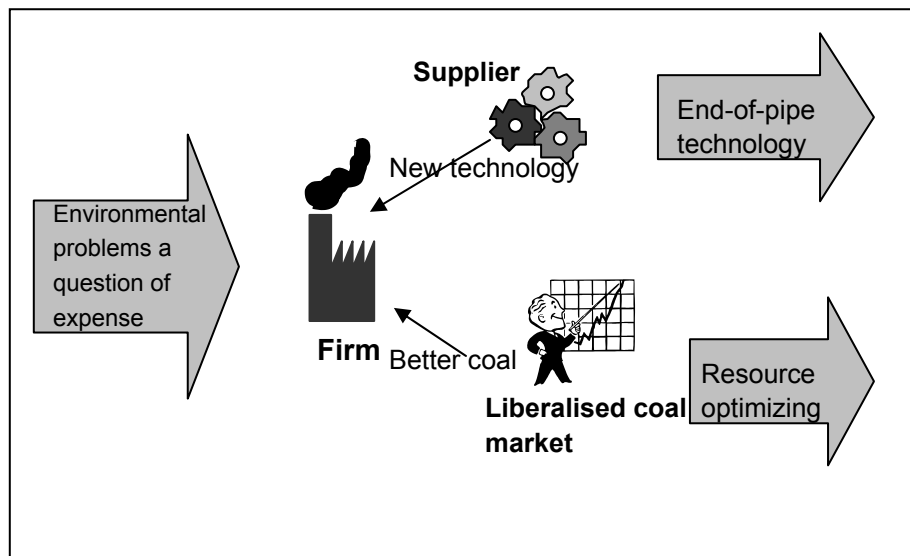


Figure 4.12: Association between actors, phenomena, and construction of solutions for the first environmental projects at the three firms under environmental pressure.

The costs of these three solutions differ. The district-heating producer has to pay more for the high quality coal, but gains from the ten percent reduction of sulphur emission and the higher efficiency. The district-heating producer has all the costs along with the benefits for this investment. The firm is able to keep below the emissions limits so all in all it is a minor investment in my opinion, thus the firm emphasized the cost of documenting the emissions as more significant.

The printing house also had all the costs of the burners for the printing machines, but it seems to be a sensible investment as the firm chooses to include burners in the new printing press. The firm complains of the stronger enforcement of the environmental legislation, which it sees as unfair towards the private firms. This could indicate that they would not have implemented the burners without the environmental taxes and penalties.

The power station makes a very large investment in the desulphurisation equipment. The cost is divided between the firm (approximately half the costs), the Dutch Electricity Generating Board (fifteen percent), and various public sources of grants and soft loans including environmental funds (approximately 35 percent). This division relates to the construction of the desulphurisation plant, the maintenance, running and documentation costs lays upon the shoulders of the power station.

In this way, the solutions seem to be the full responsibility of the firms, and the environmental authorities are only partly involved in financing.

Improving Privatization Capacity

The two textile firms are not pressured by environmental charges, but they are compelled by the forthcoming privatization. The textile firms are in the process of looking for investors; thus the management have not been restructured. The solution is here to buy a new German dyeing machine which is presupposed to be more energy efficient than the previous machine. The environmental benefits are a kind of assumed side-effect of the project.

The yarn producer is a bit longer in the privatization process, it has found the first investors and it has re-established the management. Now it seeks to optimize the production, and one of the means is cost reductions. Again the environmental benefit of the process is a positive side effect.

The knowledge about these processes is all found within the firms, thus it is not a question of new knowledge but employing already existing knowledge. The yarn producer considers the possible energy saving completed, thus the processes are regarded as a single undertaking rather than an ongoing process. Again the solutions are constructed within the firms. Both the environmental projects in the textile industry consider energy issues. A hypothesis could be that energy issues are more uncomplicated to take into consideration for many firms as the solutions are often connected with resource optimizing and increased production effectiveness, things that all improve the core production activities. The opposite situation occurs for the firms under environmental pressure where the environmental solutions take resources away from the core production areas.

4.3.4 Continuity of Environmental Activities

This paragraph deals with driving forces for continuity of environmental activities at the individual firms. This analysis focuses primarily on the last carrier of industrial environmental practices, i.e. internal project organization and follow-up activities. In the following I deal with the results of the first environmental activities, and the driving forces of the subsequent environmental projects.

Results of the First Environmental Project

In general, I have little information about the environmental outcome of the environmental projects, see also appendix I. This to some degree is a result of the specific interview situation and to some degree a result of, the way the emissions are measured.

In the air pollution field the concentration limits are related to imission, i.e. the concentration of pollutants by the surface of the earth in some distance from the polluting source (Łódź Voivodship Office & Environmental Research and Control Centre, 1990: 49-50). The imission will differ from the emission, i.e. the released amount of pollutants coming out of a chimney, due to mixes with cleaner air and transportation of the pollutants depending primarily on the weather. The stated emissions in the environmental data are therefore based on the data on raw material used and calculation of emissions stated in the environmental reports by the firms.

The power station reduced its sulphur emission by one third by the first four-desulphurisation units corresponding to 120.000 tons

annually. This is a lot, but the price has also been high. However, Poland is facing a full membership of the EU, and observance of the EU limit for sulphur emission will become a demand for entering the open market, and in this light the project might be more beneficial than it looks at first hand.

The district heat producer exchanged its fuel in the early 1990s in order to reduce the emission, and it succeeded. Between 1989 and 1990 the dust emission was reduced by almost one-third, the sulphur emission by one tenth, and the nitrogen emission with 43 percent. I do not know the cost of this change in resources, but I doubt that the additional expenditure reach the level of installing cleaning equipment.⁶⁹

The results of the printing house project I do not know. The burners are now built into the printing machine so the costs are hidden in purchase of new production equipment. The effects of the installation are reflected in the level of environmental charges.

For the three case firms under environmental pressure the results of the first environmental projects are visible through the level of environmental charges, based on environmental reports the firms had to prepare. No signs indicate that these firms see the environmental charges as anything else than environmental expenses, and as a result the continuity of environmental projects are to a high degree motivated by raising charges.

The firms in the textile sector measure the energy consumption through the energy bills. The textile firm just assumed that they would save energy on the new dyeing machine, which properly is right, as the dyeing process is one of the most energy demanding processes in the textile sector. The firm was keener on getting new investors than saving energy, therefore environmental learning processes were not essential. The yarn producer was able to control the effects through the metres installed a year earlier. The board was very interested in the positive saving results. However, the firm did not see the energy projects as an environmental project, and they assume that after the planned activities, they were "energy efficient". In this case the driving forces for continuity seems to be the new board's attention towards environmental issues and the level of the energy prices.

The environmental authorities are involved in the first environmental projects at the firms under environmental pressure. These firms all have to make environmental reports on emission levels for the environmental authorities, which is the fundament for calculation of the environmental charges on the firms. The firms bear

the expenses of preparing these reports, which earlier was a job of the environmental authorities. Thus, the environmental divisions on the firms under environmental pressure are mostly professionals regarding emissions. At the textile firms the environmental authorities are not involved. The environmental issues are dealt with through the production or maintenance divisions. Accordingly, the existence of an environmental division seems to relate to the degree of environmental pressure, which is also supported by the fact that the environmental divisions at the firms mainly produce the environmental reports for the environmental authorities.

The degrees of learning involved in the first environmental project differ among the firms. The power station was able to establish a consultancy service based the knowledge of the desulphurisation equipment and the implementation processes in this connection, this was not the case for any of the other firms. The printing house and textile producer brought new equipment, but none of them had a systematic search for solutions or a long relationship with the supplier. The yarn producer and the district heating producer both use internal resources to exploit the results of the first environmental projects.

Subsequent Projects

Figure 4.13 below lists the first environmental projects along with the subsequent projects at the five case firms. This illustrates the brief history of environmental projects in the textile sector. Actually, the two textile firms have only made one environmental project each both connected to energy issues.

Besides saving energy, the motivation for the textile producer was to acquire new desirable technology in order to attract new investors. If the firm better its economic situation it is possible that it will invest in new technology again. However, since the energy issue has not been the main driving force for this project, it is unclear if it will be in the future. The yarn producer also might make energy saving activities sometime in the future, but they would need an external pressure, as their own understanding is that now they are energy efficient. Thus, no indications point in direction of independent future environmental activities. Future environmental projects would demand some kind of external pressure e.g. in form of higher energy prices or external pressure e.g. from the board.

The case firm with most environmental projects is the printing house. It differs from the other firms under environmental pressure by some environmental projects that not directly refer to environmental

charges, even though they mention the environmental charges as the main driving force for the environmental projects. This firm might also in the future make environmental projects not directly motivated by environmental charges; even though the environmental charges still play a major role in the drive behind the environmental projects. The firm contradicts that by the plan to make environmental audits, so the future environmental projects will be a continuous chain of linked projects, but rather separate single projects to solve single environmental problems. In this way the firm appear as front-runner among the case firms.

Firm	First environmental project	Subsequent environmental projects
Power station	<ul style="list-style-type: none"> • 4 units FGD (1990) 	<ul style="list-style-type: none"> • Combustion process to remove NO₂ • Fly ask disposal • Automatic measurement in chimney
Thermal power station	<ul style="list-style-type: none"> • Change of coal quality (1990) 	<ul style="list-style-type: none"> • Modernisation of ask removal
Printing house	<ul style="list-style-type: none"> • Burners at printing industry (1992) 	<ul style="list-style-type: none"> • Close system for printing colours • Close system for repro chemicals • Noise wall • Ventilation paper dust with heat recovery
Textile firm	<ul style="list-style-type: none"> • New dyeing machine (1998) 	<ul style="list-style-type: none"> • -
Yarn producer	<ul style="list-style-type: none"> • Energy savings (1998) 	<ul style="list-style-type: none"> • -

Figure 4.13: The first environmental projects and the subsequent projects at the five case firms.

The two firms in the power sector have not made any projects that are not directly linked to environmental charges. They both see these charges as unfair to their company compared with others, thus it is unlikely that they would continue the environmental projects without the pressure of the environmental charges and fines.

In this way the environmental projects in the energy sector seem to be totally depended on the environmental charges, while the printing house is also motivated by other factors, even though it does not

consider the work with environmental projects as a continuous process. In the textile firms the privatization processes and the raising energy prices are the driving factors. In all cases the environmental projects are not something taking place without some kind of pressure from the surroundings. One could say that the industrial environmental practices are not fixed in the everyday practice of the firms, but appearing now and then due to pressures from the environment.

4.3.5 Main Findings of the Case Studies

The five firms have different industrial environmental practices as described in paragraphs 4.2.2 to 4.2.6. These practices are carried by construction of environmental problems and solutions; internal organization and external relations, as well as internal project organization and follow-up activities. Among these various practices common features emerge. These common features are the focus of this summery.

Initiating Event

In all the cases something external is the reason to begin the first environmental project. For the firms in the power sector and the printing house, it was primarily the environmental taxes on specific airborne emissions that resulted in the projects. The situation was different for the two textile firms, where the privatization processes and the raising energy prices were the major driving forces. Thus, in all cases something forced the firms for think differently.

Constructing Environmental Problems

The constructing of environmental problems is closely relating to the driving forces for the first environmental project. The firms under environmental pressure seem to have a main objective of reducing the environmental taxes and possible penalties. In this way, the environmental problems constructed by the environmental authorities are transferred into a question of reducing expenses at the firms. The district heat producer differs a bit from this picture, since better quality fuel have been a wish in order to improve the production effectiveness, which also will reduce the sulphur emission.

The two textile firms do not construct environmental problems, the environmental projects are side effects of technological improvements or cost reductions realized in connection with the privatization processes.

All in all, the first environmental projects do not relate to the environmental issue in the heads of the firms, but to cost reduction and technology improvement.

Solution of Environmental Problems

The firms under environmental pressure construct the environmental solutions after a limited search of alternatives, while the environmental problem is defined by the environmental authorities through the environmental taxes. The focus on emission directed by the taxes does not only lead entirely to end-of-pipe solutions, but also resource optimizing projects.

The environmental projects at the two textile firms are side effects of privatization projects; in this way the environmental problems are actually never constructed. Thus the link between problems and solutions in the environmental field is very weak in these cases. In other words environmental issues are not part of the problem construction in the firms, which are not under environmental pressure from the authorities.

Continuity of Environmental Activities

The existence of an environmental division at the firm seems to relate to the degree of environmental pressure at the firm. Supporting this fact is the observations that the chief task of the environmental divisions is to provide the environmental authorities with documentation of the emission level.

The case firms with environmental divisions are also the ones where the environmental taxes are an important driving force for environmental projects. That is especially true in the energy sector. The privatization also seems to be an occasion where environmental issues might play a role, especially energy issues, this is a tendency among the two textile firms. However, for all these firms, despite the many good environmental results, the environmental projects are not rooted in the everyday life of the firm, but depended on pressure from the surroundings.

5 The New National-State: Poland

This chapter is the first of three chapters considering the discourse analysis in the areas of identity, industry and environment; see the analysing framework in section 3.2 *Theoretical Framework for the Historical Analysis*. Each chapter covers a time period, and this chapter is on the interwar period.

Why begin the analysis in the interwar period? one might ask. At the close of World War I, the four defeated empires that had dominated and ruled Central and Eastern Europe – Prussia, Austria-Hungarian (Habsburg), Ottoman, and Russian Empires – were replaced by a dozen new, or restored, or enlarged would-be national states. After more than a century of partition between the three

empires of Prussia, Austria-Hungary and Russia, also the Polish nation re-emerged in 1919. However, the freedom of the new state ended abruptly by the WWII and the occupation of Poland by Germany and the Soviet in 1939. During this period a foundation stone of the present Poland was laid and the first experience with democracy were made. It was also a vital period for re-establishing a common Polish culture after having been spilt among three empires in more than a century. These are the main reasons for beginning the analysis in 1919.

A discourse analysis is not a traditional account of historical events. A traditional historical account would explain the lines of history in a logical way, giving emphasis to events both inside and outside Poland that influenced the Polish society. The objective of this discourse analysis is very different as it does seek the events influencing Polish society, but different domestic interpretations of these events in relation to identity, industrial development, and environmental development. In this way, the discourse analysis highlights connections that are often overlooked, and therefore the account becomes very dependent on the researcher, which is also the case here. I build the chapter on traditional historical accounts written in English, which are twisted and combined in new ways. Many methodological questions could be raised in this connection. I will deal with some of these issues in the last section of the chapter, i.e. 5.5 *Reliability of the Analysis*. Before this discussion is three sectors located dealing with the identity, industrial developments and environment respectively, and the fourth section concludes on the main discursive developments in the interwar period.

5.1 Independent Poland

The definition of “the Polish” in relation to the outer world was an essential issue in the interwar period. The identity issue was especially apparent in two connections, i.e. the establishment of Polish borders and the founding of a new constitution, while the domestic development appeared more peaceful. This is dealt with in this section, which ends up in a paragraph concluding on the main discursive developments regarding identity in interwar Poland.

5.1.1 Domestic Developments

During the interwar period, Poland was distinctly dominated by agriculture and therefore the potential political power was placed in the hands of the peasantry. However, their influence was blunted by the emergence of a specific ruling class primarily composed of the bureaucracy and intelligentsia. The escalating social and political unrest throughout the interwar period replaced democracy with authoritarian rule in 1926 (Rothschild & Wingfield, 2000: 13). In 1921 the Polish parliament was established, but the political situation was unstable with many small parties in the parliament resulting in countless minority and coalition governments, which resulted in a coup d'état in 1926 remaining until World War II. Also the growing pressure from Germany on Poland played a role for change of rule in Poland, as Germany hoped to recover at least a substantial part of the pre-war Prussia (Rothschild & Wingfield, 2000: 2).

The administrative structures were not particularly changed to deal with the cultural differences that appeared as a consequence of the tradition in the three empires that had ruled Poland during the nineteenth century. E.g. the lines of regional divisions originally coming from the three empires of Prussia, Austria-Hungary and Russia continued in the interwar period (Bucek et al., 1996: 439).

Economically, the new Poland created in 1919 made no sense at all. Along with four legal systems, the republic inherited six different currencies, three railway networks, and three administrative and fiscal systems. Furthermore, the regional discrepancies in agricultural and industrial sectors were huge⁷⁰ and the area had been ravaged by six years of war (Zamoyski, 1987). Throughout the 1930s, state capitalism was to a large extent developed in Poland, thus Poland along with the Soviet Union and possible Sweden had the most significant state capitalism in interwar Europe (Rothschild & Wingfield, 2000: 82).

Although the existence of a relative free press, civil society as such appeared to be only a marginal phenomenon and embraced only a fairly narrow circle of intellectuals. Many interest groups remained also after the coup in 1926. The most important institutional group was the Catholic Church, and otherwise, most interest groups were accommodated through state arrangements (Korbonski, 1993: 435).

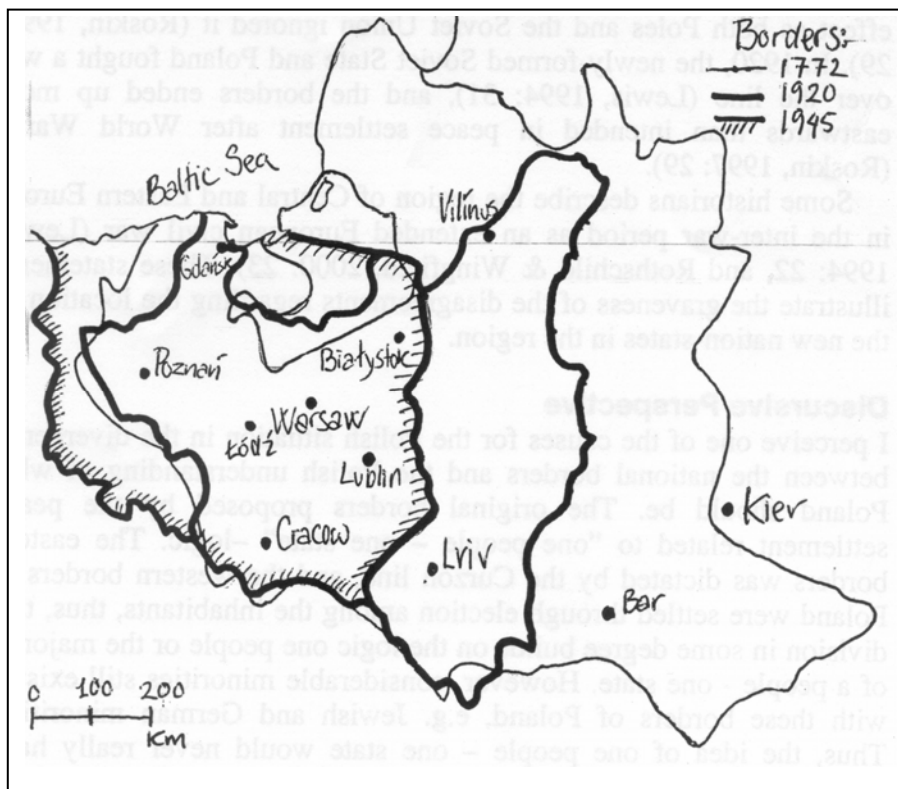


Figure 5.1: The borders of Poland in 1772, 1920 and 1945. Deriving from Curtis, 1992.

5.1.2 The Polish Borders

How to define the new Polish state as something different from the surrounding countries was a big issue in the beginning of the interwar period in Poland. Some Poles wanted to re-establish Poland at its historical boundaries of 1772 before the first partition of the empires, however, it was turned down at the peace settlement after World War I (Millard, 1996: 203). The compromise solution was a location of Poland, where the western borders on the whole followed the borders of 1772, while the eastern borders were moved towards west compared to the previous borders. Herewith the new Poland “lost” half of Belarus, half of Ukraine, and a major part of Lithuania. Figure 5.1 shows the present Polish borders, as well as the Polish borders of 1920 and 1772.

The establishment of new national states in Central and Eastern Europe led to many disputes during the interwar period. Thus, Poland and Lithuania quarrelled over Wilno (Vilnius, Vilna), while Poland and Czechoslovakia had a dispute over Teschen (Těšín, Cieszyn). Germany was not contented with the Polish Corridor to the Baltic Sea and the loss of southeastern Silesia. The so-called Curzon line was an international-dictated eastern border of Poland, which took into account, which ethnical groups lived where, but it never went into effect as both Poland and the Soviet Union ignored it (Roskin, 1997: 29). In 1920, the newly formed Soviet State and Poland fought a war over the line (Lewis, 1994: 31), and the borders ended up more eastwards than intended in the peace settlement after World War I (Roskin, 1997: 29).

Some historians describe the region of Central and Eastern Europe in the inter-war period as an extended European civil war (Lewis, 1994: 22; and Rothschild & Wingfield, 2000: 23). These statements illustrate the graveness of the disagreements regarding the location of the new nation-states in the region.

I perceive one of the causes for the Polish situation in the divergence between the given national borders and the Polish understanding of what Poland should be. The original borders proposed by the peace settlement related to “one people – one state” – logic. The eastern borders was dictated by the Curzon line, and the western borders of Poland were settled through election among the inhabitants, thus, this division in some degree builds on the logic one people or the majority of a people - one state. However, considerable minorities still existed with these borders of Poland, e.g. Jewish and German minorities. Thus, the idea of one people – one state would never really have consistency with the actual mixture of inhabitants in Poland. After the war with the Soviet Union, the eastern border regions had big concentrations of Belarusian and Ukrainian minorities.

The disputes on the borderlines could be seen as a conflict between two discourses defining what Poland is. The first one I call “*Historical Poland*”, it pictures Poland as it existed before the partition, i.e. at the 1772-borders, as more than a century of incorporation in three different empires could vanish with a single stroke. This discourse heavily drew on Polish nineteenth century nationalism. This discourse primarily had its foundation within the

borders of Poland, e.g. the later authoritarian ruler of Poland Marshall Józef Piłsudski was a represent of such views (Millard, 1996: 202).

The second discourse emerged from nationalism ideas of one state one people. Regarding borders this discourse had strong support in the environmental around the peace settlement after World War I. I call this discourse “*One state – One People*”. It split with the historical understanding of Poland and defines Poland as something ethnical rather than historical. Implicit it implies that the century of partition cannot be forgotten, and the Poland of 1920 must be different than the Poland in 1772 – as time moves on.

The borders dictated by the peacemakers of WWI was never really recognised by Poland as the war with the Soviet over the most changed east border also illustrated. Although the war fail in re-establish the 1772-borders, but the “One State – One People” discourse also fail in establishing a new state building on one people – one state logic as the Poles only make up two thirds of the inhabitants of Poland in 1920. In this way, the “Historical Poland” discourse appeared as a significant view even though it was not in accordance with the actual border reality.

The WWII turned the borderline discussions upside down. The invasion of Poland by her neighbours in 1939 and the wartime occupation by Nazi Germany and Soviet Russia appealed to Polish nationalism. E.g. Poland had the biggest resistance army in all of Europe, which built on a considerable measure of reconciliation among the many different political groups. In order to protect and preserve the nation a parallel underground Polish state developed with e.g. own institutions, press, and education system (Millard, 1996: 205).

By the end of the war, the fate of Poland was again defined from aboard. The Allies by and large confirmed the Polish east border corresponding to the international-defined Curzon line from the peace settlement of World War I. In order to compensate for the loss of the east land, Poland were given the territories up to the Oder-Neisse line and the southern part of the former East Prussia (Rothschild & Wingfield, 2000: 30).

The German population was to be moved westward out of the newly acquired Polish territories to make room for the Polish population that would be extruded from the eastern lands (Rothschild & Wingfield, 2000: 30). The pre-war level of Germans in the newly acquired Polish territories was between eight and nine million, but after 1948 only one million Germans remained⁷¹. At the same time 4,5

million Poles moved from other regions to take their place. Additionally, one has to think of the approximately three million Polish Jews that were executed during World War II along with approximately three million Poles that lost their life in the war. On this sad background the Polish nation of 1945 was an ethnical homogenous state with less than 2 percent minority compared to approximately one-third minority population before the war (Lewis, 1994: 51-52).

The big resistance army consisting of many different political groups was a sign of a great support behind a desire to end the German and Soviet occupation of Poland. I call this discourse for “*Remaining Polish*”. It did not end the other discourses, but it had a hegemonic relation to them in such a way that the resistance actions were more important than especially ethnical disputes.

By the end of WWII the debate on borders had changed totally. The new established borders and the massive movement of ethnical groups had produced a Poland corresponding to the view of the “One People – One State” discourse; thus, one could say that the borders and the movement of ethnical group was an institution of this view. The “Historical Poland” had lost almost all its significance as the hegemonic constellation of “Remaining Polish” continued also after WWII.

5.1.3 The Polish People

Divergence of understandings also existed in the debate of the constitution of the new Polish nation. The debate related to two different concepts of state, which each defined Poland and its inhabitants widely divergent. On one hand was the understanding of Poland as a multi-ethnical state dominated by Poles but with autonomy for the eastern minorities. On the other hand was an understanding of Poland as an ethnically Polish, unitary state. It was the last understanding that was embedded in the final constitution (Millard, 1996: 202-203).

The new constitution fitted the view of the “One People - One State” discourse, but paradoxically Poles only comprised some two-thirds of the population of Poland. According to census data from 1921 (universally judged to understate minority numbers) 14,3 percent of the population was Ukrainian, 3,9 percent Belarusian, 10,5 percent Jewish, and 3,9 percent German, the rest 67,4 percent of the population were Poles (Millard, 1996: 202).

I comprehend the view of Poland as a multi-ethnic country dominated by Poles as related to the historical-Poland discourse. Before 1772, Poland was multi-ethnic not only because of the many minorities in the border areas but also due to a big population of Jews and Germans in central Poland. The failure of establishing the 1772 borders also undermined the concept of a multi-ethnic Poland (Millard, 1996: 203). The discourse perspective would state that the lack of institutionalisation of the historical Poland discourse with regards to borders as well as constitution weakened the trenchancy of this discourse.

The constitution defining Poland as ethnical Polish and a unitary state drew on a discourse of “*Ethnical Nationalism*”, which swiped through Europe in the interwar period, e.g. reflected in fascism and nazi ideology. This nationalism differ from the movement of the nineteenth century by primarily focusing on ethnical features of nationalism, while the nationalism of the nineteenth century had a distinctly political project namely to revive the Polish nation (Jenkins & Sofos, 1996: 9). The “*Polish Ethnical-Nationalism*” discourse was predominant in other areas than the debate on the constitution. An illustration of this was the many ethnical conflicts, e.g. the Ukrainians and Belarusians that had national aspirations and fought against polonisation with increasing intensity throughout the period (Millard, 1996: 203-204).

The “Polish Ethnical-Nationalism” discourse drew on some of the same features as the “One State – One People” discourse, especially regarding racial issues. I consider these two discourses as fusing during the debate on constitution issues. The “One People – One State” discourse had its main support among the peacemakers of WWI outside the Polish context, and was in conflict with the Polish understanding of borders of the new state, however, it was partly institutionalised by the new borders. The debate of constitution was for the most part a domestic affaire, and therefore the “One People – One State” was translated into a Polish context, which to a much higher degree underlined the ethnical issues. I call this Polish translation the “Polish Ethnical-Nationalism” discourse.

The peace settlement of World War II again relocated the borders of Poland and the mass removal of ethnical populations left Poland defined as based upon one people – one land logic. These developments to some degree took the air out of the “Polish Ethnical Nationalism” discourse.

5.1.4 Discursive Developments regarding Identity

Figure 5.2 below sketches the main discursive developments in the identity area during the interwar period. Three worries regarding identity resulted in major changes in the discourses regarding identity.

The first worry chronologically was the question of borders of the new nations as it entailed different images of the new national state of Poland. The “Historical Poland” discourse viewed the new national state as re-emerging from the historical Poland, and therefore the 1772- borders should define the new nation. In the early interwar period this view had great support within Poland. However, the peacemakers of WWI considered the logic of the discourse “One People – One State” most appropriate for border drawing, which was institutionalised in the dictated borders. The 1920-war with the Soviet and the regain of the east lands illustrate the “Historical Poland” comprehended war a solution to their lack of success with the WWI peacemakers. Even though, the 1920 borders was moved eastwards they were far from the 1772-borders, and this took a part of the wind out of the “Historical Poland” discourse.

The next worry reflecting identity issues was the establishment of a new constitution. The “Historical Poland” discourse argued for a multi-ethnic constitution reflecting the mix of population in the historical Poland. The Polish translation of the “One People – One State” discourse, called the “Polish Ethnical Nationalism” discourse, understood the constitution as ethnical Polish, despite the big number of minorities within the Polish borders. The establishment of an ethnically Polish, unitary constitution was an institutionalisation of the “Polish Ethnical Nationalism” discourse. Throughout the interwar period this discourse got more and more support.

The identity debate changed totally with the German attack on Poland in 1939. This established a hegemonic constellation of remaining Polish, which remained strong even after WWI. See figure 5.2 below.

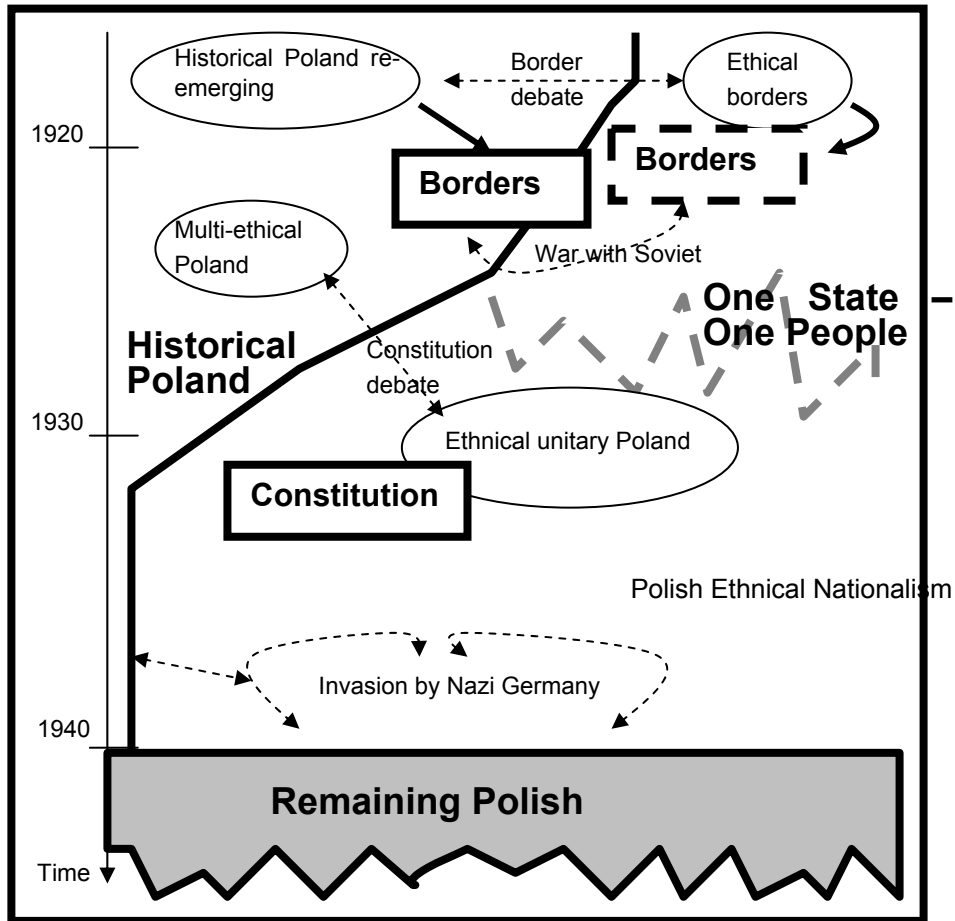


Figure 5.2: The main discursive developments in the identity area during the interwar period. The area of the different discourses sketches their mutual strengths. The arrows between two ellipses illustrate some of the main debates between the discourses in focus. Some of these understandings are institutionalised into in this case borders or constitution. This are marked in the bold boxes.

5.2 Importance of Industrialisation

By the turn to the twentieth-century, the region of Central and Eastern Europe was predominantly agricultural, while the western European societies to a higher degree had developed their industrial sectors. Even though pockets of industrial areas existed, e.g. the textile centre of Łódź in Poland, the region was for the most part agricultural (Crawford, 1996: 22). During the 1930s, the Great Depression⁷² had immense impact in the agricultural dependent East and Central European trade as the world prices of agricultural goods fell earlier and more steeply and remained longer at deeper troughs than the prices of industrial products. On the background of this lesson most of the countries the region, including Poland, decided to industrialise (Rothschild & Wingfield, 2000:19). Furthermore, the region had the damages of World War I to fight with, which soon was to be followed by World War II (Zamoyski, 1987). At the eve of World War II the social inter-structural investments made in the inter-war period were ruined, six million Polish citizens had been killed, among them half were Jews. One third of all Polish houses had been destroyed and in Warsaw the number was nine tenth (Rothschild & Wingfield, 2000:26). Thus, Poland faced an enormous rebuilding task after the war both regarding rebuilding infrastructure and establishing a new entrepreneur class replacing the mainly German and Jewish interwar entrepreneur class.

5.2.1 Polish Point of Departure

During the time of partition (1772-1918), the economic sectors in the three parts of Poland developed differently. In the *German part* the industrial development related especially to the agriculture sector. The introduction of co-operatives in 1871 resulted in mechanisation of the agriculture and this development was followed by large-scale emigration mainly to the United States from rural areas due to surplus of labour. The *Austria-Hungarian part* of Poland was considered a central source of agricultural production for the Empire, why attempts at industrial development were discouraged. Still, the agricultural sector continued to operate on traditional lines, where tiny farms barely supported large peasant families, also here resulting in waves of emigrations to the United States. The *Russian part* of Poland became the most industrial part of the Russian Empire especially with

regards to agricultural and textile industry. Compared to European standards this industrial revolution was by no means spectacular as almost 70 percent of the population still lived in the countryside by 1900. Still, the value of the overall industrial production in the Russian part of Poland increased by over six times between 1864 and 1885. But the agriculture was underdeveloped in the region, and furthermore the pressure on land was intense as consequence of the population doubled in the second half of the nineteenth century (Zamoyski, 1987). Although, the three parts of Poland had developed differently during the partition, some common features are apparent. In all of Poland the countryside seemed to have surplus of labour and even variations existed the whole country was less industrialised than Western Europe.

The three parts of Poland incorporated in the three different empires primarily sold their products on domestic markets. Even though, the trade between east and west increased during the nineteenth century, it was uneven trade were the central and eastern European countries mainly supplied Western Europe with agricultural produce unprocessed minerals and fossil fuels, while Western Europe exported manufactured goods (Crawford, 1996: 16). As a consequence of the collapse of the three empires of Russia, Austria-Hungary, and Prussia, the pre-war trade patterns also fell apart (Rothschild & Wingfield, 2000:11).

5.2.2 Interwar Industrialisation

In 1929, the industrial production began to decrease as the Great Depression hit Poland, see figure 5.3 below. Parallel with the falling agricultural prices, the rest of Western Europe withdrew its capital due to national consequences of the Great Depression, which were very critical as the indebtedness was big in the region (Lewis, 1994: 32). Despite the difficulties, Poland succeeded in getting the economy going due to local savings and investment. All the way through the interwar period, Nazi-Germany gained more and more influence in the region. Economically Nazi-Germany offered bilateral exchanges of local agricultural surplus and raw material for industrial equipment, investment and technical support (Rothschild & Wingfield, 2000: 20). However, the domestic investments was too small and too late to

absorb the surplus rural population into industrial growth; thus, also Poland had to subdue to the German domination in trade relations (Rothschild & Wingfield, 2000: 18).

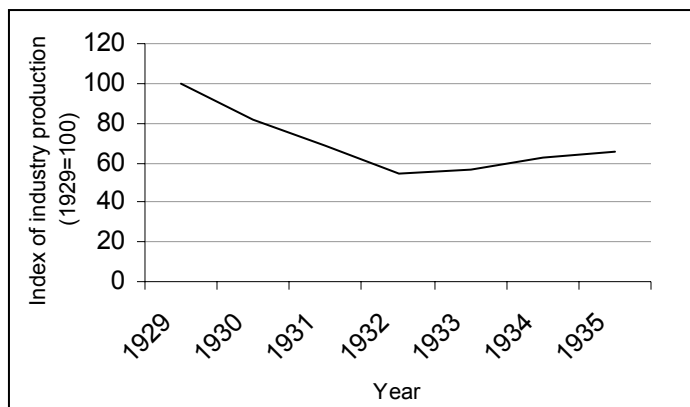


Figure 5.3: Development in Polish industry production 1929-1935. Source: Topolski, 1986: 228.

Characteristically of the Polish society in the interwar period was an ethnical division of labour as the large estate owners were mainly Poles and Germans, while Germans and Jews dominated the Polish entrepreneur class (Rothschild & Wingfield, 2000:9). The German minority was small but significant. In the western parts of Poland many large landowners and industrialists were German, while they were mostly peasants in the rest of Poland. The German minority was less induced with polonisation than the other minorities partly due to the German-Polish non-aggression pact of 1934. The Jews in Poland played a key role in trade, commerce and the free professions. However, in mid-1930s anti-Semitism infused in the government policy, e.g. prohibiting Jews from certain professions and imposing heavy taxes on Jewish occupations (Millard, 1996: 203-204). This division of occupation where Jews and Germans dominated the entrepreneur class existed not only in Poland but also in the Baltic States and the areas of the former Austria-Hungarian Empire (Rothschild & Wingfield, 2000: 9).

By the end of the 1930s, Poland was one of the poorest countries in the inter-war Europe; the economy was dominated by a powerful state sector and the private sector was characterised either by monopoly, cartels, or other arrangements curtailing competition, and therefore constraining economic pluralism (Korbonski, 1993: 435).

In a discursive perspective I would say that industrialisation independently of the former empires was a strong desire in the interwar period, corresponding to a discourse, which I will call “*Industrialisation Needed*”. It was institutionalised in the loan patterns turning towards the Western Allies. However, in the late 1930s, Poland was pressed to receive the aid of Nazi Germany, due to the withdrawal of Western support. This institutionalised trade patterns not attractive but necessary seen from the view of the “*Industrialisation Needed*” discourse. The prohibition and taxation of traditional Jewish occupations indicated a diffusion of ideas from the “*Polish Ethnical Nationalism*” discourse, described in the previous section into “*Industrialisation Needed*” discourse. This prohibition and taxation was actually not good for the Polish industrialisation as it slowed down a central part of the Polish entrepreneur class of Jews.

5.2.3 Failed Agricultural Mechanisation

The big Polish agricultural sector faced large obstacles in the inter-war period. The productivity of the agriculture in terms both of yield rate per nit of agricultural area and of yield rate per agricultural worker was far lower than in Western Europe. It resulted in cycles of rural undercapitalisation, underproductivity, underconsumption, underemployment, overpopulation and misery. (Rothschild & Wingfield, 2000:11).

When land reforms were arranged, the motivation was political, i.e. to expropriate the property of ethnically “alien” landlords or to immunise restless peasantry against attraction of Communism (Rothschild & Wingfield, 2000: 11-12). At the same time, the peasants' attitudes towards industrialisation of the agriculture were double, on one hand it held out a promise of salvation from rural poverty and on the other hand it was a treat of peasantry values and traditions (Rothschild & Wingfield, 2000:13).

In a discourse perspective the widely accepted need for reforms and industrialisation also in the agricultural sector represent a strong discourse, which I call “*Industrialisation Needed*”. The ambivalence of the peasants towards the reforms indicated the existence of a discourse fighting for traditional peasant values, which I call “*Traditional Peasant Values*”. This discourse is not as strong as the “*Industrialisation Needed*” discourse. The final reforms were marked by ideas similar to those of the “*Polish Ethnical Nationalism*” discourse, described in the previous section. I see this discourse

penetrating the “Industrialisation Needed” discourse in higher and higher degree through the interwar period. Thus, the reforms in the agricultural sector is an institutionalisation of both the “Industrialisation Needed” discourse as well as the “Polish Ethnical Nationalism” discourse

5.2.4 Discursive Developments regarding Industry

Three different discourses are identified in the industrial area during the interwar period, see figure 5.4 below. The smallest discourse is the “Traditional Peasant Values” discourse, which as the name indicates argue for continuing traditional peasant values, and therefore is sceptical about the agricultural reforms. However, this discourse had only minor influence on the reforms.

The two major discourses were the “Industrialisation Needed” and the “Polish Ethnical Nationalism” discourses. It was widely accepted in the Polish society that industrialisation was needed, however it was extremely hard to succeed with the reforms, among other things due to the Great Depression of the 1930s. E.g. the Western Allies prevented the institutionalisation of a loan pattern independent of the former empires as they redrew their loans in the 1930s and Poland had to seek help from Nazi-Germany.

In the middle of the 1930s, the “Polish Ethnical Nationalism” discourse begin to fuse with the “Industrialisation Needed” discourse, thus both the institutionalisation of the agricultural reforms and the prohibition and taxation of traditional Jewish occupations in high degree drew on the “Polish Ethnical Nationalism”. In some way the “Polish Ethnical Nationalism” work against the “Industrialisation Needed” discourse, e.g. in the restricting of the Jewish entrepreneur class.

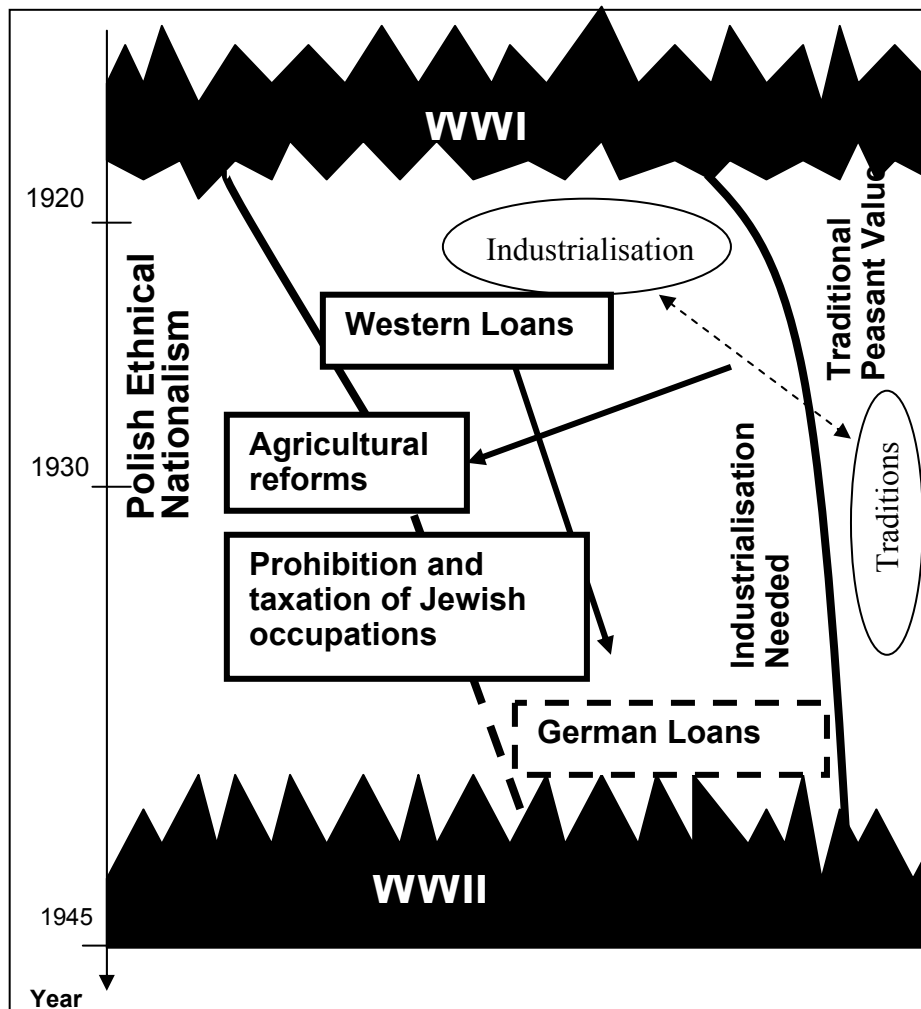


Figure 5.4: The main discursive developments in the industrial area through the interwar period. The area of the different discourses sketches their mutual strengths. The arrows between two ellipses illustrate some of the main debates between the discourses in focus. Some of these understandings are institutionalised into institutions illustrated by the squares. The black areas represent the two World Wars, which in Poland overthrew the discourse developments in the industrial area for a while.

The Second World War overthrew the independent Polish policy in the industrial area. Many production sites were bombed, reorganised, or the production equipment was transported to the occupiers'

countries. The entrepreneur class was almost gone by the end of the war, Germans deported to the new Germany, and Jews were killed or had flown. Most large estate owners were also gone, the Germans had left for the new Germany and in the eastern part of the countries the Polish large estate owners had been nationalised already during the war. Accordingly, by the end of World War II Poland did not only stand with a ruined industrial sector, and also most of the entrepreneur class and large estate owners had disappeared. I would say that the discourses disappeared during the war, which is illustrated by the black area in the figure below.

5.3 Celebration of Wilderness

Environmental politics has a long history in Poland, but in a modern sense it entered the political agenda in the middle 19th century by the discussion of preservation in the Tatra Mountains (Graham, 1995: 35). This discussion of nature conservation came to dominate the Polish environmental discourse in the interwar period (Andersson, 1999:47).

This section covers the period from establishment of the republic of Poland in 1919 to the end of the World War II. The environmental awareness in the period in this period was dominated by nature celebration, but also emerging debate of industrialisation problems relating to the few but concentrated industrial spots.

5.3.1 Celebration of the Wilderness

Hannigan (1995:110) describes the celebration of the wilderness as romantic reaction to the increasingly urbanisation in United States and Europe at the close at the nineteenth century. Even though the urbanisation was limited in Poland compared with the Western Europe debates on nature preservation also appeared throughout the late nineteenth century in a Polish context.

The Austria-Hungarian part of Poland, i.e. the south and western part, had a relative open civil society compared with the other parts of Poland, among other things it had its own regional Polish parliament. Therefore, discussions of environmental issues had most strength in this region.

The first act limiting the utilisation of animals in the Tatra Mountains was passed in the regional parliament in 1863. The Tatra Mountains was also the point of departure for the first nature conservation group founded in 1873, the Tatra Mountain Society. Out of this group, dominated by scientist in the Austria-Hungarian Poland, grew the idea of establishing a National Park in the Tatra Mountains and later also in other parts of Poland (Graham, 1995: 35). In the early 1930s, after the establishment of the new state the topic of nature conservation had grown very strong in Poland in this period, e.g. it became a mandatory part of second school curriculum (Andersson, 1999:47).

The activists of the Tatra Mountain Society became the backbone in the organisation of public agencies and public activities in the nature conservation in the interwar period (Graham, 1995: 35). On the eve of the outbreak of World War II, the new Polish nation had established almost 200 National Parks in naturally valuable areas especially in the mountains, even though some of these parks were in name only. Nevertheless, the significance of their creation must not be underestimated, as the establishment of the parks took full account of the ownership of the ground, and the purchase of nature-valuable areas were mainly funded by money collected by the interest organisations (Graham, 1995: 36).

5.3.2 Industrialisation Problems

Even though Poland was a typical agrarian nation in the interwar period with relatively minor pollution problems, spots of industrialisation existed, e.g. the textile centre of Łódź and the metallurgical centre of Kielce-Mielec (Andersson, 1999:45). Among other things problems relating to industrial utilisation of resources were significant. An example was the access to ground water around the city of Łódź, which fell with 70 m in the period between 1806 and 1972 due to industrial utilisation and urbanisation (Dhiel, 1993). In order to deal with such problems, an environmental law regarding water utilisation and discharges was passed in 1922 (Andersson, 1999: 46).⁷³

5.3.3 Discursive Developments regarding Environment

In the interwar period, the dominating environmental discussion relates to the establishment of national parks in remote places of wilderness and in this way not in conflict with the industrial development occurring in more populated areas of Poland. I see the establishment of approximately 200 national parks and the setting up of an agency on national conservation employed with many people for the nature conservation movement as an institutionalisation of nature conservation drawing on the environmental discussion in the Austria-Hungarian part of Poland before 1919. I call this environmental discussion “*Celebrating Wilderness*”. To some degree this celebration of wilderness also associate with the Polish identity debate in the interwar period, as the national park could be read as celebration of specific Polish nature.

The Water Law represented an institutionalisation of regulating industrialisation with regards to utilisation of resources. Debates in this area are much less significant than in the nature conservation area, but still the water law is an illustration of some problems of industrialisation constructed as a question of sustainable utilisation of water. I call this discourse *Industrialisation Problems*. Figure 5.5 below illustrates the Polish environmental discursive development in the interwar period.

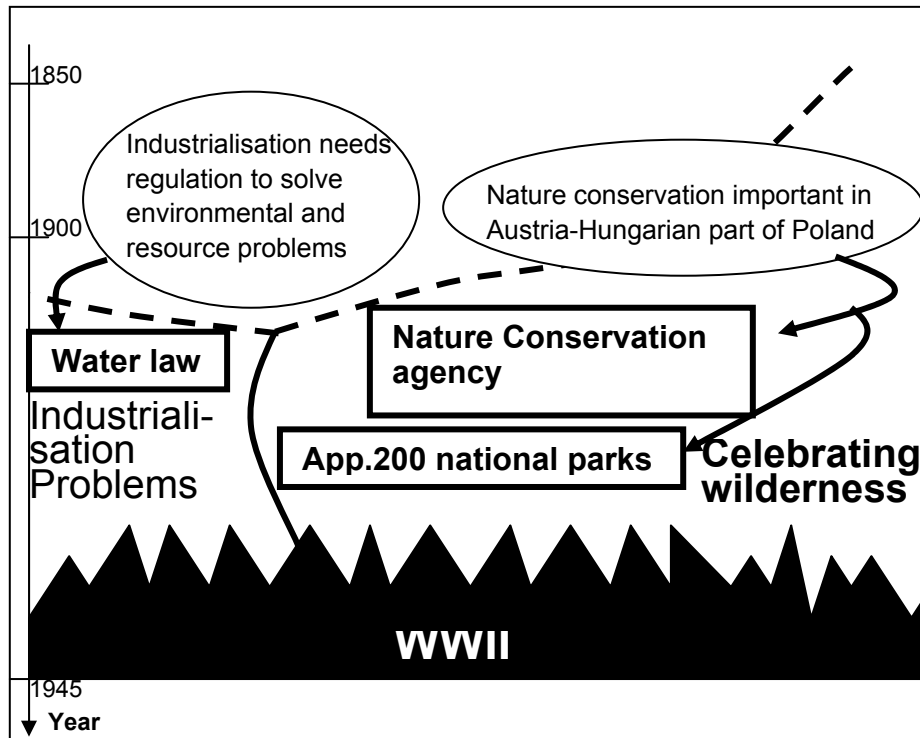


Figure 5.5: Environmental discursive developments in the interwar period in Poland. The black area represents World War II, which stop the discussion of nature conservation and industrial problems for a while, while World War I did not bring any discontinuity in the environmental discourses. The ellipses represent understandings, which is embedded in the emerging discourses and institutionalised into institutions represented by the squares.

5.4 Discursive Developments in the Interwar period

This section concludes on the discursive development within the environmental, industrial and identity fields during the interwar period. The discourses described in the previous sections are constructed by the researcher with focus on the specific discourses

within the three fields of identity, industry and environment. However, in this section I focus on possible connections among the discourses in the three fields.

5.4.1 Discursive Connections and Strengths

The identity issues appeared to be very strong in the interwar period as they were reflected both in the industrial and environmental area. Through the interwar period, especially the “Polish Ethnical Nationalism” discourse gained more and more power. E.g. in the working out of a new constitution, the third of the population was ignored as they were non-ethnic Poles. The growing significance of the discourse was also reflected in the increasing ethnical turbulence throughout the period. Both the agricultural reform and the prohibition and taxation of traditional Jewish occupations in connection with the “Industrialisation Needed” discourse illustrated some of the ways the “Polish Ethnical Nationalism” discourse seemed to penetrate other areas. In the environmental field the ethnical issues were absent. Here the identity issues were reflected in the many national parks as symbols of Polish outstanding nature.

The “Industrialisation Needed” discourse had big support within Poland in the interwar period but little success among other things due to the Great Depression and the two World Wars. However, the industrialisation, which took place, brought with it some problems regarding utilisation of resources especially water. The water law passed in 1922 is an institutionalisation of the “Industrialisation Problems” discourse. The discourse regulated argued for regulation of utilisation of resources, but it did not question the “Industrialisation Needed” discourse.

5.4.2 Discursive Institutions

Different institutions embodied the views of the different discourses. Both discourses and matching institutions are outlined in figure 5.6 below for the three areas identity, industry and environment.

Area	Discourse	Institutions		
Identity	Historical Poland	Borders	-	-
	Polish Ethical Nationalism		Constitution	-
Industry	Polish Ethical Nationalism	Agricultural reforms	Prohibition and taxation of Jewish occupations	-
	Industrialisation Needed			Western loans=> German loans
	Traditional Peasant Values	-	-	-
Environment	Industrial Problems	Water Law	-	-
	Celebrating Wilderness	Nature Conservation Agency	200 National Parks	-

Figure 5.6: Described discourses in the interwar period and their matching institutions within the three areas of identity, industry and environment.

The “Polish Ethical Nationalism” discourse was institutionalised not only in the identity area through borders and constitutions, but it also penetrated the industrial area in the agricultural reforms and the prohibition and taxation of the traditional Jewish occupations. The environmental area was penetrated by the “Polish Ethical Nationalism” discourse, but still it was affected by the national identity debate in the formation of natural parks.

The strong institutionalisation of the “Polish Ethical Nationalism” discourse should imply that it remained for a long time, as institutions are usually persistence to changes. However, the World War II changed the Polish borders, and the communist take over changed the constitution and the industrial and agricultural policies. In the environmental area, however, many of the institutions remained after the communist takeover.

This analysis demonstrated that the number and strengths institutions carrying a specific discourse view within revealed the strength of the discourse in that period. However, it is very hard to

predict whether a discourse will stay strong even a strong institutionalisation, as ruptures in history do occur, such as wars and radical regime shifts.

5.5 Reliability of the Analysis

The consideration of reliability of the discourse analysis is divided according to the different time periods analysed. In the different time periods analysed different kinds of sources are used, and it has significant influence on the reliability of the study. The issues dealt with in this section are the sources used, the discourse approaches and the consequences for the reliability of the findings of the analysis.

5.5.1 Sources

The sources used in this part of the analysis are all different kinds of historical accounts. Historical accounts are always marked by the context in which they are written. They are the present time's interpretation of the past, and therefore they often highlight issues more important in the present than in the past they describe. The interwar period analysis builds on a limited number of sources as I have chosen to put more emphasis on the analysis of the more recent historical periods.

Excepting Zamoyski (1987), all the sources used for analysing the discourses in the interwar period are written during the 1990s, see also figure 5.7 below. This is after the fall of the Berlin Wall. Thus, the objective of many of the accounts is to justify this event. This is the foundation in the analysis, which gives it a twist towards issues central to the present. I assume that this twist might especially influence the judgement of the industrial area and the focus on nationalism.

Source Author	General historical accounts	Specific historical accounts
Non-Central and Eastern European Authors	<ul style="list-style-type: none"> • Rothschild & Wingfield (2000) • Roskin (1997) • Lewis (1994) • Crawford (1996) 	<ul style="list-style-type: none"> • Millard (1996) (Nationalism) • Graham (1995) (Nature conservation) • Andersson (1999) (Environment)
Central and Eastern European Authors	<ul style="list-style-type: none"> • Zamoyski (1987) 	<ul style="list-style-type: none"> • Bucek et al. (1996) (Regional development) • Korbonski (1993) (Civil society)

Figure 5.7: Characteristics of the most central sources used in the analysis of the discursive developments in the interwar period in Poland.

Another issue central to the historical account used for the analysis is that they all are written in English, as I do not understand Polish. In this way they become the view of especially foreigner and English speaking researchers on Poland. The English-speaking researchers of Central and Eastern Europe might be more international in view than an average Pole. However, I assume that these researchers are able to pass on the Polish view on the Polish history.

Some of the historical accounts related to specific topics. E.g. Millard (1996) examined the historical development of Polish nationalism leading to a special emphasis on nationalism in the analysis. Throughout the analysis I have been aware of the nationalism focus, but still I find the nationalism question very central for the period. However, in general historical accounts find nationalism in the 1930s to be one of the reasons for the rise of Nazism and Fascism. On this background, I merely reproduce a general current understanding of the 1930s, and therefore I find it almost uncomplicated.

The analysis of the discursive developments in the environmental field was covered by only two sources, see also figure 5.7. However, especially one of the sources; Andersson (1999) is very knowing in the field.

5.5.2 Discourse Approach

The discourse analysis does not reveal a material reality, but a mode of thought, which is embodied in parts of the material world. Traditional historical accounts seek the material reality and ideas of a period. Building a discourse analysis on traditional historical accounts then becomes something of a paradox as the historical accounts only reveal parts of the outcome of the discourses, e.g. in form of different institutions. To some degree the accounts also refer the debate of the time, and that makes the analysis much more consistent.

In the analysis of the interwar discursive development in Poland especially the industrial development has been hard to detect. The main reason is that it is hard to find the conflicts around the industrial policy. This might indicate that no conflict actually existed or it could be a product of the sources I have read. In this analysis I have chosen to see it as a strong consensus of the discourse “Industrialisation Needed”. This view is supported by the fact of the search for loans for industrialisation seem to be an important issue.

5.5.3 Reliability of the Findings

All in all the analysis of the discursive development within identity, industry and environment in interwar Poland is not very reliable, as the interwar period analysis builds on a limited number of sources of different historical accounts. Still, the analysis has its justification in the overview it provides of the first democratic experiences in modern Poland. The emphasis of the discursive analysis is on the more recent historical periods and therefore, it is not very critical for the whole study that the interwar part is less reliable than the rest.

6 Communist Poland

The communist period was long and peaceful compared to the troubles and upheavals in the beginning of the twentieth century in Poland. However, this did not mean that it was a period without conflicts.

This section deals with the discursive developments in the communist epoch covering the period from the end of World War II in 1945 to the instalment of the first non-communist prime Minister in forty years in 1989.

The focus is on the three areas of identity, industry and environment, which are covered in the three sections. The following section concludes on discursive development among the three areas in the period, and in the end, the last section deals with methodological issues.

6.1 Remaining Polish

In the identity the nationalism of the interwar period fade away; instead the national identity of Poland had to fit within the Soviet-defined frame. During the whole period, all debates and developments had to fit into this frame in order to remain an autonomous Polish nation. This shared goal of remaining Polish limited all developments in the period. In the early communist days, the debate in the identity area in high degree related to which path to take towards communism, a domestic path or a copy of the Soviet path. A summary of discursive developments in the early communist days is found in paragraph 6.1.4 *Discursive Developments regarding Identity in Early Communism*. In the late Communist days the discourses had transformed to concentrating on reforms or not. A summary of the discursive developments in the late communist period is found in paragraph 6.1.7 *Discursive Developments regarding Identity in Late Communism*.

6.1.1 Becoming Communist

In 1945, the Provisional Government of Poland was established with the approval of the Soviet Union (Rothschild & Wingfield, 2000: 29).⁷⁴ However, it was not before late 1948 that the war ended due to the continuing fight between national anti-Communist partisans and the new communist regime (Millard, 1996: 206).⁷⁵

In the period just after the war the communist rapidly gained power in Poland despite the lack of popular support. The communists succeeded e.g. by undermining the position of the opposition, cheating in the 1946 referendum on abolishment of the Senate, nationalisation of the industry and agricultural sectors, acceptance of the new borders⁷⁶, and also cheating in the parliament election of 1947 (Rothschild & Wingfield, 2000: 81-82).

In these circumstances it proved impossible openly to articulate a concept of the Polish nation different from the official version, which presented the Soviet Union as the saviour and guarantor of Poland's national and state sovereignty against a resurgent threat from (West) German imperialism (Millard, 1996: 206-207).

I view this development as an establishment of a hegemonic constellation, which made it impossible to question the legitimacy of the communist regime. I call the hegemonic constellation "*Remaining*

Polish”, as it in a high degree was a further development of the hegemonic constellation of the war years, see also chapter 5, paragraph 5.1.4 *Discursive Developments regarding Identity*. During the war and until 1948, the solution to the problem of foreign occupation was combats, which were given up in 1948. After 1948, the guns are given up for the benefit of policy in order to remain an autonomist nation.

6.1.2 Institutionalisation of the Soviet Model

By the end of World War II, the Polish-Soviet relation was not warm. Mainly three reasons could account for this situation. First, the period of partition had left the Poles suspicious to the Soviet motives. Second, in 1943, the Germans discovered a mass grave of several thousand Polish officers and soldiers in the forest of Katyń, which they claimed, had been shot before they conquered the area. The Poles assumed it was the missing soldiers and officers who had fallen into Soviet captivity in September 1939 (Rothschild & Wingfield, 2000: 28).⁷⁷ Thirdly, the raise of the Polish resistance movement in summer 1944 to liberate Warsaw without the expected help from the Soviet troops cost approximately the life of 200.000 Poles (Lewis, 1994: 38). Nonetheless, the communist take-over put an end to discussions of legitimacy of the communist regime and its relation to the Soviet Union, so frustrations were transformed into other channels.

In the identity area, the struggles also took place within the national communist parties between the “Muscovites” who wanted an imitation of the Soviet model, and the “local” rivals who argued for a domestic path towards socialism.⁷⁸ In Poland, the winning “Muscovites” did not execute their defeated local rivals or humiliate them at show trials unlike other central eastern European countries (Rothschild & Wingfield, 2000: 85).⁷⁹ Another way the communist consolidated their position were through the so-called *Nomenklatura*. The *Nomenklatura* was literally the list of the jobs controlled by the party (Henderson & Robinson, 1997: 13).⁸⁰

On this background, I see two discourses central in the identity debate. The first discourse, the “*Domestic Path*” discourse, represented the arguments for a specific Polish development towards Socialism. The other discourse, the “*Soviet Model*” discourse, claimed that Polish Socialism should follow the development of the more mature communist society of the Soviet Union. Accordingly developments should learn and follow the soviet experience in some

way refusing that special Polish condition would require a special Polish path towards Socialism. Both these discourses accepted the legitimacy of the communist regime of Poland, in other words, the discourses worked within the hegemonic constellation of “Remaining Polish”.

Classic Marxism, including Stalinism, depicted nationalism as an ideological instrument of the bourgeoisie, which kept the social actors national aware rather than class-aware (Jenkin & Sofos, 1996: 16). In this light, the arguments of a domestic path towards Socialism were treachery of Communism. It is partly on this background, the “Soviet Model” discourse was strengthened in the late 1940s and early 1950s, among other things supported by the presence of the Red Army, and the opinion of Stalin.

In correspondence with this development in dominance of the Soviet Model discourse, a greater part of society became dominated by communist, e.g. by establishment of the Nomenklatura, and destruction of traditional rural communities and civil society institutions. This also represents an institutionalisation of the “Soviet Model” discourse, as it was party members corresponding to this understanding of Polish development that primarily were chosen for the many new jobs. The strengthening of the “Soviet Model” discourse influenced the hegemonic constellation by limiting the acceptable actions within the “Remaining Polish” constellation. Thus, it was dangerous to talk of a domestic path towards socialism in the early 1950s, while it was an argument in a passionate public debate before 1948.

6.1.3 Bringing the Domestic Path Back In

The power constellations within the central and eastern European countries were shaken by the death of Stalin in 1953 and later in 1954 Khrushchev’s rapprochement towards Yugoslavian Tito, and his domestic path towards Socialism taking into consideration Cominform’s denial⁸¹ of such developments in 1948. In 1956, Khrushchev denounced the rule of Stalin and thereby released a torrent of soul searching in Poland. It soon became a search for a combination of “humane” Marxism with nationalistic idealism rather than an anti-Communist wave (Rothschild & Wingfield, 2000: 150-151).⁸²

The new leader Ochac, appointed in 1956, sought a policy of gradualism and balance in the pace of reforms, but was overturned by the Poznań riot in June 1956. The workers protested against shortages of food and consumer goods, bad housing, declining real income, shipments of commodities to the Soviet Union, inept management, waste, and bureaucratism (Rothschild & Wingfield, 2000: 151), yet also calls for withdrawal of Soviet troops was among the slogans (Millard, 1996: 208). Soon after the riots Ochac had to step aside for the more nationalist Władysław Gomułka as leader of the communists. He among other things raised wages, stopped collectivisation in the agricultural sector, and removed the Soviet Marshal Rokossovsky, from the Polish Politburo. After a bitter political confrontation in mid-October 1956, the Soviet accepted these developments. The crushing of the Hungarian Revolution in November 1956 by the invasion of Soviet troops taught the Poles that Gomułka's national communism was the maximum achievable at that time (Rothschild & Wingfield, 2000: 152-153).

The death of Stalin and the new Khrushchev policy weakened the position of the "Soviet Model" discourse considerably. The new leader Ochac sought after a balanced course between the "Soviet Model" discourse and the "Domestic Path" discourse. However, the Poznań riots in 1956 and the subsequent removal of Ochac on the benefit of Gomułka brought much more power to the "Domestic Path" discourse.

The hegemonic constellation of "Remaining Polish" was still in force in this period, but its limits transformed rapidly. By the early 1956, almost everything seemed possible, but the Soviet invasion in Hungary in November 1956, reinforced the some of the "Soviet Model" discourse characteristics of the hegemonic constellation and at the same time it was made comprehensible to the whole Polish society.

6.1.4 Discursive Developments regarding Identity in Early Communism

Compared with the interwar discourses the communist discourses were less focused on demarcating Poland from an outer world by wars or ethnical disputes, nevertheless discussion of Polish sovereignty was

still a central issue. The discourses discussed below concentrate on the period of early communism (approximately 1948 to 1956). In this period, the main issues regarding identity was firstly to establish a stable communist rule in Poland and secondly to point out the course of communist development.

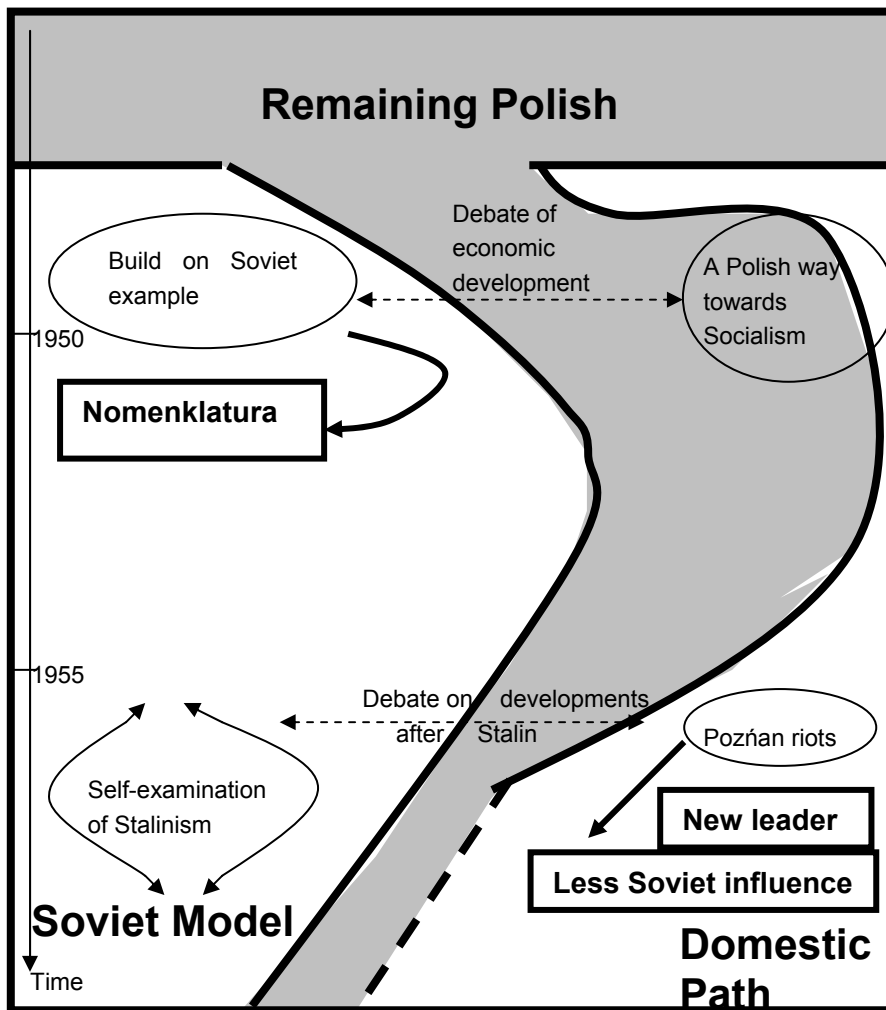


Figure 6.1: The main discourses in early communist Poland (1939-1956). The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares. The grey area represents a hegemonic constellation.

After World War II, the liberation by the Red Army determined the Polish future as communist, even parts of the resistance army continued to struggle for another solution until late 1948. The beginning of the communist period in Poland was to a large extent marked by the Soviet leadership of Stalin. Even though he died in 1953, the feature of Stalinism was central until 1956. Figure 6.7 illustrates the discourses in the war period and the period of Stalinism, i.e. the period from 1939 to 1956

After 1956 the domestic path discourse gained dominance, while some institutions of Stalinism remained, e.g. the Nomenklatura. The whole development took place under a hegemonic constellation of the “Remaining Polish” and therefore it was not questioning the communist ruling.

6.1.5 The First Reform Attempts

During the 1960s, the popular good will of Gomułka eroded (Rothschild & Wingfield, 2000: 192, Millard, 1996: 208; Lewis, 1994: 173). Especially in matters such as critical intellectual freedom and intra-party debate, he showed himself to be restrictive (Rothschild & Wingfield, 2000: 193). As a resonance of the Prague Spring⁸³ of 1968, also the Polish students demonstrated centred on the issue of censorship (Millard, 1996: 209), but the demonstrations were brutally dispersed (Lewis, 1994: 174). The workers did not join the demonstrations, as they were sceptical towards the idea of “humanising” the communist regime (Rothschild & Wingfield, 2000: 194).

The Prague Spring in Czechoslovakia ended abrupt in August 1968 with the invasion by the Warsaw Pact troops. The Brezhnev doctrine⁸⁴: “No action in any socialist country should do harm either to socialism in the country concerned or to the fundamental interests of other socialist countries” justified the invasion (Crawford, 1996: 39-40).

Throughout the 1960s Poland had experienced persistent economic stagnation and continuing low living standards. In preparation for later reform, prices were dramatically increased and wage scales simultaneously revised just before Christmas in 1970 (Lewis, 1994: 174). It triggered strikes across the country as well as riots and mass demonstrations that lasted for five days in the Baltic port cities of Gdańsk, Gdynia, and Szczecin. Then again just as the workers had been

sceptical of the student demonstrations in 1968, the intellectuals did not actively join the workers in 1970 (Rothschild & Wingfield, 2000: 195). The political impact of dozens dead and thousand wounded not only ensured Gomułka's removal but reinvigorated powerful collective memories of communist repression (Millard, 1996: 209).⁸⁵

The new leader Edward Gierek practised a more consultative style than Gomułka (Rothschild & Wingfield, 2000: 196).⁸⁶ Eager to help him stabilise Poland, Moscow granted Gierek large credits for the importation of Soviet grain, oil, cement, and housing components, as well as permission to raise additional capital in the West. Although the many requisite reforms e.g. in forms of restructuring of the industrial sector, the loans were largely wasted. Thus, in 1976 Gierek felt himself driven to make the same fateful step as Gomułka, i.e. to raise basic food prices abruptly. Once more strikes broke out and the next day the prices were lowered (Rothschild & Wingfield, 2000: 197). Protests against the close relation with the Soviet Union and the position of the church in society helped stimulate the development of a political opposition. Later in 1976 KOR (Komitet Obrony Robotników, in English the Workers' Defence Committee) emerged forming the first linkage between disaffected workers and the intelligentsia (Millard, 1996: 209).

Gierek's effort for reforms also influenced the regional administrative structure, where the old Nomenklatura dominated and reform plans were not popular (Bucek et al, 1996: 442). The traditional regions (voivod) were reduced to a third of their former size and only a small number of their historical boundaries were preserved, while the functional and best administrative units the provinces (powiaty) were abolished altogether. The reforms resulted in complete chaos, which persisted for several years.⁸⁷ Soon after the reform, some 120 other "divisions for special purpose" had to be introduced, most of them covering more or less the territories of the traditional regions and provinces (Bucek et al, 1996: 443).

During the 1970s until the early 1980s, Poland experienced a pluralist revival in civil society. Especially the establishment of KOR led to several groups opposed to the regime, such as the Flying University and publishing houses. The growth of civil society culminated in the birth of Solidarity in August 1980 (Korbonski, 1993).

The de-Stalinisation policy of the middle 1950s which undermined the strength of the "Soviet Model" discourse faded while the "Domestic Path" discourse grew more powerful. These developments

took place under the frame of a communist development manifested in the hegemonic constellation of “Remaining Polish”.

During the 1960s, the discourses of the early communism transformed, as the debate on a Soviet or domestic route towards communism lost importance, and the focus turned towards ensuring legitimacy especially through economic growth. The legitimacy of the communist regime in a higher degree than a democratic regime rests on its ability to produce wealth. The lack of legitimacy from democratic institutions was to some degree substituted with the promise of progress and equality in society. Especially after the unrest in 1956, guarantees of a basic material level of existence and broad equality of hardship, proved to be a significant source of consolation of the regime (Lewis, 1994: 127). The “Soviet Model” discourse of the early communism was transformed into a “Conservative Communist”, which saw the traditional communist ways as the route to solve legitimacy problems. Gomułka’s leadership in the 1960s ended up representing such a course, and the “Conservative Communist” discourse was also strong during the 1960s, while its power eroded during the 1970s.

The legitimacy of the regime was undermined by the economic problems beginning in the 1960s in the small but escalating through the 1970s. Thus by the end of the 1970s, the Party appeared bankrupt (Millard, 1996: 209).

The view of economic progress as legitimacy of the regime was supported in the way the riots in 1968 and 1970 were dealt with. The 1968 riot with the call for more freedom by the intellectuals was blocked and it did not lead to any radical new policy in the area. Opposite, the worker riot in 1970 with a call for a better economy resulted in a new leader and a different economic policy. This indicated that the regime looked upon the two events with different seriousness.

The reforms attempts during the 1970s, is another way to deal with the legitimacy problem, which is represented by a “Reform” discourse. Throughout the 1970s this discourse had a strong support within the party, however, as the economic reforms did not succeed and by the end of the 1970s the party was in two minds of what to do.

After the establishment of KOR in 1976, the non-party groups of workers and intellectuals began to co-operate and a “true” opposition with its own political agenda appeared. However, no one took the full step of questioning the legitimacy of the communist regime. In other words, both the opposition and the party worked under the hegemonic constellation of “Remaining Polish”.

6.1.6 Struggles for Reforms

In July 1980, a poorly handled attempt to impose price increases resulted in a strike wave that went on for weeks. The strikes ended only when agreements were signed between representatives of the increasingly organised and integrated workers’ movement and the government representatives (Lewis, 1994: 184). The Gdańsk Agreement included not only promises of immediate wage increases and price rollback, but also it acknowledged the workers’ right to strike and to organise independent trade unions. The two last permissions were till then without precedent in communist societies (Rothschild & Wingfield, 2000: 199-200).⁸⁸ The agreement reached at Gdańsk was *de facto* the birth of the independent trade union Solidarity in Poland (Millard, 1994: 13). Solidarity won great public support, thus it had approximately 9 million members in 1980 (Millard, 1996: 210), corresponding to approximately one fourth of the population.⁸⁹

The next sixteen months the civil society bloomed, but so did also the conflicts. The language of the Gdańsk agreement was imprecise thus it opened for contrasting interpretations of time and scale in the promised reforms. The communist party was divided in a hard-line fraction representing a “Conservative Communist” discourse, which wanted to annul the agreement and a moderate fraction representing parts of a “*Reform*” discourse, which supported reforms. Also within Solidarity a moderate fraction sought to reform the communist system from within, and a more radical fraction, though agreeing not to make a revolutionary bit, hunted to screw the popular pressure on the regime ever more tightly (Rothschild & Wingfield, 2000: 200). The solidarity supported the “*Reform*” discourse. Both the moderate and the radical fractions shared a goal of a reformed *Communist* system, and therefore, they are treated as one discourse in the following. In this development I see the hegemonic constellation of “Remaining Polish” limiting the Polish debate and developments in relation to especially the Soviet views as expressed e.g. the Brezhnev doctrine.

The communist party found it still harder to cope jointly with the development. At the same time, the Soviet Union and the other central and eastern European countries were worried that the development could run out of hand, and therefore put pressure on Poland to stabilise the situation. On this background martial law was declared 13 December 1981 and it lasted until 22 July 1983 (Millard, 1994: 17-19).⁹⁰⁹¹

In the early 1980s, Jaruzelski were widely experienced as a national betrayal (Millard, 1994: 19), however today, opinion polls suggest that a little majority of Poles are prepared to accept Jaruzelski's explanation of martial law as the "lesser evil" - intended to prevent a Soviet invasion (Repa, 2001).

Introduction of the martial law changed the relation between the regime and Solidarity dramatically. Before the martial law Solidarity was recognised by and co-operating with the communist party or at least the moderate fraction of the party. Some analysts suggested that the Communists had a strategy of gradually incorporating the opposition in the party (Crawford, 1996:57). The Solidarity strategy was among others to construct an alliance with the moderate fraction of the communist party (Millard, 1994:16). However, after 13 December 1981 Solidarity was a counter-revolutionary illegal organisation, and the Church became the only legitimate meeting place (Millard, 1994:18-19). The blooming civil society faded, although part of Solidarity moved underground, thus underground publisher continued to provide alternative sources of current news throughout the 1980s (Millard, 1996:211). In this way, a great part of the public support for the "Reform" discourse became illegal. However, the question of reforms did not die with the introduction of the martial law, it was still a central issue of the Jaruzelski government (Millard, 1994:21). However, the population had little fate in reforms as the main engine of reforms, Solidarity itself, had been forbidden (Millard, 1994: 19). Thus, the martial law (1981-1983) did not stop the reform plans, but it ended the implementation of the plans. Despite attempts it seemed hard to get any results of the communist reforms plan. The implementation of the plans depended in a high degree on members of the Nomenklatura, of which a part was against reforms.

In 1987-1988 the influence of reforms in the Soviet Union, the so-called "Gorbachev factor" began to influence Poland (Rothschild & Wingfield, 2000: 229). Gorbachev actively encouraged reforms (Crawford, 1996: 75), but the pace of the Soviet reforms has

unquestionable surprised the central and eastern European countries. The changes in the Soviet Union increased the pressure for reforms in Central and Eastern Europe (Nielsen, 1987c: 12-14).

The reforms of Gorbachev in the Soviet Union move the limits of the hegemonic constellation of “Remaining Polish”. For instance the demand of an election was an indirect challenge of the regime, which would have been unthinkable earlier. Gorbachev’s official renunciation of the Brezhnev doctrine on July 1989 might also have been an influential factor in the founding of the first non-communist government in over forty years in August the same year (Crawford, 1996: 74-75).⁹²

In May-April 1988 sparse social unrest, led by the youngest generation of blue-collar workers demanding both higher wages to keep up with the price increase and legalisation of Solidarity (Rothschild & Wingfield, 2000: 229). In August strikes again ran through Poland, this time more paralysing than during the spring (Riishøj, 1988: 4). Jaruzelski suggests a roundtable talk with the view among others to legalise Solidarity. The objective of the talks were to create an “anti crisis pact” within the frames of a Socialistic Poland though (Riishøj, 1988: 4). The talk ended on 5 April 1989 with an agreement that promised semi-democratic election for parliament and the re-established Senate in June 1988. The election was constructed in such a way that the communist alliance party would have the majority of seats in the Sjem. The election was won by Solidarity, and when the alliance parties changed side it led to the first non-communist government in over forty years. The new non-communist government was confirmed on August 24, 1989 and that was the end of Communist ruling in Poland.

The 1989-election, won by Solidarity, was a vote against the communist ruling and for reforms. It was mistrust in the Communist party’s ability to implement reforms and trust in the newcomers; Solidarity could make a better effort. Very few people at that time believed that it would be the end of Communist ruling in Poland. The establishment of the new non-communist government broke the hegemonic constellation of “Remaining Polish” as the only possible through Communist ruling.

6.1.7 Discursive Developments regarding Identity in Late Communism.

This summary only covers the period from 1970 to 1989, as also illustrated in the figure 6.2 below. In the period, of great magnitude for the discursive developments in the identity area was the hegemonic constellation of “Remaining Polish”, which was interpreted as staying communist. Throughout the period it limited what could be said and done and in this way it balanced the conflicts.

In the early 1970s, an insignificant “Reform” discourse existed on a small scale, but from the mid 1970s its importance increased. The economic reforms in the 1970s institutionalised some of the reform ideas, in form of enlarged import and loans. However, the reforms had often problems in being realised with the foreseen effect, among other things as some of the conservative communist institutions, e.g. the Nomenklatura work against its implementation. Outside the party institutionalisation of reform ideas was weak before the establishment of KOR in 1976. During the 1970s the “Conservative Communists” discourse lost power in relation to the growing “Reform” discourse. To some degree the “Conservative Communist” discourse was seen as the cause of the unsuccessfulness in the reforms due to the implementation problems rather than an alternative to the “Reform” discourse. In the same period the limits of the hegemonic constellation change, thus new ways at least in the economic area became acceptable.

The 1980 riots and the institutionalisation of new reform demands by the Gdańsk agreement denoted a change from the developments in the 1970s. First of all, the reforms were not party formulated reactions to the riots, but specific demands by the opposition, in this manner the non-party opposition for the first time play an active role in formulating the demands in negotiation with the party. Another change compared to the 1970s’ riots was the areas included in the reforms, which included different freedom areas and not just economic issues.

In this way, the “Conservative Communist” discourse was challenged and so were also the hegemonic constellation of “Remaining Polish”, especially as the Gdańsk agreement did not bring consensus and reconciliation in the Polish society.

The Martial Law installed in 1981 reinstalled the power of the “conservative Communist” discourse as it eliminated the freedom rights won by the Gdańsk agreement, while economic reforms still

was a part of the agenda for the party. The hegemonic constellation again had relocated its restrictions, partly institutionalised by the Martial law and partly the interpretation of the Brezhnev doctrine.

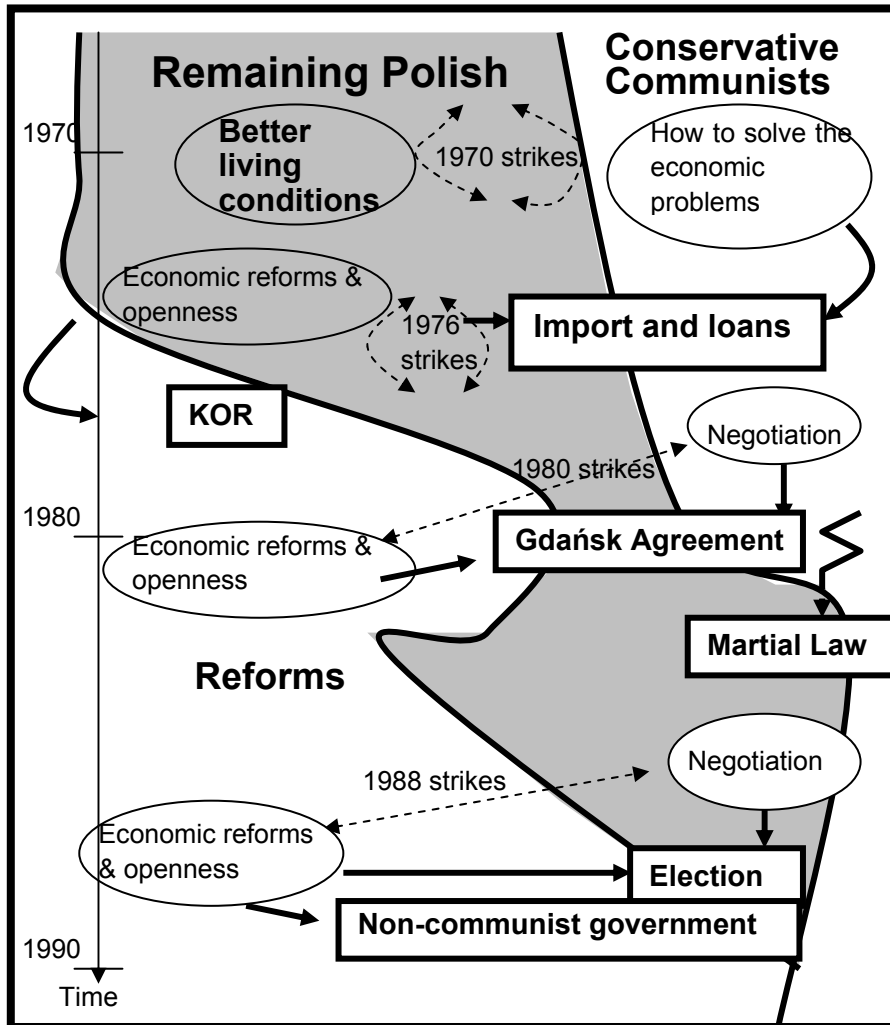


Figure 6.2: The main discursive developments regarding identity during 1970 to 1989. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific, and some of these understandings are institutionalised. The institutionalised understandings are presented in the squares. The grey area represents a hegemonic constellation.

The party reforms of the 1980s had just as little success as the party reforms of the 1970s, and this undermined the power of the “Conservative Communist” discourse and the supports of the “Reform” discourse grew both within and outside the party.

At the same time, the Soviet leader Gorbachev called for reforms and by doing so he eroded the power of the hegemonic constellation of “Remaining Polish” meaning staying communist the way the “Conservative Communist” discourse defined it. In the 1988 riots, the situation had changed compared to 1981. A martial law was not a possible solution; instead the regime began negotiations with the opposition, which resulted in a new agreement, namely the April Pact in 1989. This was an institutionalisation of the reform discourse and surprisingly, the following semi-free election resulted in the first non-communist government in over forty years. Thus, the fall of the regime was mainly brought about by three factors. Firstly, the popular Solidarity movement rooted in the Reform discourse gave this discourse increasing power through the 1980s. Secondly, the moderate fraction of the communist party also supported the Reform discourse, thus it was hard to keep an opinion of reforms as counter revolutionary. Thirdly, the changes in the Soviet Union destabilised the hegemonic constellation, which for forty years had implied that Poland was Communist.

6.2 Economic Growth - the Communist Engine

Before the Yugoslavian and Soviet disagreement in 1947, Poland faced a relative high freedom within a communist frame. However, after 1947, the Soviet dictated the line of development, which implied that Soviet directed trade and rapid industrialisation. Through the mid-1950s, after the death of Stalin, more emphasis was given to improving the living standards at the expense of the speed of industrialisation.

In the 1960s, the communist model for economic growth began to prove less efficient. This was acknowledged within a fraction of the party and on this background the 1970s and the 1980s became an unsuccessful struggle for profitable economic reforms.

The following section deals with the discursive developments in the industrial area during the communist period. The section is divided in two. The first three paragraphs deal with the development until 1970, while the last three paragraphs deal with the period after 1970.

6.2.1 Polish Industrialisation

After the communist take-over, nationalisation was introduced in Poland in 1946, and by the end of that year state-employed workers produced 91 percent of all goods and materials (Lewis, 1994:61). In 1952 this number had increased to 99 percent (Lewis, 1994: 98).

The industrial sector was quietly nationalised as most Jewish and German private owners were either killed or left during or just after the war. The state totally controlled the industrial sector already in the early 1954. This development resulted in gigantic firm sizes and an industrial sector dominated by heavy industry.

Collectivisation of the agricultural sector was much less peaceful, than nationalisation of the industry. The previous owners still cultivated their land in central Poland, and also within the party there were discussions of the collectivisation plans. Thus, secretary-general Władysław Gomułka was neutralised between 1948 and 1951, as he argued for a national path towards socialism, especially criticising the collectivisation plans (Rothschild & Wingfield, 2000: 150; Lewis, 1994: 65-66; Millard, 1996: 207). Thus, the “Soviet Model” discourse was peacefully institutionalised in the nationalisation of the industrial sector with focus on heavy industry, while on the other hand, the collectivisation was an issue for struggles between the “Soviet Model” discourse and the “Domestic Path” discourse. The collectivisation plans implemented in 1950 institutionalised the “Soviet Model” discourse. However, when Gomułka became leader in 1956, the collectivisation had stopped, which could be seen as a de-institutionalisation of the “Soviet Model” discourse.

The economic restructuring made tremendous improvements in the late 1940s in Poland. In 1947 industrial production increased by 33 percent and in 1948 by 37 percent. In the same period real-wages level increased above pre-war levels, although the general living standards remained below 1937-level. In the period from 1947 to 1950 the national income rose by 219 percent and the consumption by 226 per cent (Lewis, 1994: 62). This development was possible due to rapid mobilisation of former agricultural workers to the new industrial sector (Lewis, 1994: 106). In this way, Poland lost some of its strong

peasant character, although the agricultural sector still employed a big percentage compared with Western Europe, see also figure 6.3 below. The urbanisation process of Poland continued all the way throughout the Communist period.

The economic decline in the second half of the 1950s and the early 1960s was to some degree due to the impossibility of repeating the rapid work force mobilisation of the late 1940s. During the 1960s, Poland had the lowest increase in wages in Central and Eastern Europe bringing about falling living standards, which among other things created a wave of riots in 1970 (Lewis, 1994: 102).

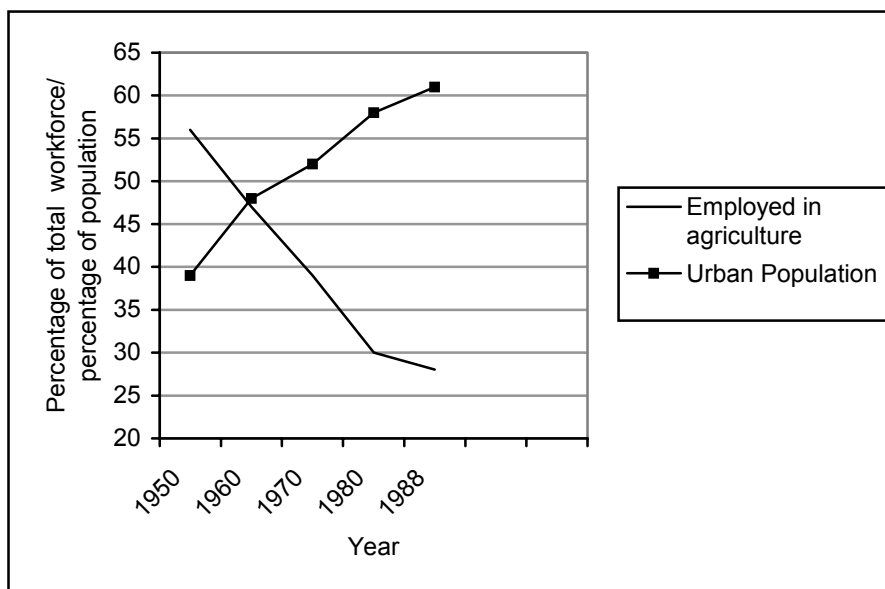


Figure 6.3: Developments in the percentage of labour force employed in agriculture and the develop percentage of the population classified as urban. Deriving from Lewis, 1994: 121-122.

A consistent industrial policy was implemented all over Central and Eastern Europe in the communist era. This involved state ownership, the centralisation of economic assets, and central planed system of assets allocation. The main goal of these policies was realising maximum of economic scale. Large units were seen as the most efficient means of transforming input into output. Furthermore,

centralisation and concentration were seen as means to avoid wasteful duplications of economic activity as well as improving the possibility for command and control of economic, political and social processes (Nielsen, 1998: 9-10).

This model of accumulation resulted in an average plant size that was extraordinary large. Moreover, the concentration gradually increased in the communist era because the number of small manufacturing firms decreased and very few new ones were born (Nielsen, 1998: 10). The model also created powerful incentives for enterprises to be self-sufficient with regard to their supply of input (Nielsen, 1998: 11; Lewis, 1994:212).

Furthermore, priority was given to heavy industry on the expense of other sectors. By setting gross output targets, industrial policy created initiatives that channelled resources away from service, light industry and consumers' goods into heavy industry and capital goods. Quantity was stressed at the expense of quality. As a result, consumer needs were neglected and paradoxically stock of unsold products was present parallel with unsatisfied consumer demands (Nielsen, 1998: 11; Lewis, 1994:104).

At the same time, as a result of the cold war, the Soviet army doubled its strength from 1948 to 1955, which also supported an increasing demand for steel and further redirection of investments and production resources to heavy industry also in Central and East Europe (Lewis, 1994: 208).

In this way the "Soviet Model" discourse was strongly institutionalised in the industrial area, e.g. by the establishment of a large heavy industry, by the demand structure and by the concentration of the firms.

6.2.2 Trade Directed towards the Soviet Union

In the mid-1940s, the Polish economy was still mixed and so where also the planning. Poland along with Hungary, and Czechoslovakia had declared interest in participating in the Marshall plans⁹³ and the following opening of towards the world market (Jensen, 1989: 18). The trade pattern from the interwar period revived thus, by 1947-1948 Poland, Hungary and Czechoslovakia had reduced their trade with the Soviet Union to nearly 30 percent (Lewis, 1994: 214).

The split between the Soviet and Yugoslavian paths towards socialism⁹⁴ changed the direction of trade in the Central and Eastern European countries. The economies of Central and Eastern Europe became closely linked to that of the Soviet Union through a series of bilateral arrangements, parallel with this, regional integration was discouraged (Rothschild & Wingfield, 2000: 127).

In 1949, the establishment of the Committee for Mutual Economic Assistance (CMEA)⁹⁵ also supported the internal communist trade, although the organisation avoided any activity whatsoever before 1955 (Lewis, 1994: 209)⁹⁶. By the foundation of CMEA the economies of Central and Eastern European countries were demarcated from those of the Western Europe, where the economic development was coupled with liberation of trade through the Organisation for European Economic Co-operation (OEEC), the later OECD⁹⁷. The economic relationship between the Soviet Union and the Central and Eastern Europe was the contrary to the relationship between USA and Western Europe. In the period up to 1955, the Soviet Union extracted from these countries, roughly the same amount as USA contributed to Western Europe, through trade agreements, war reparations, and especially low export prices (Lewis, 1994: 207-208).

As the cold war grew colder the United States placed an embargo on high technologies and products with defence significance⁹⁸, which also tightened the trade relations between the Soviet Union and Central and Eastern Europe (Lewis, 1994: 208).

The strong Soviet directed trade was an institutionalisation of the “Soviet Model” discourse as it kept Poland in a state of dependency Soviet development model through the isolation from world market demands.

The death of Stalin in 1953 and the new Soviet leadership of Khrushchev brought new winds to CMEA. Already in 1953 the CMEA members grew more equal as the unequal bilateral agreements between the Central and Eastern European countries and the Soviet Union was redrawn and renegotiated (Lewis, 1994: 210).

CMEA was restructured in the late 1950s and the activity level grew⁹⁹. The increasing level of activity in CMEA also brought new policies to the organisation. In 1956, the co-ordination of national economic plans within CMEA began, regulating volume of trade and exchanges between member states. As the trade in general related to surplus productions, it left the basic industrial production untouched

(Lewis, 1994: 211). The two other pillars of the policy were product specialisation and expansion of the intra-bloc trade (Lewis, 1994: 212-213).¹⁰⁰

Even though the production specialisation did not go very far, the trade pattern developed through the 1960s reflected another form of regional specialisation. The Soviet Union itself purchased about half of the total export of machines and manufacturing equipment from the other CMEA countries¹⁰¹. Hence, the Soviet Union was the most important individual trade partner in CMEA.

The reforms of CMEA, despite opening national lines of developments, kept the Central and Eastern European countries in a mutual state of dependency and still with few connections to the world market. In this way, CMEA also supported the “Soviet Model” discourse, even though the limit of actions was less restricted than in Stalin’s days.

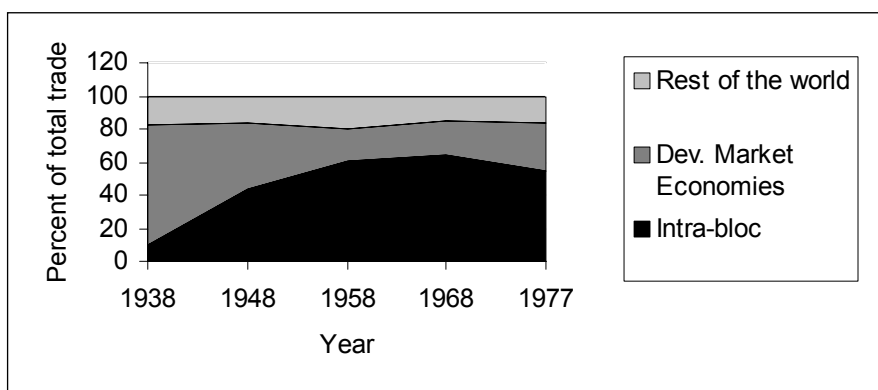


Figure 6.4: Distribution of European CMEA trade in the period from 1938 to 1977. Deriving from Lewis (1994: 214).

Figure 6.4 above illustrates the trade pattern of the European CMEA countries from 1938 to 1977. The share of trade to the rest of the world is fairly constant at around or a bit less than twenty percent through the period. The transformation is the share of trade towards the developed market economies (the West) and the share of intra-CMEA trade. The intra-CMEA trade was only around ten percent in 1938, while the trade with the developed market economies was approximately seventy percent. Throughout the 1940s and the 1950s the intra-CMEA trade raises steeply to around sixty percent in 1960s at the expense of the trade with developed market economies. In the 1960s the share of intra-CMEA trade is almost stable, while in the

beginning of the 1970s it begins to drop reaching approximately fifty percent in 1977. Thus, the trade direction had turned from Central and Eastern European trade primarily going westward towards developed market economies in the interwar period to a trade dominated by CMEA trade in the middle of the 1970s.

6.2.3 Discursive Developments regarding Industry in Early Communist Poland

The discursive developments in the industrial area in the early communist period drew on the same discourses as in the area of identity. Thus, the debate of the horizon for future development circled around the two discourses “Soviet Model” and “Domestic Path”. Just as in the area of identity, the debate was restricted by the hegemonic constellation of remaining Polish.

Already during the war period, the industry in the Soviet occupied Poland had been nationalised. In this way, the institutionalisation of the “Soviet Model” discourse began already before the official communist take over. The “Soviet Model” discourse was further institutionalised with the industrialisation process after Soviet model with emphasis on heavy industry. These institutions were peacefully established among other things due to the fact that the interwar institutions were in ruins. The former industry owners primarily Jews and Germans had left the country, and a great part of the former industry had been destroyed during the war.

The developments regarding trade and agriculture were less undisturbed. Just after the war, attempts were made to include Poland in the Marshall Plan together with Western Europe. This was an attempt to institutionalise a future development different from Soviet. Instead the Polish trade was closely connected to the Soviet Union among other things through bilateral agreements. Also the agricultural sector was an area of controversies. In 1950 a collectivisation plan was established, despite protests within the party and among the farmers. The collectivisation was never really a success in Poland, being below other Central and Eastern European countries.¹⁰² Opposite the situation in the industrial area the owners of the Polish agriculture survived the war, thus the collectivisation plans collided with the existing structure of the agricultural sector. With the openness of the Soviet leader Khrushchev, the collectivisation was abolished in 1956.

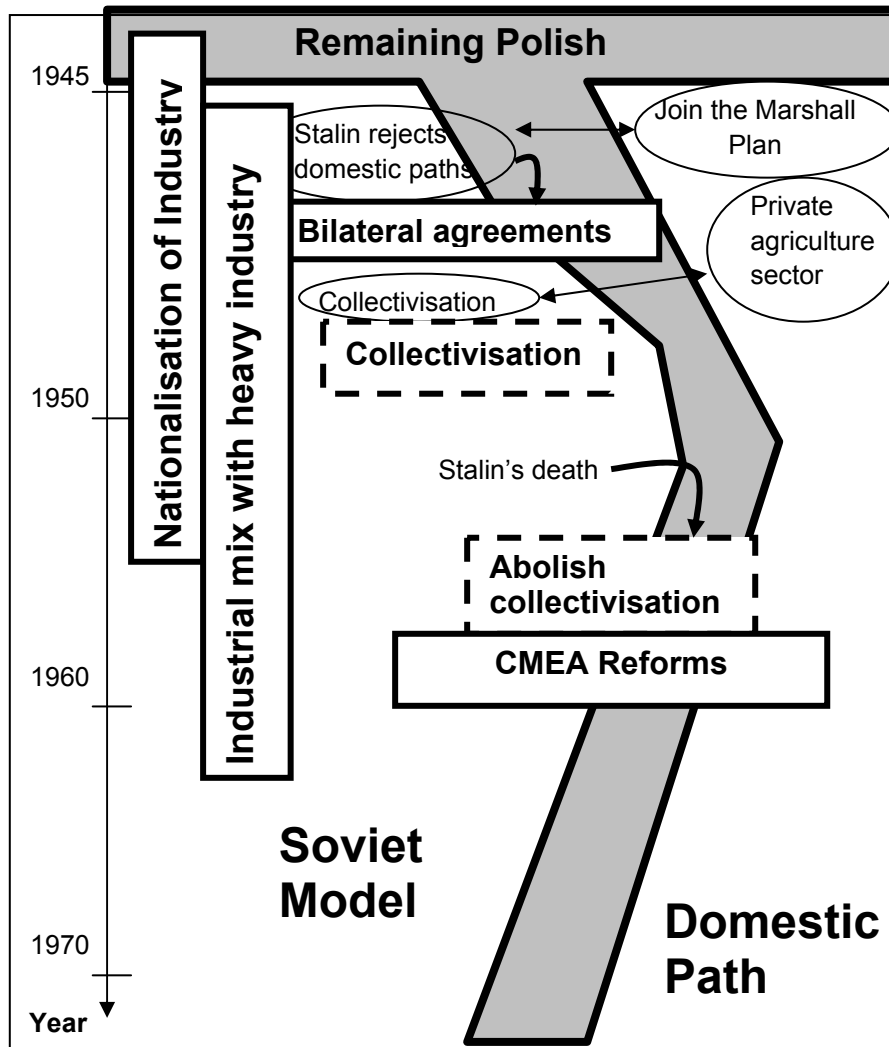


Figure 6.5: The main discursive developments in the industrial area in the period 1945 to 1970. The ellipses represent some understandings brought into the hegemonic constellations represented as the grey areas. The squares represent different institutionalisation of these discourses.

The Khrushchev leadership gave more room for the “Domestic Path” discourse under the limits of the hegemonic constellation of Remaining Polish. These limits were clearly illustrated by the invasion of Hungary in 1956.

The CMEA reforms in the 1950s opened for a limited specialisation of the different countries and in this way it broke with the “Soviet Model” discourse. However, as the domestic paths are rather limited, I see the CMEA reforms as an institutionalisation of the power balance between the “Soviet Model” discourse and the “Domestic Path” discourse. Figure 6.5 above illustrates these developments.

6.2.4 The Repeating Economic Reforms

Poland’s economy had been limping for most of the 1960s marked by low consumption and declining capital productivity. The reasons were partly the enormous labour accruing from high post-war birth rate, partly from organisational distortion e.g. excessive centralisation and overinvestments in heavy industry (Rothschild & Wingfield, 2000: 195). By the end of the 1960s, internal resources for extensive economic growth labour, raw materials and financial resources were becoming exhausted (Pavlínek & Pickles, 2000: 13). In the late 1960s, Poland did not only export food at the expense of domestic consumption in order to pay for imported industrial equipment, the state did also underpay the farmers for their products. In order to adjust these irrationalities the government overnight announced sharply increased food prices along with changes in industrial wages just before Christmas in 1970. This led to strikes especially in the Baltic port cities (Rothschild & Wingfield, 2000: 195). The next two decades experienced increasing social unrest closely relating to the unsatisfying economic situation.

In 1970, the new Polish leader Edward Gierek replaced Gólmuka¹⁰³ partly as a result of the 1970 uprising. A central aim of Gierek’s reforms, *the Second Modernisation of Poland*, was to avoid future social unrest. The reforms focused at improving the economy through massive import of western technology, and in this way it modernised the industry technically, but it did not restructure it. In order to finance the new Western technology Moscow allowed Poland to raise additional capital in the West. However, the loans were largely wasted on subsidising consumerism, corruption, and senseless investments (Rothschild & Wingfield, 2000: 197). At the same time the dramatic increases in oil prices with economic downturn in Western countries left little space for demands for Polish goods (Millard, 1994: 11). This laid the ground for the expanding debt trap that Poland found itself in during the 1970s.

Figure 6.6 below illustrates the development in the Polish western loans during the 1970s. The Polish level of loans was much higher than in many of the other countries in Central and Eastern Europe. Furthermore, the other countries were able to reduce their debts in the early 1980s, while Poland was only able to stabilise it for a short period, but already in 1984 the debt level raised again.

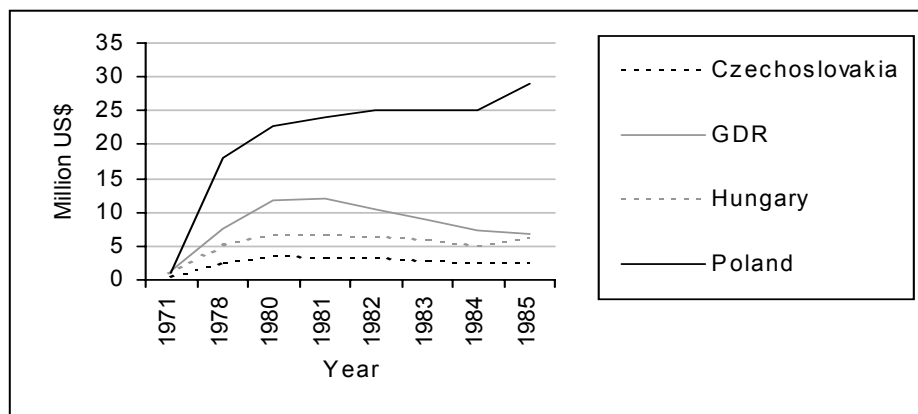


Figure 6.6: Gross hard currency debt, 1971-1985, for selected central and eastern European countries. Deriving from Lewis (1994:217) numbers on 1971 and Nielsen (1987b: 25) for the rest of the numbers.

The riot of 1970 had immense influence in the economic area, as it started a hunt for economic growth, as a way to prove the success of the communist model. However, it is important to underline that no one questioned the legitimacy of the communist rule.

In a discourse perspective, the discourses of early communist had changed. The discussion of a domestic path seemed irrelevant after the dead of Stalin, and in the economic area the debate was between the supports of western inspired reforms and the loyal to soviet development model. In this light, the reforms of the 1970s were an institutionalisation of the reform discourse. However, the reforms of the 1970s did not create very much debate, as the reforms did not touch upon central issues of the Communist model as e.g. market structure or ownerships to the industry. However, it is essential to note that the Western loans needed permission from the Soviet Union. This I interpret as an unbroken existence of the hegemonic constellation of “Remaining Polish”.

The supports of the reforms were found within parts of the party and also within parts of the population. The specific demands for reforms arriving from the public in the 1970s were result-oriented, e.g. on improving the living standard rather than concerned of the way to reach these goals. In this way, a latent conflict existed within the “Reform” discourse between the party reformists aspiring to a reformed communist system and the population more converging towards a better living standard. Due to the existence of the hegemonic constellation of “Remaining Polish” the conflict was not expressed openly.

By the end of the 1970s, the Polish economy was a catastrophe. The economic growth was negative in 1979 and it continued a very bumpy development throughout the 1980s, see also figure 6.7 below.

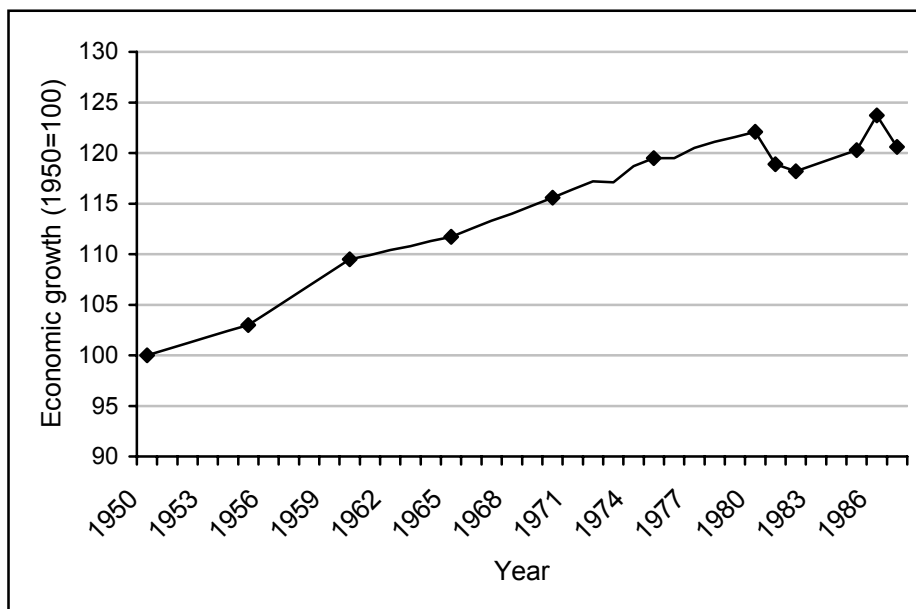


Figure 6.7: Change in estimated GNP 1950 to 1987. The numbers from 1950 to 1980 are deriving from Lewis (1994: 101) and the period 1980 to 1987 from Lewis (1994: 116).

After imposing the Martial Law in 1981, Jeruzelski proclaimed economic reforms in 1982. On the paper this was the most radical reform in the region, however, in reality the reforms only took very little progress. The intention to introduce elements of market mechanism had little practical import, other than series of price raises,

which further alienated the population (Millard, 1994: 40). After the introduction of martial law, the process of economic decline was halted, but the recovery was half-hearted and no real dynamic for growth or future development was set in motion (Lewis, 1994:187).

The next reform initiative was taken in 1987. (Den Polske regeringens reformteser. Vi bygger en ny, polsk model for en socialistisk stat, 1987: 23). These reforms were encouraged by the Soviet leader Gorbachev's call for reforms, see also paragraph 6.1.6 *Struggles for Reforms*. This fundamentally changed the hegemonic constellation of "Remaining Polish". Instead of supporting the "Conservative Communist" discourse and limiting the range of the "Reform" discourse it pressured for more radical reforms.

The 1987 reforms included elements concerning the administration, the regulation of prices and wages, and new forms of ownership in industry and commerce. In the central administration, the plan supposed to reduce both the number of organisational units (with two thirds) and the number of employees (with one third). The plan was also to increase prices on provisions etc. with full compensation in increasing wages, though in such a way that the most productive sectors got a greater share of the wage increase. In order to get support for the plan the economic reforms were sent for referendum together with question of growing democracy in 1987, but the result were unclear as one third of the citizens boycotted the referendum. Critiques of the reform plans existed also within the party and the official trade union (Riishøj, 1987b). Later critiques of the 1987 economic reforms pointed to the fact that new forms of ownership for firms were transforming part of the Nomenklatura into a new bourgeoisie as state firms would sell off lucrative elements of the business to favoured insiders (Millard, 1994: 175). The main aim of the 1987 reforms was to create balance on the market of goods and reduce the inflation. However, the development went in the opposite direction, as the market for services and goods got less balanced, and the inflation had raised to 50 percent a year. Partly the reason for the failure was found in the lack of consequence and determination in the implementation phase (Riishøj, 1988: 5).

Poland had become member of the International Monetary Fund (IMF), and had to meet its demands on export promotion, wage restraint, reduction of subsidies, adjustment with prices on the world market, and possible devaluation (Brodersen, 1987:7).

The most difficult part of the reforms includes restructuring of the price and wage system, among other things including a strong differentiated wage scale dependent on performance, a progressive income tax system, and reduction of state subsidies for consumer goods (Den Polske regeringens reformteser. Vi bygger en ny, polsk model for en socialistisk stat, 1987: 23). These initiatives were all in line with the directions of IMF. The reforms gave rise to a wave of strikes in May and August, resulting in the roundtable discussions in spring 1989.

During the 1980s the reform discourse was strengthened by the institutionalisation of the two phases of the reform, even though the implementation could not keep up. The reforms of the 1980s were much more radical in challenging the discourse of the “conservative Communist” e.g. on the market structure and the ownerships in the industrial sector, and therefore the debate on these reforms was much more intense than those in the 1970s. This opposition to the reforms could to some extent explain the problems of implementation. The calls for economic reforms had been strong in the 1980 riot supported by a large part of the public, but the support for the party introduced reforms was much less impressive, as e.g. the referendum showed.

An explanation could be that the public did not have confidence in the party being able to bring the needed reforms. Another part of the explanation could be that the public was focused on the result of reforms foremost better living standards, and it was not ready to accept delay in accomplishing that goal. The strike of 1988, as reaction to price reforms, supports this argument.

In a discursive perspective this could be explained by an open break out of the latent conflict between party reformist and the result-oriented population within the “Reform” discourse.

6.2.5 Structural Limitations

In the late 1960s, discussions of restructuring the limping economy took place in all the central and eastern European countries, but the debate declined with the invasion of Czechoslovakia in 1968. However, the Soviet Union was aware of the dangerous cocktail of social unrest and economic decline. On this background, it subsidised the Central and Eastern European countries with low energy export prices and high import prices for Central and Eastern European industrial products compared to the world prices (Lewis, 1994:222).¹⁰⁴

CMEA reacted to the economic problems of the 1970s by further integration with the objective to halt the national reform attempts (Lewis, 1994: 216). The plans failed. First, the growing economic problems in Central and Eastern Europe lessened the preferences for continuing the usual planning strategy. Second, raising energy prices and international recession resulting in escalating challenges of technology innovation marked the world market developments during the 1970s. The Central and Eastern European industry was shielded from many of encouragement for restructuring, and therefore, they began to limp behind the industrial development in the West¹⁰⁵. Third, the international debt in the Central and Eastern European countries and especially Poland grew during the 1970s (Lewis, 1994: 217).

The trade pattern of Poland also limited its ability to change the economic situation. Already before the boycott in relation to the Martial Law in 1981, the significance of Polish foreign trade was small and the trade volume had never exceeded 500 US\$ per capita. For comparison the foreign trade was twice as big in countries like DDR, Bulgaria and Hungary and nine times as big in countries like Belgium and the Netherlands by the end of the 1980s (Riishøj, 1988: 5). However, the trade with the non-communist world was affected negatively by the imposed martial law in 1981.¹⁰⁶ This trade with non-communist countries was crucial as it provided convertible western currency, necessary e.g. to invest in foreign technology (Brodersen, 1987: 6).¹⁰⁷

In the mid-1980s a cautioned reform of the economic development in the CMEA area began, although the result seem only to be increasing deficit in the trade balance towards the western world (Nielsen, 1987c: 13).¹⁰⁸

In 1987, further reforms were launched to integrate the economic of member states more with inspiration from the economic processes in the EU (Riishøj, 1987a: 3).¹⁰⁹ In 1988, CMEA had a discussion of an open market like the one in the European Union, but the plans were never realised. In the summer of 1988, an agreement was finally signed between the EU and CMEA (Riishøj, 1989a: 21). It dealt with the general framework for economic relations, the exchange of statistics, and co-operations in the environmental field, etc. (Riishøj, 1987a: 3).¹¹⁰ CMEA's future was questioned through the agreement with EU, opening for further Western loans and bilateral agreements concluded with Hungary and Czechoslovakia (Riishøj, 1989a: 21). At the same time, CMEA was undermined by the reforms in the frontrunner countries, e.g. CMEA viewed the privatisation in Hungary

and Poland as a domestic affair, even though it would influence the planning systems and the supply situation (Riishøj, 1989a: 20).

Another issue that influenced the Polish economy in the 1980s, was the Soviet export and import relation. In the 1970s the Soviet subsidised Central and Eastern Europe, e.g. through cheap energy prices. However, this relation shifted through the 1980s, thus the trade gradually became more advantageous for the Soviet Union (Lewis, 1994: 222).

The industrial structure also supported the economic problems. Throughout the 1980s, a serious bottleneck was the achievement of energy resources for the energy intensive industry in all the Central and Eastern European countries (Nielsen, 1987a: 24). As the energy prices rose in the 1980s, a still greater part of the economic resources was bound in energy purchase, which reduced the possibility of paying debts and importing goods from Western countries. The Central and Eastern European countries were at this time so desperate for accomplishment sufficient energy resources that they were willing to buy energy in the West for their small amount of convertible currency (“1986: “sort år” i øst-vesthandelen”, 1987: 9).

A restructuring of the industrial sector was a central topic of the 1987-reforms, most directly expressed in the dispute of continuing the investments in the energy sector at the expense of the manufacturing sector (Nielsen, 1987b: 25). However, not only the distribution of investments among industrial sectors was a problem, also the level of these investments was far too small to make the industry more efficient. Still, it was almost impossible to raise the level on industrial investments as with would mean reducing e.g. subsidies on food, resulting in escalating risk of social unrest (Nielsen, 1987b: 2).

In a discursive perspective, the structural limitation of the Polish economy represented part of the institutionalisation of the “Conservative Communist” discourse, clearest with the inherited industrial structure.

6.2.6 Discursive Developments regarding Industry in Late Communism

The industrialisation by the “Conservative Communist” discourse was questioned and challenged throughout the 1970s and 1980s. The institutionalisation of the “Conservative Communist” discourse had been established earlier by industry structure of energy intensive

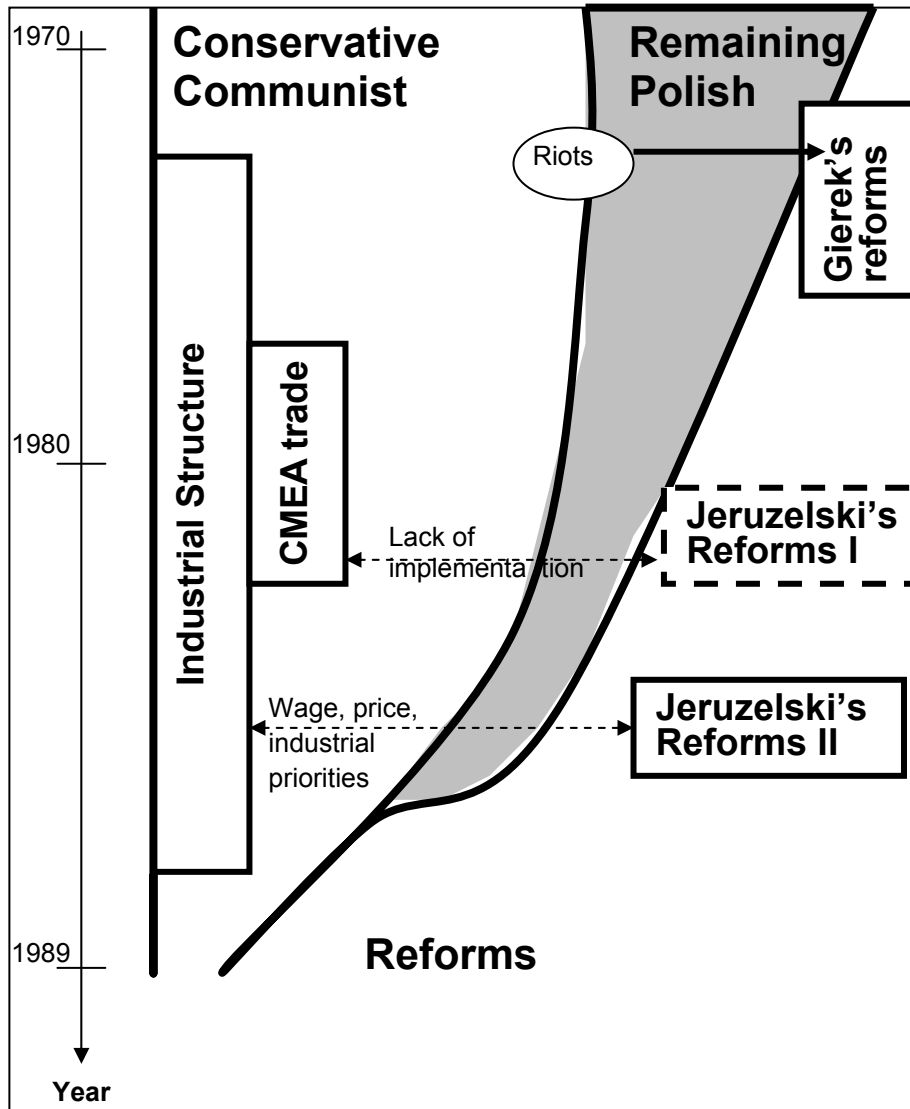


Figure 6.8: Industrial discursive developments in the 1970s and 1980s in Poland. The area of the two discourses indicates the strength among them. The ellipses illustrate debate views regarding industrialisation and the squares are institutions carrying the discourses.

heavy industry and the CMEA directed trade. Especially these two institutions withstood the many reform attempts throughout the 1970s and the 1980s. In this period no new institutions were added to the “Conservative Communist” discourse.

Throughout the 1970s the hegemonic constellation of “Remaining Polish” limited the range of the reform discourse, e.g. by the unsuccessful reforms of CMEA. However, the power of the hegemonic constellation declined throughout the 1980s and disappeared as limiting power for the “Reform” discourse with Gorbachev’s reforms in 1987-1988.

In the 1980s the “Reform” discourse got a stronger hold in the party as also Jeruzelski’s reforms in 1982 indicated. These reforms to some extent followed up on the economic initiatives of the Gdańsk agreement, see also paragraph 6.1.6 *Struggles for Reforms*.

The second Jeruzelski reform in 1987 was initiated simultaneous with the Gorbachev reforms, with provided space for the latent conflict in the “Reform” discourse to break out, thus part of the result-oriented population expressed its dissatisfaction with the economic situation by the 1988 strikes leading to the first semi-free election. In this way, the dissolving of the hegemonic constellation of “Remaining Polish” equals staying communist was the beginning of forming a new Polish regime. Figure 6.8 above illustrates these developments.

6.3 Health as an Environmental Risk

The environmental development was modest in the period from 1945 up till 1970, while the development after 1970 turned to taking an almost societal critical dimension. Therefore, I, like in the previous sections, divide the analysis in two, i.e. before and after 1970s. The first two paragraphs deals with the developments before 1970s, while the last three deals with the subsequent developments.

6.3.1 Neglecting Environmental Risks

In the beginning of the communist period the strong nature conservation tradition from the interwar period dominated the environmental discussion.

The strong conservationist tradition established in the interwar period revived after the war, and the structure of nature conservation

also persisted until 1949. The same year, the Sejm passed an Act on new nature reserves and nature parks that also incorporated aspects of nature monuments and protection of species of animals and plants (Graham, 1995: 36; & Andersson, 1999: 47). The new structure involved bodies on the regional level (Graham, 1995: 36). The activities in the nature conservation area continued, thus nine national parks and several nature reserves and a large number of monuments were established in the period up till 1960 (Andersson, 1999: 47).

The rapid industrialisation in the 1940s and the 1950s did not take environmental issues into account, in part the existing pollution level was low in the area, and at that time environmental degradation was not considered to be a problem (Pavlínek & Pickles, 2000: 11). However, in the late 1950s and early 1960s the interest of environmental protection increased and especially in scientific circles the attention was drawn to the negative consequences that the “forced through” industrialisation had on nature and human living (Graham, 1995: 36).

The bias towards energy intensive heavy industry fuelled by coal had led to considerable levels of especially air and water pollution in many areas (Andersson, 1999: 47). The reaction was introduction of policies designed to limit environmental damage caused by industries (Pavlínek & Pickles, 2000: 11).

In the Polish water issues were highly prioritised as the land is poorly endowed with fresh water resources (Andersson, 1999: 47). In 1960, the Central Water Management Board was established with the task to prepare and administrate the long-term water management plans (Andersson, 1999: 47). Additionally the Water Protection against Pollution was passed in 1966. The same year followed Protection against Atmosphere from Pollution Act (Pavlínek & Pickles, 2000: 208). This regulation led to building of high chimneys to disperse the pollution, and establishment of the first environmental protection departments in the industrial plants in the mid-1960s (Andersson, 1999: 48).

6.3.2 Discursive Developments regarding Environment in Early Communism

The two environmental discourses from the interwar period continued after the war. The discourse “Celebrating Wilderness” from the interwar period is transformed to a more broad conservation discourse

also including conservation of nature monuments. In 1949, the new conservation law institutionalised this discourse with departments in every region. Up till the 1960s new national parks and nature reserves were established in a slower pace than during the interwar period, though. This “Consevation” discourse was strong in the 1940s and 1950s, but with the visible effects of the hasty industrialisation the discourse “Industrialisation Problems” gained more significance. Figure 6.9 illustrates this development.

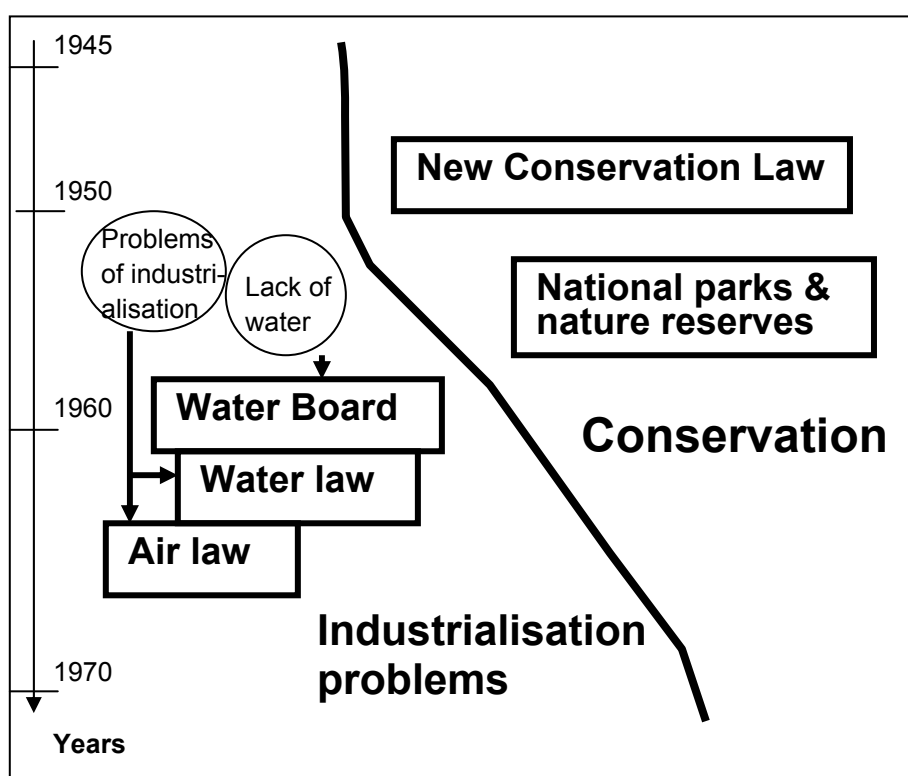


Figure 6.9: The Polish environmental discourses in the period from 1945 to 1970. The area of the two discourses indicates the significance of the different discourse at a specific time. The ellipses illustrate debates embedded in the different discourses and leading to institutionalisations showed by the squares.

In the late 1950s critical voices among intellectuals questioned the environmental consequences of the rapid industrialisation. In the beginning the government focused more on the lack of clean fresh water than the environmental consequences of industrialisation in

general. The establishment of the Water Board in 1960 was an institutionalisation of the concern about the supply of fresh water. The discussion of the environmental problems continued, and in 1966, Poland got two new laws regulating the pollution of air and water. Thus, the discourse “Industrialisation Problems” institutionalised an understanding of clean water as a limited resource and air pollution from industry as a problem, you should solve by dispersing the polluted air (the policy of the high chimneys).

6.3.3 Founding an Environmental Administration

The 1970s the Polish environmental debate got embedded in international organisations, with especially the UN Conference of Human Environment in Stockholm in 1972 as a central event. With this awakening *environmental* becomes the word to use when characterising the consequences of industrial pollution. Thus, although environmental problems existed earlier, people were not conscious of the problems and did not have words to describe the phenomenon as one thing (Hannigan, 1995:1-3). In other words *environmental problems* were social constructed in the early 1970s, also in Poland.

In the beginning of this period, the environmental awakening in Poland was limited to a small group of experts (Andersson, 1999: 48). Thus, the building up of an environmental administration began without big public concern of the matter. A Polish environmental ministry was established in 1972.¹¹¹ In 1973, the environmental ministry launched a long-term environmental programme as a national follow up on the UN Stockholm conference in 1972 underlining that the socialist society had a greater potential for protecting nature than the capitalist society, as the only society with a harmonious relation between man and nature. The social cost of economic activities was not yet reflected in the firms’ cost, but would be in the future by environmental fees. The plan did not mention enforcement mechanisms (Andersson, 1999:49-51). Environmental issues were incorporated in the building law and the water law both from 1974. Later it also included requirements of protected zones around water intakes, and introduction of fees for both consumption of water and disposal of wastewater. In 1976 the concept of Environmental Impact Assessment was introduced in the land-use planning law.

In relation to the regional reform of 1975, which introduced 49 voivodships (Bucek et al., 1996: 442), both Departments for Environmental Protection and Water Management and Centres for Measurement and Control of the Environment was established at the regional level. Furthermore, most of the heavy polluting firms also established own environmental departments by the end of the 1970s (Andersson, 1999: 55).

However, despite the many new administrative initiatives the environmental situation got worse through the 1970s, thus between 1975 and 1980 the air pollution increased from three million to 5,1 million tonnes corresponding to an increase on 70 percent, also the water pollution got worse (Andersson, 1999: 55). Many factors influenced this development, but a major issue was the economic recession in the 1970s. Environmental investments were considered unproductive (Pavlínek and Pickles, 2000: 12), and during the economic stagnation of the 1970s environmental investment did not have much priority (Pavlínek and Pickles, 2000: 14; Andersson, 1999: 56).¹¹² Also, the administration dealing with environmental issues were understaffed (Andersson, 1999: 55).

The destructive environmental development was especially notable, as the development in Western Europe took different direction. Up till the clean up, in the 1960s and the 1970s, the environmental state was about the same in both West and Central and Eastern Europe, but after this period Central and Eastern Europe began to fall behind (Pavlínek and Pickles, 2000: 43-44). Another split between Western Europe and Central and Eastern Europe materialized through the oil crisis in 1973, leading to improvements in energy efficiency in Western Europe. However, in Central and Eastern Europe heavy energy intensive industry grew faster than other industrial sectors partly due to the cheap subsidised Soviet oil (Pavlínek and Pickles, 2000: 14). In the late 1980s, the energy sector was the Achilles' heel of the Polish industry among other things due to uncertainty of Soviet oil deliveries (Nielsen, 1987b: 24). The solution to this problem was huge investments in the energy supply side management, but lack of focus on demand side strategies, e.g. reducing the energy consumption level or improving the energy efficiency (Pavlínek and Pickles, 2000: 15).

In 1980 the first real environmental protection law was passed (Andersson, 1999: 52-53), however, it was separated from the Nature Conservation, which continued to belong to the Ministry of Forestry (Graham, 1995: 36-37). The law made it a responsibility of all central, regional and local agencies, enterprises and individuals to protect the

environment, in principle. The main policy instrument was a reorganisation of the individual permit-systems introduced in the 1960s. The environmental departments on regional level were made responsible for imposing such permit in relation to national quality standard. The sources of pollution included in the permit system grew, and the money collected from fees and fines was gathered in the Environmental Protection Fund, which was to support various environmental projects. The new law also included a creation of a State Environmental Protection Inspectorate, which should control whether or not the laws were observed, but it had no authorities to impose fines or other enforcement mechanisms on law-breakers (Andersson, 1999: 53). This system has roughly remained unchanged up till today.

6.3.4 Constructing Environmental Awareness

During the 1980s, the public awareness of environmental issues raised especially linked to the risk of human health. Even though environmental debates was less central to the 1980 Solidarity than the economic situation, it was still an important issue, thus the Gdansk agreement included a demand of improving human health (Rothschild and Wingfield, 2000: 199-200) also the round table discussions in 1988-1989 included environmental demands (Andersson, 1999: 81).

Along with the official developments in the environmental area, some none governmental or semi-governmental initiatives were launched in the 1970s.¹¹³ In general environmental information was open to the public at least to a much higher degree than other areas (Andersson, 1999:54).

One contributory cause to the raising environmental awareness in Poland was the human health conditions. Poland had, along with the rest of Central and Eastern Europe, a comprehensibly lower life expectancy and infant mortality rate than Western Europe¹¹⁴ and part of this difference was explained by the quality of the physical environment (Pavlínek and Pickles, 2000: 131)¹¹⁵. Throughout the human health condition declined in Poland (Pavlínek & Pickles, 2000: 145). Some of the early environmental manifestations related to health issues as the marches and demonstration in the strongly polluted Kraków (Pavlínek & Pickles, 2000: 178).

In the Gdańsk Agreement signed 1980, the government promised clean air, soil and water, the most important results of this was the location of environmental protection on the agenda of change (Andersson, 1999:63), see also paragraph 6.1.6 *Struggles for Reforms*. The 1980 Solidarity movement provided a massive boost to environmental awareness (Millard, 1998:145). E.g. the first independent environmental organisation Polish Ecological Club founded in 1980 (Andersson, 1999:65). The Martial Law did not end this situation, as environmental debate, although not uncensored, was permitted even after the suppression of Solidarity (Millard, 1998:145).

The growing environmental awareness had influence on the policy formulation. Thus, in 1983 27 areas were appointed as areas of ecological hazard compromising approximately 11 percent of the Polish territory and 35 percent of the population. These areas were considered a threat to both nature and human health; the region of Łódź was included among the 27 areas (Andersson, 1999: 75-77).

Despite the new policy initiatives the industrial sector did not change practices, by arguing that little could be done with the few economic resources, they managed to block the implementation of many of the new environmental policies (Andersson, 1999:75).

The environmental awareness during the 1980s kept the environmental issues on the political agenda, thus the round-table discussion in 1988-89 included a protocol on environmental issues. It spoke of openness in environmental information, participation of NGOs and the public in policy process, and eco-development as a precondition for economic and social developments (Andersson, 1999: 81).

6.3.5 Discursive Developments regarding Environment in Late Communism

During the 1970s a strong institutionalisation of the “Industrialisation Problem” discourse occurred. The previous “Industrialisation Problem” transformed from focusing on alleviation of the problems produced by the industry to a discourse focused on protecting the environment. Therefore I have renamed the discourse “Environment” discourse in the 1970s and 1980s, although it draws heavily on the previous “Industrialisation problems” discourse, see also figure 6.10 below. The “Conservation” discourse remained through the whole period without any major new institutionalisations.

During the 1970s the “Environment” discourse was primarily supported by experts; however this changed by 1980. The Gdańsk agreement led to a rising awareness among the public and also many new environmental organisations. I have chosen to include the public in the “Environment” discourse together with environmental administration as the both work for an improved environment.

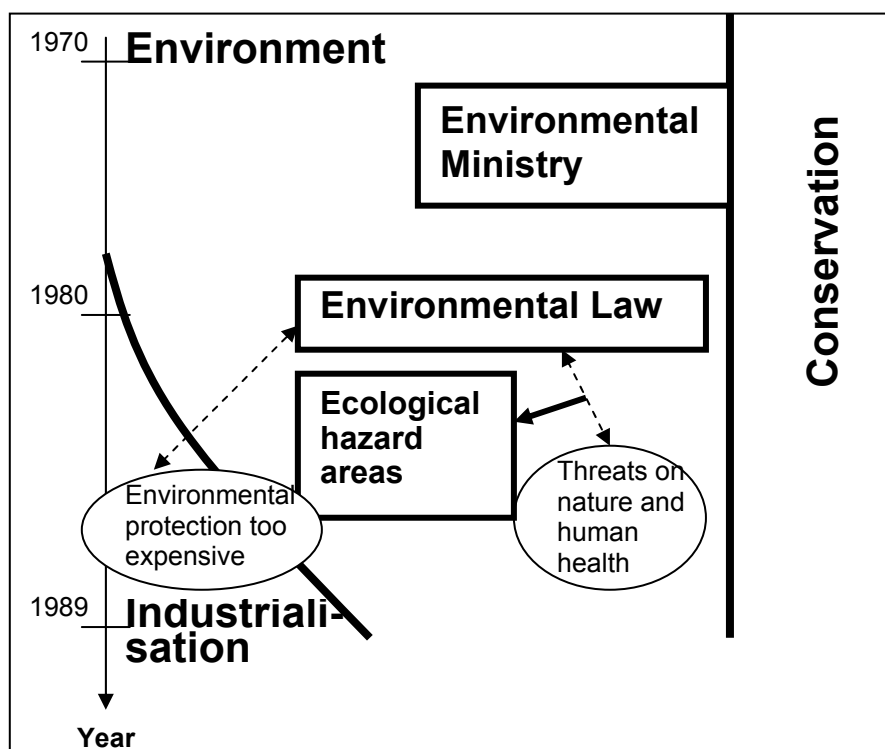


Figure 6.10: The Polish environmental discourses in the period from 1970 to 1989. The area of the three discourses indicates the significance of the different discourse at a specific time. The ellipses illustrate debates embedded in the different discourses and leading to institutionalisations showed by the squares.

The environmental minister in the late 1980s, Waldemar Michna supports such an understanding in the following quote:

In those days it was much easier for me to work with the PKE [the Polish Ecological Club an influential NGO] than with the head of the communist party.

(Quoted from Andersson, 1999: 74)

The main institutionalisation of the “Environment” discourse was the establishment of the environmental ministry in 1972, and the new environmental law from 1980. The focus of the 1980 law was to solve the financial problem with the ecological fund and to improve the enforcement of the laws with the new founded inspectorate, although it had no actions to discipline law-beakers.

The lack of enforcement was the big problem in the environmental area in the 1980s. The industry represented by the “Industrialisation” discourse won strong influence in the area as they blocked the enforcement of the new laws. Also the 27 ecological hazard areas were influenced by this lack of enforcement, as they were appointed, but no major actions were taking to improve the situation. So on the paper the “Environment” discourse was strong, but in reality very few actions were taking. Some researchers described the situation as an *implementation gap* in the environmental field (Millard, 1998).

The NGO worked for improving the environmental administrative system, they did not question the communist industrialisation, and in that way I would say the hegemonic constellation of “Remaining Polish” also limited the environmental discussion, even though it is not included in figure 6.10 above.

6.4 Discursive Developments in Communist Poland

This section concludes on the discursive development within the environmental, industrial and identity fields during the communist period in Poland. The discourses described in the previous sections are constructed by the researcher with focus on the specific discourses within the three fields of identity, industry and environment regardless of their mutual power relations. In this section I, therefore, focus on possible connections between the discourses in the three fields. The first paragraph focuses on the discourses and the second on their institutions.

6.4.1 Discursive Connections and Strengths

During the early communism the hegemonic constellation of “Remaining Polish” played a great role especially in the identity and industry areas. This hegemonic constellation implied not questioning direction of development defined by the Soviet Union. The standing Red Army and the invasion of the countries that “went too far away” from the correct direction of development underlined the strength of this constellation. The problem of this constellation, excepting the Stalin period from 1947 to mid-1950s, was that the direction of development was not very clear and the limits of acceptable actions were moving constantly. Thus, the developments in both the identity and industry areas were under a strong self-discipline, nothing could be said and no action could be taken without considering if it was within the lines of the hegemonic constellation.

The hegemonic constellation also influenced the Polish discursive development, as it tended to support one of the two discourses by turns. During the Stalinism it supported the “Soviet Model” discourse, while after the death of Stalin, more space was given to the “Domestic Path” discourse. In this way, the winds blowing in Moscow had grand influence on the Polish discursive developments in the early communist time.

These two areas of industry and identity were also marked by the same two discourses, i.e. the “Domestic path” and the “Soviet Model”. Both these discourses were new although the “Domestic Path” discourse to some degree drew on the “Polish Ethnical Nationalism” discourse of the interwar period. The ethnical question lost its relevance as Poland after WWII had lost its multi-ethnical characteristics due to the new location of borders and the tragic loss of the Jewish population and the displacement of most of the German population. The “Soviet Model” discourse had little significance in the interwar period as the communists had little influence in the Polish society at that time (Rothschild & Wingfield, 2000: 4). In this light, the “Domestic Path” discourse could be seen as the possible way to be an independent state given the hegemonic constellation of “Remaining Polish”.

The environmental area was a bit different in that way that the hegemonic constellation of “Remaining Polish” seemed without influence in the environmental area. Both the “Conservation” and the “Industrialisation Problem” discourses were unbroken discourses from the interwar period. During the early communism they remained

almost the same as in the interwar period. The “Conservation” discourse addressed conservation of Polish monuments and nature, while the “Industrialisation Problem” dealt with lessening the problems of industrialisation.

A conclusion to the early communist period could be that the identity and industrial areas had a great attention from the new communist rule. In these areas you saw specific communist models for development and the hegemonic constellation of “Remaining Polish” had a great role in directing domestic debate and actions. Contrasting, the environmental area was living a life almost similar to the interwar period, and without very much attention from the communist regime.

During late communism (1970-1989), the “Conservative Communist” and the “Reform” discourses dominated both the industry and identity areas. The “Conservative Communist” discourse struggled for a preserved society in that sense that it sought to solve the arising problems by turning to the tradition communist model for development. Thus, it drew heavily on the “Soviet Model” discourse, although the image for development was not the Soviet of the present, but the Soviet of the past. The “Reform” discourse was new, and it addressed the arising problems by solutions inspired by the Western development especially in the economic area, and in this way reforming the traditional communist society.

During the 1970s and the 1980s the hegemonic constellation of “Remaining Polish” weakened, although in different degrees in the identity and industry area. In the industrial area the hegemonic constellation of “Remaining Polish” gradually lost power throughout the whole period. Supporting this development was the Soviet pressure on the societies of Central and Eastern Europe for reforms, in the mid-1980s. Thus, the idea of remaining an independent Polish state implied remaining communists was confronted by the Soviet call for reforms, which placed basic communist institutions under pressure.

In the 1970s the reforms did not really challenge the basic communist institutions, but gradually the reforms became more and more radical in that sense that they changed central institutions, e.g. the reforms in the 1980s opened for private ownership in the industry.

In the identity area, the hegemonic constellation was also weakened during the 1970s, but temporarily strengthened in the early 1980s by the declaration of the martial law. But during the late 1980s it was weakened again in parts by pressure from the Soviet.

This could indicate that the reform attempts had a broader backing in the industrial area than in the identity area. The legitimacy of the regime was in a high degree connected with the ability to create a fair economic system, which the economic situation in the 1970s and 1980s prevented. Thus, the search for a solution to the economic problems had a high priority within the government. The reform search was backed by part of the party and population and the reform attempt continued after the declaration of the Martial Law in 1981.

The picture was different in the identity area. Issues as open information; free trade unions and broadcasting Sunday Mass did not have a high priority within the communist party. It was included in the Gdańsk Agreement in order to break-up the on-going strikes. Thus, contrasting the industrial area no consensus existed among the party and population of the purpose of the reforms. Therefore, it was uncomplicated to restrict the obtained reforms in the identity area after 1981.

By the middle of the 1980s, Gorbachev insisted on reforms in both the economic and identity area, this eroded the power of the "Conservative Communist" discourse and removed the hegemonic constellation of "Remaining Polish" and thereby also a great part of the self-discipline related to the debate and actions questioning the communist rule. An example of this new openness is the call of legislating Solidarity in 1988.

During the late communist period the environmental area got more attention than previous in relation to the political agenda. An environmental administration was build up, a new environmental legislation was passed, and ecological hazard areas were appointed. However, the implementation in relation to changing behaviour among industries, authorities, and the public lacked. The party was not willing to put economic burden on the industry in an economical hard period, despite damages on nature and human health.

In summary, I would say the decreasing power of the hegemonic constellation throughout the late communist period was a key issue in the reform development in the period. Throughout the 1970s and 1980s, the call for reforms grew both within the party and in the public. The reforms implemented were not meant to end the communist system, but by inspiration from the capitalist society to remove some of the bottlenecks in the planned economy. However, during these reform attempts central communist institutions were gradually undermined, e.g. by opening for private owners of industry, and the price and wage liberalisations of the 1980s. It became hard to

argue why the reforms had to stop at exactly this point. The pressure for reforms from Gorbachev in the mid-1980s eroded the power of the major curb of the reform pace in Poland, i.e. the “conservative communist” discourse.

6.4.2 Discursive Institutions

In the early communist days the institutionalisation of the hegemonic constellation of “Remaining Polish” was very strong with the massive presence of the Red Army within the Polish borders, and the subsequent invasions of Hungary in 1956, and Czechoslovakia in 1968.

During the Stalin period, the hegemonic constellation supported the “Soviet Model” discourse and it was strongly institutionalised by the Nomenklatura in the identity area, and the nationalisation of industry, the industrial mixture, the collectivising, and the bilateral agreements in the industry area. Apart from the collectivising and the trade area, these institutions were not conflicting with existing Polish institutions. The old administrative systems were destroyed during the occupation in the war years and a new system was built-up with new loyal people, the so-called Nomenklatura. The previous industrial owners had left the country under or just after the war, and further more much of the industry had been bombed – leaving it open to introduce a new structure as well as a new industrial mixture during the rebuilding. This gave the “Soviet Model” discourse an extra strong position, as its institutions to some degree were located in a power vacuum.

After the death of Stalin the “Domestic Path” discourse gained more power, however, most of the institutions of the “Soviet Model” remained influential, excepting the collectivising institution, which was broken down – de-institutionalised. The bilateral agreement was also ended, but the Nomenklatura and the industry remained. Thus, even new political winds blew in both Warsaw and Moscow central power bastions of the “Soviet Model” discourse remained.

In the environmental areas new institutions institutionalised both the “Conservation” and the “Industrialisation Problems” discourse but they seemed continuous to the lines from the interwar period. Figure 6.11 below illustrates the new institutions and discourses in the three areas of identity, industry and environment in early communism, i.e. 1945 to 1970.

	Discourse	Institutions			
Identity	Soviet Model	Nomen- klaratura	-	-	-
	Domestic path	New leader	Less Soviet influence	-	-
Industry	Remaining Polish <i>Hegemonic constellation</i>	The Red Army	Invasion of Hungary in 1956	Invasion of Czechoslovakia in 1968	-
	Soviet Model	Nationalisati on of Industry	Industrial structure	Collectivisation	Bilateral agreements with Soviet
	Domestic path	CMEA reforms	Abolishment of collectivisation	-	-
Environment	Industrialisation Problems	Water Board	Water Law	Air law	-
	Conservation	New Conservation Law	National Parks and nature reserves	-	-

Figure 6.11: Described discourses and hegemonic constellation in early communism (1945-1970) and their new matching institutions within the three areas of identity, industry and environment.

During late communism (1970-1989), the institutionalisation of the hegemonic constellation of “Remaining Polish” decreased. The declaration of the Martial Law in 1981 was a domestic reaction to avoid a possible intervention from the Soviet. In this way it could be seen as a self-discipline action rather than an institutionalisation of the hegemonic constellation.

Figure 6.12 below lists the described discourses and new established institutions during late communism. The picture is a bit misleading as strong old institutions are not included and therefore, some discourses appear weak, e.g. the “Conservative Communist” discourse. However, the discourses on the industry and identity areas indicate that some kind of maintenance of a power position by establishment of new institutions seemed to be essential especially when challenged by another discourse, which built up new institutions and in this way, confronted the old discourse in new ways of thinking

and new behaviour. During the 1970s and 1980s, many new institutions are established in relation to the “Reform” discourse challenging the “Conservative communist” discourse.

	Discourse	Institutions			
Identity	Conservative Communists	-	-	-	-
	Reforms	Import & loans	KOR	Gdańsk agreement	Semi-free election
Industry	Remaining Polish <i>Hegemonic constellation</i>	-	-	-	-
	Conservative Communists	-	-	-	-
Environment	Reforms	Gierek's reforms	Jeruzelski's reforms I	Jeruzelski's reforms II	-
	Industrialisation	-	-	-	-
	Conservation	-	-	-	-
	Environment	Environmental ministry	Environmental Law	Ecological hazard areas	-

Figure 6.12: Described discourses and hegemonic constellation in late communism (1970-1989) and their matching new institutions within the three areas of identity, industry and environment.

In the environmental field, the “Environment” discourse was also institutionalised in a new administration and legislation. However, this did not result in an improved environment, as the institutions were only in little degree brought to realisation in practice. This was mainly due to the “Industrialisation” discourse, which prevented the environmental fines being implemented, as it was argued that the Polish industry could not afford the environmental cost in the hard economic situation. Thus, the strong institutionalisation of the “Environment” discourse did not imply that it was a powerful discourse. The question of power seemed to relate the power of contemporary discourses, the establishment of new institutions, but also the realisation of the discourses in practice.

6.5 Reliability of the Analysis

The analysis of the discursive developments during the communist period in Poland is mainly built on historical accounts. Therefore, the quality and type of sources are critical in assessing the reliability of the analysis. These issues are discussed in the first of the following three paragraphs. The second paragraph deals with construction of discourses. The third and last paragraph settles the discussion of the reliability of the analysis of the discursive developments in communist Poland.

6.5.1 Sources

The sources employed in this part of the analysis was mainly different kinds of historical accounts, just as in the previous analysis of the discursive developments in the interwar period. However, beside the usually reservations of the history written in the light of the present, which in many ways are different than the past described, the division of Europe in a Communist eastern part and Capitalist western part is to a large extend reflected in the sources.

The ideological issue is reflected in different ways. In parts it ordered the subjects dealt with in the different accounts. Thus, the break down of the Polish economic system in the late 1970s is a central theme among the western authors. The economic situation was a crucial issue in those days, effecting all parts of society, e.g. with lack of food products in stores. However, the big emphasis on the economic situation is also a way to highlight the troubles of the communist society.

In this study I am very dependent on western researchers and their view on Poland, see also figure 6.13 below. In order to steer clear of the extremely ideological texts, I have been looking for specific texts rather than general text. The specific text implies authors with detailed knowledge of a specific field, and these authors usually know too much of their field to get seduced by the ideological contest between the communist and the capitalist.

Most of the authors listed in figure 6.13 under general accounts demonstrate a big specific knowledge of the developments, maybe excepting Crawford, 1996 and Henderson and Robinson, 1997.

Source Author	General historical accounts	Specific historical accounts
Non-Central and Eastern European Authors	<ul style="list-style-type: none"> • Crawford, 1996 • Henderson & Robinson, 1997 • Lewis, 1994 • Millard, 1994 • Rothschild & Wingfield, 2000 	<ul style="list-style-type: none"> • Andersson, 1999 (environment) • Brodersen, 1987 (Economy) • Den Polske regerings reformtese, 1987 (policy) • Graham, 1995 (environment) • Millard, 1996 (nationalism) • Millard, 1998 (environment) • Nielsen 1998 (industry) • Nielsen, 1987b (economy) • Nielsen, 1987c (economy) • Riishøj 1987b (policy) • Riishøj, 1987a (Policy) • Riishøj, 1988 (policy) • Riishøj, 1989a (policy)
Central and Eastern European Authors		<ul style="list-style-type: none"> • Bucek et al, 1996 (regional dev.) • Korbonski, 1993 (civil society) • Pavlínek & Pickles, 2000 (environment)

Figure 6.13: Characteristics of the most central sources used in the analysis of the discursive developments in the communist period in Poland.

A danger by building on specific sources could be that one might over-emphasis a subject. However, this is the condition for any research. You will always have to describe and analyse part of reality and not everything.

This part of the analysis differs from the analysis of the interwar period in that way that it includes historical text written in the time they are analysed. The texts written in the 1980s are all from a Danish periodical called “Vindue mod Øst”. Thus, it is contemporary texts but written with a Danish view of Poland. Nevertheless, these texts reflect the concerns of that time, and therefore support the reliability of the analysis.

6.5.2 Discourse Approach

The discourses described in the previous sections are products of the researcher's thoughts, rather than a correct historical account. That does make it false, however, other persons might have different views of the historical controversies.

As the analysis is mainly based on historical accounts, it does not deviate from the main views represented in these sources. However, the new issues are the controversies in the three areas of identity, industry and environment, which are not usually related; institutions related to the development, and the transformation of previous discourses into new ones. Also, the purpose of this discourse assignment has not been to rewrite the Polish history, but to some degree highlight issues that are often overlooked. To some degree I succeeded with this issue, e.g. in the description of the reforms developing differently in the economic and identity fields.

6.5.3 Reliability of the Findings

All in all the analysis of the discursive development in the Poland in the identity, industry and environment has an increasing reliability up through the communist period, as historical texts are included in the last part of the analysis. The findings mainly correspond to the main conclusion of overall historical accounts (see e.g. Lewis, 1994, Millard, 1994, and Rothschild & Wingfield, 2000), although the emphasis in this analysis is different from that in ordinary historical accounts. This is consistent with what Yin (1994) calls investigation triangulation, where other investigations show the same result as here (Yin, 1994: 92); however, as the investigations are also some of the main sources for the analysis the relation should be given beforehand.

7 Poland in the New Europe

The semi-free elections in 1989 and the following acceptance of the first Polish non-communist government in almost forty years was a rupture in Polish history. The horizon of the future societal development transformed from a Communist ruled plan economy with reforms to a democratic market economy. This shift changed institutions, practices, and understandings, however within the new institutions and practices threads of the old was embedded. These transitions processes are the theme of this chapter, covering the period from 1989 to the change of the Millennium (year 2000).

Like the two previous historical chapters the focus is on the discursive developments in the areas of identity, industry, and environment. The chapter is more comprehensive than the previous

historical chapters as I assume that the recent developments have had more influence on the present industrial environmental practices than the earlier developments.

The chapter is divided into five sections. The first three sections deal with the discursive developments within the identity, industry, and environmental areas, i.e. *7.1 The Return to Europe*, *7.2 Shock Therapy*, and *7.3 Imposed Environmental Policy*, respectively. These sections each consider the discursive developments in two periods during the 1990s. The first period is the first ecstatic period followed by the sudden wake up to economic problems (1989-1993). The second period is the mid and late 1990s (1993-2000). European integration was promised in 1993, but the date for membership of the EU was uncertain. In 1997, Poland was invited to join NATO by 1999, and this marked the end of the waiting at the European threshold. The fourth section concludes on the findings in this chapter, i.e. *7.4 Discursive Developments in Post-Communist Poland*. Finally, the fifth and last section deals with the methodological issues of this part of the analysis, i.e. *7.5 Reliability of the Analysis*.

7.1 The Return to Europe

The new non-Communist government established in 1989 came as a surprise for all parts¹¹⁶. The first surprise was that Solidarity actually was able to win the election, but the next and maybe bigger surprise was that the Polish Communist Party as well as the Soviet Union accepted the election results and the subsequent non-Communist government. It was a triumph for the “Reform” discourse, which soon had to modify itself to an everyday life with political responsibilities and real-life problems. Along these lines, the early 1990s was marked by the sudden wake-up from the dreams of becoming like Western Europe by barely establishing market economy and free elections. The hopes of changes after the election in 1989, was to a large extent let down by the economic troubles in the early 1990s.

The identity issue became rapidly stronger related to creating Poland as a part of Western Europe, instead of having relations towards the east as in the Communist era. Contrasting, the Communist period a broad consensus of this future horizon of development existed within the Polish society.

The first following five paragraphs deal with the identity areas in the early 1990s, while the next two paragraphs cover the development between 1993 and 2000.

7.1.1 A Centralised Democracy

In Western Europe the fall of the Berlin wall was very much seen as an ideological victory for democracy and liberalism, (see e.g. Møller, 1990) while in Poland, as well as the rest of Central and Eastern Europe, the changes in a higher degree were carried through by the hope of improved living standards. Thus, the democratic issue was important to bring about a new regime, but the main concerns and expectations related to the economic development.

The front-runner position of Poland among the Central and Eastern European countries gave it some disadvantages, as the institutions built were meant to keep the Communists at power. E.g. the April Pact of 1989 sketched a plan that gradually should restructure the society to include more democratic elements, but with the Communists remaining as a vital power. The semi-free election for parliament in 1989 was only meant to pave the road for planned free elections in 1993, thus especially the creation of an extremely strong presidential role, meant originally to secure Communist hegemony in the new situation, influenced the Polish political life during the 1990s (Ágh, 1998: 142-143)¹¹⁷.

Figure 7.1 below illustrates how Poland was a frontrunner in the national roundtable discussions, local democratic election, while the election on national level first was free in 1991. The Communist constitution was changed as late as 1992, as the last country among the selected Central Eastern European countries in figure 7.1.

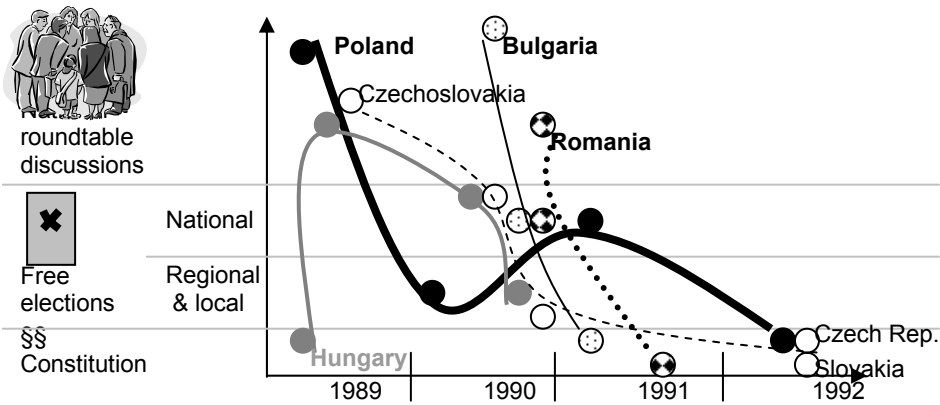


Figure 7.1: Early political transition processes and their occurrence among selected countries in Central and Eastern Europe. The figure illustrates that despite having the first roundtable discussion, Poland settled the constitution issues late, actually the final constitution was first passed in 1997. Sources: Ágh, 1998: 99-100 and Henderson and Robinson, 1997: 345.

Despite the strong position planned for the Communists in the April Pact in Poland, their power gradually eroded by what Ágh (1998:143) calls *the moving walls* of the institutional system. I.e. the process where the former opposition (Solidarity) gained more and more strength in the real world of politics and this offsets the institutional arrangements fixed in the original pact. Nevertheless, the institution of the April Pact carried within a centralism of power originally meant to keep the Communists in power and thereby avoid Soviet interference.

In a discursive perspective the institutional constructed strong position for the president was formed under influence of the hegemonic constellation of “Remaining Polish”. The “moving walls” was an example of the declining power of the hegemonic constellation of “Remaining Polish”, despite its institutions still existed, e.g. the standing Red Army within the Polish borders.

The first new political organisations inherited in post-Communist Poland was a kind of political conglomeration (Solidarity) in which all political interests were submerged in the name of the higher interest of opposing the Communist regime. Once the Solidarity government was in power, the conflicting interests came into force (Schöpflin, 1990:11-12). The number of parties in parliament raised in the next election to 29 parties in the parliament in 1991 among them eleven

with only one seat each^{118 119}. However, the party fragmentation was much less noticeable than the figures suggest, as the largest three parties controlled the overwhelming part of the seats. In Poland the parties are the post-Communist, the historical peasant party, and a new liberal party (Ágh, 1998:114).¹²⁰

The emerging parties lacked party identity of their own, so in spite of the fragmentary parties, the blocks in parliament remained as post-Communist and original Solidarity parties even the differences in real policy between the blocks were hard to find (Rasmussen, 1999: 19). Appendix II lists the governments in Poland during the 1990s.

The many new parties indicated a search for a new identity, however, the horizon for future development seemed obvious for all parts; the return to Europe and liberalisation of the economy, see also section 7.2 *Shock Therapy*. On this background, it became rather vague what the difference between the parties actually was.

The power separation between central, regional, and local government also created difficulties (Ágh, 1998: 152). The regional level had representatives appointed from the national level. The first free election in Poland was for the local government in 1990, while the regions remained administrative units employed by many of the members of the old Nomenklatura (Regulska, 1997: 203). This power struggle of centralisation contra decentralisation remained throughout the 1990s. First in 1999, a new structure was given on the regional level with new geographical locations and direct elections.

In a discursive perspective I see two discursive formations both with threads back to the reform discourse of the 1980s. The first I will call the “Gradualism” discourse, in that sense that it seeks gradual reforms, building on existing institutions. Therefore, it would continue with the existing regional structure as they worked as they were. Thus, the “Gradualism” discourse is supported by the previous doubtful members of the “Reform” discourse. The other discourse I will call the “Shock” discourse, it advocated that a break with the past institutions is necessary in order to build up something new. This discourse was among other supported by the hardliners of the pervious reform discourse.¹²¹

7.1.2 Disappointed Democratic Citizens

The long struggle for Polish societal reforms during the 1980s did surprisingly not lead to a high election turnout in the 1989 election, this despite the fact that Solidarity won an overwhelming victory. Only a bit over 60 percent of the voters participated in the election, and the situation did not improve during the early 1990s, see figure 7.2 below.

Eighty percent of the Polish population supported the first non-Communist government in 1989, while explanation of the low turnout (60 percent) might be found in an extremely complicated election procedure.¹²² Another part of the explanations for the low turnout can be found in the great and unrealistic expectations for the first governments and the development at the political arena (Rasmussen, 1999:19).

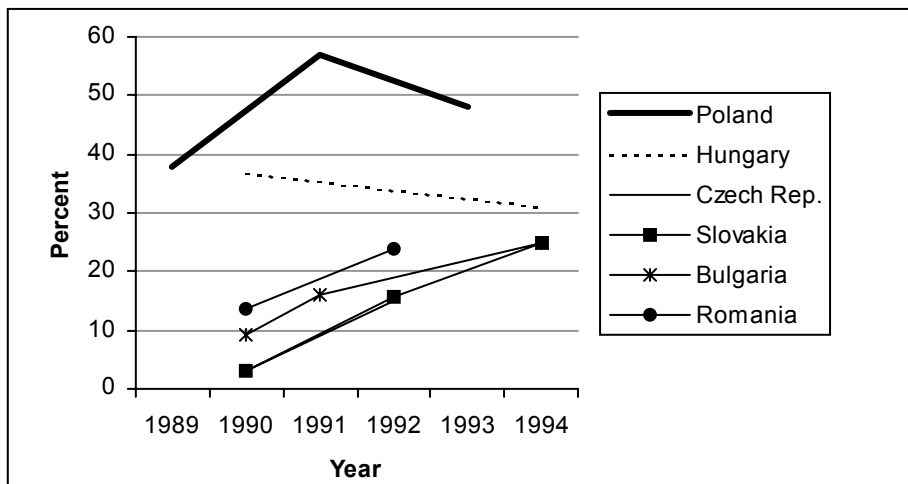


Figure 7.2: Abstentionism in parliament elections in selected countries in Central and Eastern Europe in the early 1990s. Source: Ágh, 1998:103.

During the Communist regime, the institutions carrying the public political influence had been Solidarity and the Communist party, and both these institutions were marked by power struggles in the early 1990s (Ágh, 1998: 144). In this way, the channels of political influence were diffuse compared with the 1980s, despite the negative aspects the changes brought democracy with it.

The public expectations to the transition processes were mainly linked to the improvement of living standards and especially the economic development in the early 1990s was disappointing, and it spilt Solidarity and disappointed the public. In his resignation speech Mr. Mazowiecki, the first non-Communist government leader in the 1990s, said that the expectations of the public were incompatible with the economic programme (Riishøj, 1991a: 28).

In a discourse perspective the democratic passivity of the Polish population related to the latent conflict in the previous “Reform” discourse. On one side the supports of reforms, and on the other side the supports of reforms as a mean to obtain a better living standard. The better living standard did not arrive over night and therefore this resignation in the population towards democracy.

7.1.3 De-Communistation and Lustration

The takeover of a Communist system by the new non-Communist government made some major dilemmas. One of the dilemmas related to how the rule of law was to operate in a system, where norms and values embodied in much existing law was alien to democracy. Prime minister Mazowiecki of the first non-Communist government took the position that existing law should be binding until abrogated by new law. The sheer volume of new laws and regulations led to a state of “legal chaos” in which it was difficult to determine what legal norms actually applied in given circumstances (Millard, 1994: 184-185).

Mazowiecki’s view drew on the “gradualism” discourse, where the new democratic system gradually would change the old institutions, despite the antagonism of norms and values between the new and old institutions.

Another central dilemma related to the principles of justice requiring settling the past wrongs combined with the rights of the individuals penetrated by these wrongs. The Mazowiecki government did not see the clear lines in the settlement with the past. “We all be given a rope with which to hang ourselves”¹²³ one of them expressed.

The election of Lech Wałęsa as president in 1990 brought the de-Communistation issue high on the political agenda. This led to the “war at the top”¹²⁴ among other things of how and how far to go in the de-Communistation process. The unclear distribution of power between the parliament and the presidency only made the situation worse, see also paragraph 7.1.1 *A Centralised Democracy*.

The Bielecki government, following the Mazowiecki government in 1991, did not change the de-Communistation policy much, although national and regional “verification commissions” were set up to examine officials of the Interior minister. Many senior and middle-ranking functionaries resigned on this background, but around 14.500 were presented for commissions and around some 9.800 were fully accepted (Millard, 1994: 186). The verification commissions could be seen as a beginning de-institutionalisation of the Nomenklatura in parts of the public administration.

After the election in 1991, the Olszewski government transformed the de-Communistation issue into a lustration process, where people holding a high office should demonstrate that they had not collaborated with the former regime. The law passed in May 1992 provided punishment, namely a ban on holding public office, for actions not prohibited by law (Millard, 1994: 188). The government fell among other things due to the lustration issue. The Suchocka government formed in July 1992 was a broad coalition government, a necessity to stop the fruitless debates and make a national pact as in 1989, to get the transition processes running again (Riishøj, 1992b: 9). After 1992, the de-Communistation issue did not succeed in legislation although it was discussed many times.

The lustration approach drew to some extent on the “Shock” discourse. It was an attempt not only to destabilise the former Nomenklatura, but also to condemn people, which had not broken the existing laws. By this performance the Olszewski government searched to institutionalise the view of the “Shock” discourse as a hegemonic constellation. Not only the parliament or the administration, but the whole society needed to be purified. The neglecting of a big part of the society and political arena that did not believe in the lustration was part of the reason for the fall of the government. The following government had to give up on the issue in order to form a “pact” for the future.

7.1.4 Cautious Foreign Policy

In the early 1990s, security issues marked the Polish foreign policy. Even though the Berlin Wall had fallen the skeletons of the cold war organisations remained. In 1989, the denouncement of the Brezhnev doctrine¹²⁵ did lead to the dissolution of the Warsaw Treaty Organisation (WTO)¹²⁶ in 1990, but still the Soviet remained an important factor in Polish foreign policy. With the dissolution of

WTO, the Soviet Union began to redraw its troops from Central and Eastern Europe (Lewis, 1994: 204), although first in 1992 an agreement on this issue was concluded with Poland (Millard, 1994: 212).

During 1989 and the first months of 1990 the official Poland affirmed its alliance with the Soviet Union, but through the period of 1990-1991 a two-track policy developed. On one hand Poland was oriented towards the Soviet government, on the other hand it was directed towards the governments of the constitution states. After 1991 the Polish foreign policy became much more multi-faceted, but also more explicitly oriented to West Europe (Millard, 1994: 205-206). Thus, even the institutions of the hegemonic constellation of "Remaining Polish"¹²⁷ from the Communist period melted, the Polish foreign policy acted as they still existed.

Another constant theme in Polish politics remained "the return to Europe" among others symbolised in the hope for NATO and EU memberships (Millard, 1996: 218). In the field of security issues, the Polish hope for NATO membership was framed by the power struggle between Russia and the former Western allies. Here a central controversy was, which organisation to develop in order to deal with the future security situation in the New Europe. The Russians suggested the OSCE¹²⁸ while the Western allies suggested NATO supported by the Central and Eastern European countries. In spite of reforms the origin and history of these two organisations made two very different points of departure. OSCE was founded in 1975 with all of Europe (except Albania) as members, i.e. European nations from both side of the former iron curtain. OSCE was a forum for discussion and consequently with no effective decision structure, e.g. in the late 1990s decisions were still based on consensus among all the members. On the contrary, NATO was a military defence organisation and a child of the cold war with members only from the former Western block. Despite its reforms it had also some of the values from the cold war embedded in the organisation, e.g. the idea of a common defence against a common enemy (Faurby, 1996: 7).

The Polish hope for NATO membership was for a long period blocked by Russia who wanted OSCE to develop into an overall European security organisation (Faurby, 1996: 7). The Central and Eastern European countries were doubtful towards OSCE which in their eyes was an extension of the Russian power (Riishøj, 1994c: 22). For Western Europe, the Russian influence was no longer a "Threat by

Force” but a “Threat by Weakness” where conflicts within the region might get out of hand like in Yugoslavia if Western Europe did not take the views of Russia seriously (Ágh, 1998: 31).

In a discursive, Poland seemed to struggle to build up security institutions connected to Western Europe in order to institutionalise the new hegemonic constellation of “Return to Europe”. However, Russia/the Soviet struggled to keep its position as a (former) superpower.

Another way the “Return to Europe” hegemonic constellation was tried sought institutionalised, was via the European Union (EU)¹²⁹. In the economic areas progress was made in the early 1990s, see section 7.2 *Shock Therapy*. The political area, however, made almost no progress. In the early 1990s, the EU was rather uncertain of how to react towards the changes in Central and Eastern Europe and the idea of membership was especially hard to tackle. Thus, in October 1989, an EU commissioner stated that he found no reason at all to consider Polish membership of the EU (Kort nyt, 1989). The consideration of Central and Eastern European membership of the EU represented a clash between a political rationale (in favour) and an economic rationale (against) (Millard, 1994: 220). In 1994, it was estimated that the coming EU enlargement would enlarge the annual EU budget with estimated 60 billion ECU if the enlargement included only the so-called Visegrad four, i.e. Poland, Hungary, the Czech Republic and Slovakia (Aage, 1997:27).

In 1990, the European Council¹³⁰ in Dublin decided to begin negotiation for further association agreements¹³¹ with the countries in Central and Eastern Europe, the so-called Europe Agreements. However, it was underlined, among others by the president of the EU Commission¹³², that the end goal of these second generation agreements was free trade *not* membership of the union (Jensen, 1990a: 6). Poland concluded an association agreement with the EU in December 1991.

As a reaction to the half-hearted integration of Central and Eastern Europe in the EU, the presidents of Poland and the Czech Slovak Federal Republic (Wałęsa and Hável) criticised the development. They portrayed the Berlin Wall as replaced by a *silver curtain* to illustrate the economic and social gap widening between East and West (Jensen, 1993: 14). In 1993, the EU promised future membership of the EU for Central and Eastern Europe (The European Commission, 1995/2001a). Among other things, the decision was

based on a germinating worry in the West of the social instability in the transition countries, among others caused by the disastrous situation in the former Yugoslavia (The European Council, 1994b: 2). In this manner, the EU added an extra carrot of future membership to the - for the EU favourable - trade agreements.

Similar to the security issues, the attempts to build institutions with EU was related to the attempts to institutionalise the hegemonic constellation of “Return to Europe” which was also a way to de-institutionalise the last pieces of Soviet dominance.

7.1.5 Discursive Developments regarding Identity in Early 1990s

The picture of the discursive developments in the identity area in Poland changed radically after 1989. The influence of the “Conservation Communist” discourse almost vanished, while the “Reform” discourse divided into different discourses. See section 6.1 *Remaining Polish* in the previous chapter for an overview of the discursive developments in the identity area in communist Poland.

The hegemonic constellation of “Remaining Polish” of the communist time remained in the early 1990s, but it had less force than previously. The strong presidency established by the April Pact was an institutionalisation of the hegemonic constellation meant to keep the Communists at power. However, the de-stabilisation by what Ágh has called the moving wall, and the election for president in 1990 resulting in a de-institutionalisation of this institution. Also, the dissolution of WTO weakened the hegemonic constellation of “Remaining Polish”, and the discussion of redrawing the Red Army from Central and Eastern Europe lead to the de-institutionalisation of one of the strongest institutions of this hegemonic constellation, even the agreement was first settled in 1992. Thus, the hegemonic constellation of “Remaining Polish” destabilised during the 1990s; however it was not immediately replaced by any other hegemonic constellation.

The domestic ambitions of institutionalising a hegemonic constellation of “Return for Europe” did not proceed, as Soviet/Russia blocked for the Polish hopes for NATO membership and the EU was not willing to include Poland as a coming member. First in 1993, the EU promised a future membership although a date was not set. This marked the beginning of an institutionalisation of the hegemonic

constellation of “Return to Europe”. Figure 7.3 below illustrates the breaking down and the building up of a new hegemonic constellation with the gradual grey areas.

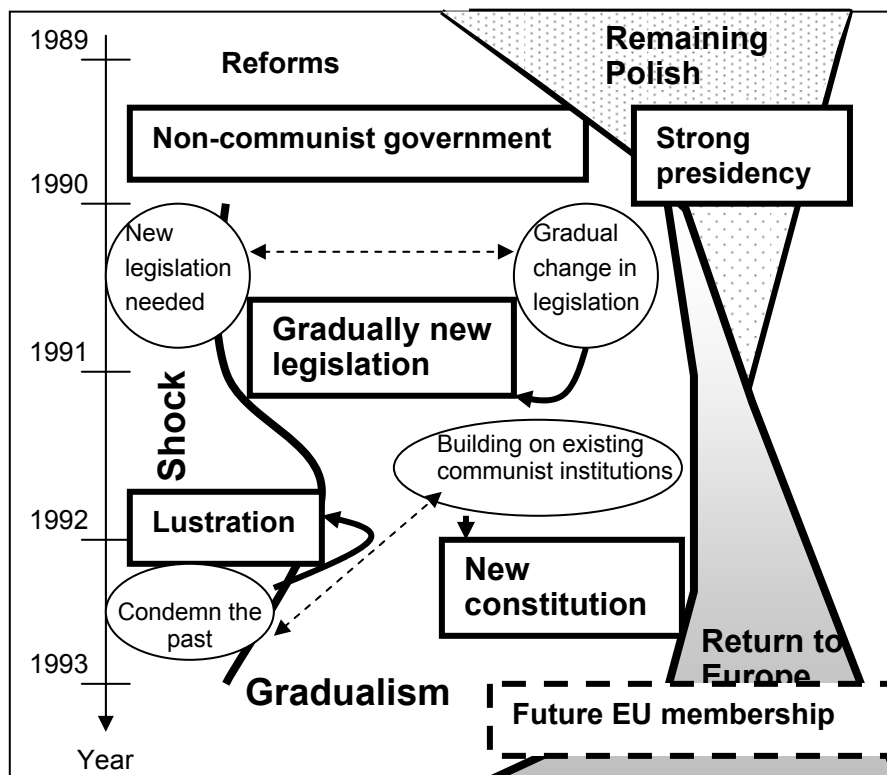


Figure 7.3: The main discursive developments regarding identity in the early 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares. The grey area represents a hegemonic constellation.

The “Reform” discourse of the Communist time divided in the early 1990s. The first split related to the latent conflict of those being supporters of reforms and those being supporters of reforms as a mean to get higher living standard. The latter part, which was a great part of the public, was disappointed with the lack of economic results and redrew from the political area or established strikes (Riishøj, 1990b: 21). The conflict was also visible in the resignation speech of Prime Minister Mazowiecki in 1991.

Furthermore, the reform discourse split into two discourses, i.e. the “Gradualism” discourse, which gradually sought to reform the society building on already existing institutions, and gradually replacing the Communist institution and destabilising them by new democratic discourses. The other discourse was the “Shock” discourse believing that the Communist institutions should be replaced by new democratic institutions fast in order to be able to succeed in implementing the reforms. In the identity area the “Gradualism” discourse was rather strong, institutionalised in the gradual replacement of legislation, and the Communist constitutions remaining until 1992. Also, the verification commission in 1991, which gradually destabilised the old Nomenklatura, at least parts of the Interior Ministry could say to support the “Gradualism” discourse. In late 1991 and early 1992, the “Shock” discourse gained more power with the lustration revolutions, which was to rewrite the history of right and wrong during the Communist time and on this background assess the Polish people of today. The Lustration legislation brought lots of critique as well as unrest and it was challenged by the new government in 1992. Thus the institutionalisation of the “Shock” discourse was minor in the identity area.

7.1.6 Political Integration in the EU

In June 1993, the Copenhagen European Council decided that the associated countries of Central and Eastern Europe, who wished to do so could become members of European Union, as soon as they were able to fulfil relevant criteria regarding the political and economic situation¹³³, as well as the adoption of the legislation of the Union¹³⁴. The *political criterion* regarded the stability of institutions guaranteeing democracy, the rule of law, human rights, and respect for and protection of minorities (The European Commission, 1995/2001a). The work with these along with the adoption of the EU legislation, the so-called *Community Acquis*, was central direction though the policy in the rest of the 1990s. Appendix III gives an overview of the development between Poland and the EU during the 1990s.

In 1994, a strategy was found for further approach between the EU and the future members from Central and Eastern Europe within the already existing framework (The European Council, 1994a). Consequently, the *European Agreements* were now seen as based on shared understanding and values and in this way a preparation for the

future membership (The European Commission, 1995/2001b). In relation to the pre-accession strategy also *the Phare programme* had a role, as the programme was made to support the candidate countries'¹³⁵ accession preparations. Furthermore, the so-called *structured institutional dialogue* including institutions both from the EU and the candidate countries facilitated institutional learning. Finally, the EU Commission promised to set up *proposal for the further actions* of the EU¹³⁶ in relation to the enlargement process. In April 1994, Poland applied for EU membership (The European Commission, 1995/2001c).

On the domestic stage, a general consensus existed that Poland should become an EU member, but different viewpoints existed regarding the degree of "wonder" in the future membership. In October 1993, Poland got a post-Communist government lead by Prime Minister Pawlak. This government was more critical towards the EU integration than the previous government, but as foreign policy was the responsible area of the presidency, it did not have that great influence. Around 1993-1994, the Poles were very critical towards the way the Phare Programme¹³⁷ was supporting the EU integration process, as far the greatest part of the money returned to the EU countries as wages to expensive consultants, and another big part was used for the administration of the programme (Riishøj, 1994a: 17-19).

In this debate, it is possible to see some formation of discursive developments. The hegemonic constellation of "Return to Europe" gave hope for a future institutionalisation in the promise of possibility for applying for EU membership. The expectations from the Poles were supportive for the transition processes, which was also promised by the EU. However, the expectations of Poland did not fit the EU actions. The previously ambiguous EU relation to the enlargement towards Central and Eastern Europe was to some degree reflected in the Phare programme's major support for EU consultancy on expense of the candidate countries. Nevertheless, the Poles regarded their nations as an asset to the new Europe. In this light, the critique of the Phare was then an indication that the Poles considered themselves to be a nation of worth, so the EU had to support the Polish nation as the EU would also gain from the future membership. I will call this growing discourse of re-establishing the Polish identity as a strong European Nation "Poland a Strong Nation in Europe".

In May 1995, the EU Commission presented a White paper¹³⁸ on the EU enlargement. It was a guide on the priorities regarding adjustment of legislation in the Central and Eastern European

countries especially connected the Single Market (Laursen, 1995: 7). This led to a discussion of a transition period for EU members from Central and Eastern Europe excluding them from the agricultural policies and the rules of free movement of persons (Riishøj, 1995: 13).

Among the Central and Eastern European countries, including Poland, it was feared that the EU delayed the question of membership (Riishøj, 1994b: 12), and actually, not much happened between the promise of membership in 1993 and 1997. A central critique from the Polish side was the lack of access to the EU market (Riishøj 1994a: 19), even though the EU acknowledged this problem, it was unable for political reasons to completely open the EU market for Polish products (Riishøj, 1997a: 8-9). Despite these difficulties, 70 percent of the Polish population answered in favour of a EU membership in a pole carried out in May and June in 1997 (Jensen, 1997: 14).

The big support to EU integration in the pole from 1997 indicated the strong power of the hegemonic constellation of “Return to Europe”, even though institutionalisation of the hegemonic constellation in the political area kept on being postponed. Critical points regarding the EU-Poland relationship related to the lack of real commitment from the EU side. Again, I see this critique related to the discourse of “Poland a Strong Nation in Europe”. Thus, despite the existence of the hegemonic constellation of “Return to Europe”, the critique grew that the EU did not count on the Polish nation as a central European power.

The middle of the 1990s was a prolonged waiting for the promised EU membership seen with the eyes of the Central and Eastern European countries. The EU considered it to be a period with establishment of a few necessary procedures. In my view, it is obvious that the EU delayed the process to get some hold of the priorities between the political and economic rationales of the promised membership. In the early 1990s the political rationale seemed rather positive, but as concrete institutional restructuring became part of the EU agenda, also this rationale ran into problems. The Amsterdam treaty had an objective of preparing the road for enlargement with the Central and Eastern European countries; however, it did not succeed in clarifying the question of distribution of seats in the commission and the parliament, along with votes in the council (Laursen, 1997: 1-2). Another problem was that the promised membership to Central and Eastern European countries would relocate the political balance

among the EU countries, e.g. the Central and Eastern Europe got more emphasis in foreign policy than the countries around the Mediterranean during the middle 1990s (Jensen, 1995b: 2).

During 1997, the EU Commission laid down the structure of the future EU policy regarding the enlargement of Central and Eastern Europe in the white paper: *Agenda 2000*, which was an assessment of how the candidate countries were doing regarding the Copenhagen criteria. The main conclusion for Poland was that the political criteria were fulfilled, also the most crucial economic criteria could be fulfilled in medium term, and the same was the case for the adoption of EU legislation (The European Commission, 1997). The adoption and implementation of the EU legislation had imposed a heavy burden of tasks on the candidate countries, e.g. the adoption of the EU legislation solely corresponds 80 000 pages of laws (Jensen, 1998: 1). In December 1997, the European Council in Luxembourg decided that the Commission should submit regular reports to the Council on further progress achieved by each candidate country (The European Council, 1997).¹³⁹ Internally, the EU found it very hard to prepare itself for the enlargement especially regarding the institutional restructuring.¹⁴⁰ Finally, at the European Council meeting in Gothenburg in 2001 the EU promised the candidate countries that had ended their negotiation by the end of year 2002, could participate in the election for the EU parliament in year 2004 (The European Council, 2001).

Thus, the relation between the EU and Poland came into a new phase in 1997 as the point of membership was identified as medium term; even no final date was given. At the same time, the assessment of the Copenhagen criteria intensified with annual assessment reports from the EU commission.

The negotiations between the EU and Poland did not proceed smooth. In 2000, the negotiations had only succeeded in concluding on one third of the areas for Poland's approach to EU legislation. Those were the least complex areas, especially areas as agriculture, environment, and free movement of persons seemed to raise problems (Kort Nyt, EU-udvidelse, 2000). In the late 1990s, the dissatisfaction with the EU increased in Poland, particularly among the farmers. In early 1999, the Polish farmers striked and established road blockades against the raising import of provisions from the EU (Kort Nyt. Bondeprotester i Polen, 1999).

Thus, as the date for membership approached the domestic assessment of the process grew. In general, it was a critique related to the lack of consideration of the specific Polish situation rather than a question of the rightness in the EU membership. In a discursive perspective this indicated that the hegemonic constellation of “Return to Europe” remained strong, despite that the “Poland a Strong nation in Europe” discourse also grew in the period.

7.1.7 Discursive Developments regarding Identity in Mid and Late 1990s

The promise of future membership of the Europe Union in 1993 rearranged the discursive developments in Poland. The “Shock” and the “Gradualism” discourses lost importance as the process of integration in the EU defined the political agenda to a very high degree. After the promise of future membership of the EU, an institutionalisation of the hegemonic constellation of “Return to Europe” began. In 1993, it was the beginning implementation of the Copenhagen criteria, in 1994, it was the European Agreements, and after 1997, it was the initiatives initiated by the Agenda 2000. The support of the hegemonic constellation remained strong, but the asymmetric power relation between the EU and Poland gave rise to a strong Polish national identity, i.e. the discourse “Poland a strong Nation in Europe”.

The discourse “Poland a strong Nation in Europe” was not questioning the integration process towards the EU, but it argued that the integration should take place under consideration of the specific Polish characteristics e.g. regarding the agricultural sector. It was also hardly institutionalised in the period. I view this process as an identification process where Poland has to find its own legs in relation to its position in Europe. Figure 7.4 illustrates the main discursive developments in the identity area in the late 1990s.

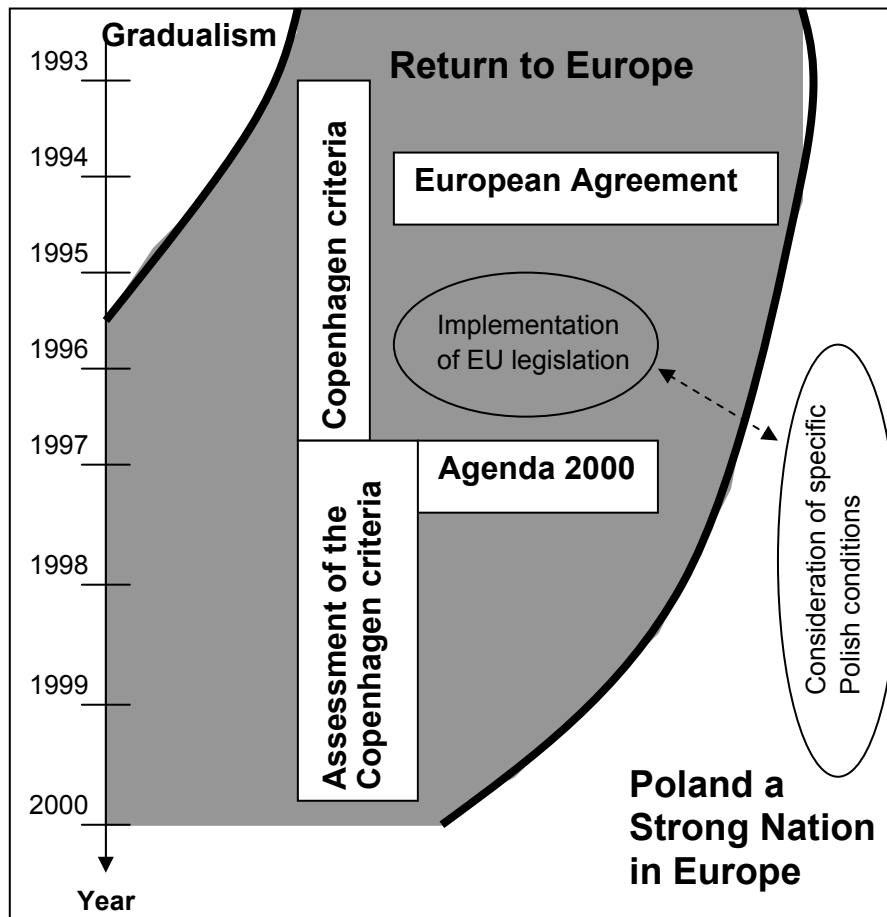


Figure 7.4: The main discursive developments regarding identity in the middle and late 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares. The grey area represents a hegemonic constellation.

7.2 Shock Therapy

The expectations to the economic reforms were tremendous after 1989. In fact, the low living standard had been a central driving force in the strikes and riots throughout the 1970s and 1980s. However, the change of regime did not solve the economic problems at once as expected by a great part of the population. The economic problems remained, as in the Communist days, one of the biggest challenges of the new regime. The reforms established during the late 1980s continued, however the discussion of the degree of market economy contra the Communist plan economy died, as a recognized consensus existed of the end-goal market economy. Hereafter, the discussions concentrated on the pace towards market economy, a gradual path called gradualism or a more radical path called shock therapy¹⁴¹.

In the industrial area many immense challenges existed, e.g. related to the privatisation processes, the restructuring of the industry, and the search for economic growth. These are some of the issues in the following analysis of the discursive development in Poland in the industry area. Like the previous section the analysis falls in two parts. The first four paragraphs deal with the developments in the early 1990s, i.e. 1989 to 1993. The next three paragraphs cover the period from 1993 to 2000.

7.2.1 The Balcerowicz Programme

The new first non-Communist government chose the so-called shock therapy approach to the economic reforms through Balcerowicz programme¹⁴², powerfully pushed by foreign lenders especially the International Monetary Fond (IMF), which demanded radical economic reforms in return for new credits and lowering the burden of debt of already established loans (Riishøj, 1990a: 16). The Minister of Treasury Mr. Balcerowicz explained later that the time immediately after the fall of the Communist regime was the best to implement irreversible reforms, as it is the only occasion the population accept such changes (Andersson, 1999:17). Thus, the shock therapy was not only forced by the foreign institutions, but also pushed by internal Polish forces.

The discussion of irreversible reforms could refer to the many reform attempts during the Communist period, which never had the planned effects. However, these reforms did not fail during a

reversibility, they were just never fully implemented, see section 6.2 *Economic Growth the Communist Engine*. Thus, the irreversibility word, in the quote above of Mr. Balcerowicz, could indicate so radical reforms that passivity could not stop the reform direction.

The programme was implemented 1st of January 1990, and it had two objectives, i.e. to stabilise the economic situation and to change the economic system, because it was considered impossible to reform the system without stabilising the economic situation with inflation of almost 1000 percent in 1989. This was to be reached by removal of almost all price subsidies, a tight monetary policy, and wage policy, along with opening the Polish markets (Riishøj, 1990a: 16)¹⁴³.

A consequence of the removal of subsidies were price increases on 500-700 percent for energy, and 300-500 percent on transport, also food prices raised, while the wage increase only covered 20-30 percent of the increase in living expenses in the first part of 1990. Despite this development, the Prime Minister Mazowiecki became more and more popular and the public seemed patient and sympathetic towards the development (Riishøj, 1990a: 17).

At the same time, the Balcerowicz programme began to be criticised for conducting an economic recession in Polish industry in general without guiding for the needed restructuring of the industry (Riishøj, 1990a: 17). This critique was partly confirmed by data of Havlik (2000: 105) who conclude that the Polish industrial specialisation pattern hardly had changed in the period 1989-1996. Another critique of the programme was that it was established by only considering technical and economic issues, while the societal consequences were lacking consideration (Riishøj, 1991a: 28).

During December 1990 Prime Minister Mazowiecki resigned and a new government lead by Prime Minister Bielecki was established.¹⁴⁴ The new government was also post-Solidarity and it kept basically the same policy in the economic area as the previous government, thus also the disputed Minister of Treasury Mr. Balcerowicz kept his office (Riishøj, 1991a: 29).

The election in 1991 for parliament resulted in a very fragmented parliament, see also section 7.1.1 *A Centralised Democracy*. The new Olszewski government was critical towards the Balcerowicz programme, especially the liberal trade policy, with import of food, which had had negative effect on the Polish agriculture sector, see figure 7.5 below. The destruction of the Polish industry potential was also criticised (Riishøj, 1992a: 21).

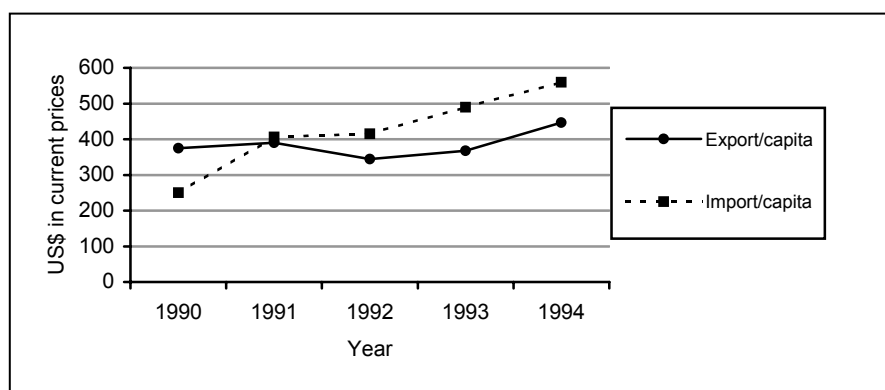


Figure 7.5: Polish trade per capita, 1990-1994. Sources: WIIW (1995: 68).

The Olszewski government presented a new economic programme in February 1992 and rejected the budget of the Bielecki government (Millard, 1994: 96-97), arguing that the space for state inventions should be greater (Riishøj, 1992a: 23). Neither the Olszewski government was able to remain in government for a long time. In June 1992, a broad coalition led by Hanna Suchocka took over. She intended to form a pact of society in order to establish a stable political climate, and stop the many strikes. In the economic area she sought to re-establish a balance on the state budget, and an economic style that was more open for critique, but at the same time kept the goal of market economy in mind (Riishøj, 1992b: 9-10). In May 1993, the government lost a vote in parliament, and subsequently parliament election was held in September.

Even though disputes on the pace of the economic reforms existed in the early 1990s, it did not change the policy direction. In a discursive perspective two different discourses began to appear. On one side was the belief that liberalisation would bring about a market economic by itself. To a great extent the Balcerowicz programme institutionalised this discourse, which I will call the “Liberalisation” discourse. The Balcerowicz programme liberalised prices and trade in order to create a market economic, leaving the state with a minimal role. The “Liberalisation” discourse to some degree grew on the reforms of the 1980s, which also tried to liberalise prices and wages. The second discourse, I will call the “State Intervention” discourse. It believed that the state had an active role as driving force in the transition towards market economic. This discourse was generally weaker during the early 1990s. However, the arguments of the

Olszewski government drew on this discourse, although the government was not really able to institutionalise the “State Intervention” discourse. Also, the critique of the Balcerowicz programme regarding the lack of changes in the industry structure drew on the “State Intervention” discourse.

7.2.2 Restructuring the Industry

The introduction of market economy was in itself a hard contest, and the additional collapse of Soviet block did not make the situation easier as CMEA¹⁴⁵ countries almost exclusively dominated the trade pattern in the region of Central and eastern Europe. The beginning of the 1990s was distinguished by a historically deep economic depression in the region, thus output declined by 17-60 percent during the years after 1990. Poland as the first country in Central and Eastern Europe hit the bottom in 1991, but it had not gained a production output equal to the 1989-level before 1996 (Aage, 1997:8). Thus, the early 1990s was characterised by the effects of a dramatic adjustment to the collapse in CMEA and parallel a massive drop in the domestic demand (Urban, 2000: 7).

Privatisation of the industry was seen as a central element in the establishment of a market economy by the first non-Communist government. The liberalised model of economy with private owned industry was seen as the best both in relation to results, proved by especially Great Britain, and its way to undermine the power of the old regime (Millard, 1994: 175).

The small-scale privatisation proceeded apace, thus already in September 1991, 75 percent of retail trade was in private hands. However, the privatisation of the large state firms was another matter. The first privatisation law was passed in August 1991. The medium and large firms were privatised by first establishing joint stock companies owned fully by the Ministry of Treasury. Private boards were then established, which were to estimate value and formulate restructuring plans. Subsequently, twenty percent of the stocks were offered to the employees at half price and the rest was offered for sale (Millard, 1994: 176).

Both the Mazowiecki (Sep. 1989 - Dec. 1990) and the Bielecki (Jan. 1991 - Nov. 1991) governments had great expectation to the privatisation process, but they were let down. The privatisation was to take place case-by-case, and of 157 firms selected for privatisation only five was offered for sale in the first round. However, the case-by-

case privatisation was expensive. It was hard to estimate the value of the firms, and it was also hard to find domestic capital to buy the firms. In this way, the ownership was given to those individuals that could afford to buy (Millard, 1994: 176-178).

Other ways of privatisation was to force especially smaller firms to privatisation by the means of “liquidation” (closing-down) or “asset” privatisation i.e. is to prepare healthy firms or divisions of firms” for purchase or leasing. This was far the most popular route for privatisation (Millard, 1994: 179).

Three points of critiques was central in the privatisation debate. The first was the old claim of Solidarity of emphasis on workers’ self-management, which was lacking in the privatisation processes. During the Bielecki government that was an effort to make Mass Privatisation Programme that would give extended property right to those without capital and privatise 400 firms at once. However, due to the deepening recession and state deficit, it was hard to give away profitable assets (Millard, 1994: 180).

The second controversy related to the end-goal of the privatisation processes. Some of the new liberal parties saw a 100 percent privatisation as the goal, while the left wing parties imagined a substantial state sector after the privatisation processes (Riishøj, 1991b: 12-13). In this controversy the two discourses of “Liberalisation” and “State Intervention” are visible.

The third controversy related to the reprivatisation, i.e. the restoration of property to pervious owners. However, the legislation was never established, except for the Catholic Church (Millard, 1994: 178-179).

The Olszewski government (Dec. 1991 - Jun. 1992) practically halted the privatisation process, thus only six firms were privatised the first half of 1992 (Millard, 1994: 181). It also argued for strategic sectors as military, energy production, railroad, tobacco and alcohol production should remain in state-ownership (Riishøj, 1992a: 22).

The Suchocka government (Jul. 1992 - Sep. 1993) wanted to accelerate the privatisation processes, however the widespread expectation of debt forgiveness made the programme difficult (Millard, 1994: 183-184).

The privatisation processes have many controversies in the 1990s, however, opposite the discussions of liberalisation of prices and wages, the two discourses of “Liberalisation” and “State intervention” seemed more equal in the privatisation process. The privatisation processes were gradually processes, which were possible to slow

down by passivity, while the liberalisation in price, trade and wage had been implemented with one stroke. The two discourses agreed in the goal of privatisation, but not in the end-goal of how much privatisation. However, as the legislation on the privatisation issue was accelerated according to which discourse a given government drew most on, the legislation could not say to follow one of the discourses. One could say they struggled regarding the pace of implementation.

7.2.3 The EU Relation

In 1988, the EU and CMEA concluded a frame agreement on their future economic relations, ending negotiations that began back in 1975. In this period, the EU had little economic exchange with CMEA countries, while the opposite was the case for the CMEA countries; therefore the agreement was economically more important for the east compared to the west (Riishøj, 1987a). This was the first economic approach between the two cold war blocks in Europe.

The economic reforms of first and foremost Hungary and Poland were met with enthusiasm in Western Europe and, already before the non-Communist government in Poland, the aid programme Phare (**P**oland and **H**ungary: **A**ction for **R**estructuring of the **E**conomy) was formed. The programme for the most part financed and managed by the EU. Parallel with the founding of the Phare programme also many national¹⁴⁶ and other international programmes were initiated. During the early 1990s, the Phare programme enlarged to cover all of Central and Eastern Europe as well as the Balkan countries.¹⁴⁷

The conditions, embedded in the Phare programme, of reforms towards market economy and democracy did not generate any problems as they were supported by a major part of the Polish population. An offshoot of the agreement between CMEA and the EU in 1988 was a bilateral agreement between the EU and Poland concluded in September 1989. This represented the first generation of agreements between the EU and Poland. The objectives of the agreement were to gradually lift trade restrictions between Poland and the EU and to guarantee the interests of Western industry in Poland during the processes of transition (Jensen, 1990a: 5). The liberalisation of trade of industrial products between the EU and Poland was planned to be implemented asymmetrically, thus the EU should remove import duty, trade restriction etc. before Poland. However, by the conclusion of the agreement the markets in Poland

were much more liberalised than the Western markets (Iversen & Gammelgård, 1999: 4). Excepted from the liberalisation was trade with agricultural products, textiles and iron and steel, the so-called sensible products (Jensen, 1993: 18).

Poland had hoped that free trade on food and agricultural products could have been the driving force for restructuring the agricultural sector, where approximately 30 percent of the Polish population worked (Kawecka-Wyrzykowska, 1993: 12). Thus, Kawecka-Wyrzykowska (1993: 13) point to the need for internal Polish activities to restructure the sector, as an addition to the agreement with the EU.

All in all the economic relation especially to the EU in the early 1990s supported the “Liberalisation” discourse. E.g. the trade agreement between the EU and Poland was an institutionalisation of the “Liberalisation” discourse.

7.2.4 Discursive Developments regarding Industry in the early 1990s

The two discourses in the industry area developed in the early 1990s both drew on the former “Reform” discourse from the Communist period. They both saw market economy as the end-goal of the reforms, but it was two different forms of market economy. The “Liberalisation” discourse had a vision of a fully liberalised market, with a minimum of state intervention and an almost 100 percent private industry. The other discourse “State Intervention” had a vision of market economy with an active state and an industry with considerable state ownership.

Figure 7.6 below illustrates these developments. The “Liberalisation” discourse seemed much powerful during the early 1990s. It was also this discourse many of the international economic organisations institutionalised through conditions in loans and aid. Above, I only looked at the EU, but similar institutions were found in the work of IMF, OECD and EBRD, see e.g. Aage (1997).

Especially regarding the liberalisation of the market the institutionalisation of the “Liberalisation” discourse went far with the implementation of the Balcerowicz Programme as a cornerstone. The privatisation legislation was either an institutionalisation of the “Liberalisation” or the “State Intervention” discourses as the privatisation processes were speeded up or slowed down depended on

which discourse the government drew on. Excepting the Olszewski government (Dec. 1991 - Jun. 1992), the governments mainly drew on the “Liberalisation” discourse in the early 1990s. However, the change of industrial ownership and structure in relation to especially the big industries induced trouble just as during the reforms in the 1980s.

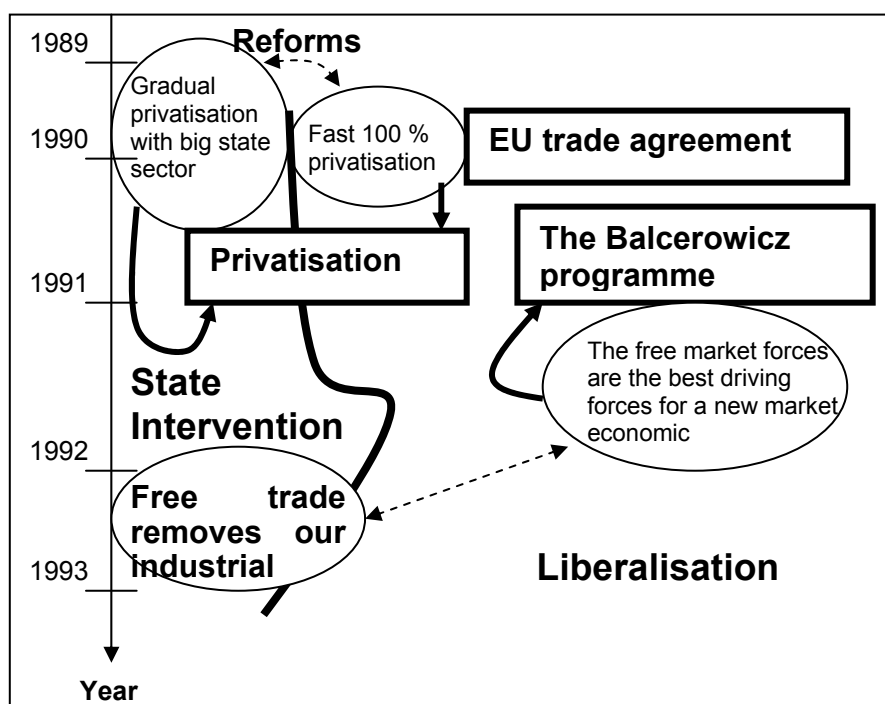


Figure 7.6: The main discursive developments regarding industry in the early 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares.

7.2.5 The West-Turned Trade Dependency

The EU was a central trading partner for Poland already before 1989, and the different European Agreements strengthened this trade direction further. In reality, the European Agreements were a complex of bilateral agreements implementing free trade over a period of ten years, although the European Agreements at the same time included a number of exceptions. Firstly, until 1997 restrictions existed for the

markets of agricultural products, coal, steel, and textiles – all fields where Poland had possibility of creating competitive advantages in relation to the EU. Secondly, a second central exception related to anti-dumping issues. Thus, Polish producers could not undersell products in the EU market. Thirdly, the agreements included a so-called contingency-protection, which implied that the import from Central and Eastern Europe was regulated so it did not create serious problems in any EU sector or region. The fourth and last exception was the rules of origin, which prescribed only free trade for products that for at least 60 percent were based on raw material and semi-manufactured articles of the country in question or other EU-countries. The rule of origin twisted the competition as Central and Eastern European countries had to abandon local cheap foreign suppliers and establish national suppliers in order to sell their products in EU. Furthermore, the bilateral character of the agreements twists the pattern of investments, so production established in a Central and Eastern European country by e.g. an American or Japanese investor had only access to the national and the EU market, while establishment in an EU country gives access to both the EU and the whole of Central and Eastern Europe (Iversen & Gammelgård, 1999: 4-5). Figure 7.7 below illustrates the Polish export during the 1990s.

During the 1990s approximately two third of the Polish export went to the EU, and this number did not change significantly during the 1990s, which indicated that the European Agreements did not have a great influence on the export possibilities. Furthermore, the foreign trade between the EU and the Central and Eastern Europe was asymmetric, thus EU's foreign trade with these countries only makes up five percent of the total EU trade. (Iversen & Gammelgård, 1999: 6). A similar picture was found in import.

All together the economic results in form of trade with a full membership of EU seem modest compared with the results already achieved. Although, the full membership would open the market of agricultural products, this should counterbalance the cost of adjusting to the demand of full membership. Thus, the rationality of full EU-membership should rather be political profits than economic (Gammelgård & Iversen, 1999: 9).

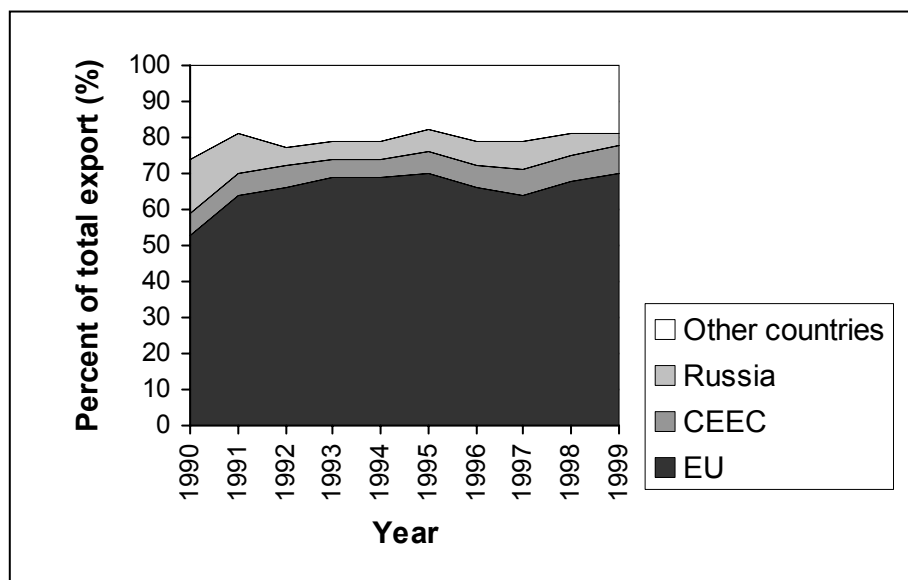


Figure 7.7: Polish export in the 1990s by region. CEEC is the Central and Eastern European Countries, i.e. Bulgaria, the Czech Republic, Hungary, Poland, Romania, and the Slovak Republic. The number on Russia is from 1992 and beyond, before 1992 the numbers on Russia relate to the Soviet Union. The numbers on 1999 is preliminary. Deriving from Havlik, 2000:93 for the numbers for 1990-1998 and WIIW, 2000: 299+346-347.¹⁴⁸

In a discursive perspective the “Liberalisation” discourse was strongly institutionalised already early in 1990s. The promised membership of the EU in 1993 just strengthened this tendency. However, the lack of access to the EU market also became a central critique in the approach to the EU membership (Riishøj 1994a: 19). Even though the EU acknowledged this problem, it was unable for political reasons to completely open the EU market for Polish products (Riishøj, 1997a: 8-9). Regarding the European agreements, the continued negotiations were making slow progress between the EU and Poland. Especially, the questions of continuous public support for the Polish mining industry, steel and iron as well as the agricultural sector created problems (Riishøj, 1997a: 8). In this way, the discourse of “State Invention” remained during the mid and late 1990s, also as a way to protect Polish interests in the approach to the EU.

7.2.6 Struggling with Industrial Restructuring

Around the turn of 1993, the Polish State found itself locked in a position where the financial latitude was decreasing rapidly. In order to counter the sneaking social crisis, the State had to impose severe strains upon public finances and impair the government budget in two ways. I.e. increase the demand on public expenditures while public revenue was decreasing (Aage, 1997: 30). On this background the state was pressed to seek earnings other places, e.g. by sale of state firms. The widespread negative attitude towards foreign investments in the Polish industrial sector reduced this possibility. Thus approximately 70 percent of the Polish population was negative towards foreign investment in the industrial sector, while more than 40 percent wanted to remove the possibility (Kort nyt, 1994b: 11).

The Pawlak government planned to continue the privatisation processes but mitigate the social effect of this course (Riishøj, 1994d: 25). In 1994, the Mass Privatisation Programme was finally implemented although in a lighter edition than originally planned. The ownership of 450 firms was transferred to the citizens via coupons controlled by an investment fund. In February 1995, the planned number of firms was increased (Kort Nyt, 1995: 7). In 1994, 55 percent of Poland's GDP derived from the private sector. However, among the big firms only between 25 and 50 percent were private (Jensen, 1995a: 11). In 1998, 65 percent of Poland's GDP derived from the private sector. However, among the big firms less than half were privatised (Kort Nyt, Karakterbogen fra EBRD 1998: 25). Thus, the privatisation of the Polish industrial sector is a slow affair. In a discursive perspective I would say that the "State Intervention" discourse proved stronger and stronger institutionalised throughout the late 1990s. Thus, despite many privatisation attempts the state firms remained a central part in Polish economy.

In 1999, Poland still faced the privatisation of the sensitive industrial sectors as the agricultural sector and the energy sector including the coal mining (Kort Nyt. Polske privatiseringer, 1999:18). In 2002, the state plan on dismiss approximately 100.000 miners, while the areas with previous state farms became increasingly more ineffective, which regionally caused extremely high unemployment rates (Rasmussen, 1999: 20).

7.2.7 Discursive Developments regarding Industry in the mid and late 1990s

The two discourses of “State Intervention” and “Liberalisation” established in the early 1990s continue in the mid and the late 1990s in a more equal relationship of power. Opposite to the situation in the early 1990s, the discourses are not very much in conflict with each other, as the institutionalisation of the “Liberalisation” discourse by e.g. the third generation of European Agreement was to a very high degree imposed by the EU. Due to the hegemonic constellation of “Return to Europe” established in the identity area, see also section 7.1 *The Return to Europe* in this chapter, these issues could not be questioned. Therefore, the debate is transformed into a discussion of the social cost of the transition processes. This is especially true regarding the privatisation processes. In this area, not only the privatisation programmes play a role as the Mass Privatisation Programme from 1994, but also the previous industrial structure and ownership plays an important role as an institution of the Communist times. This is reflected in the sensitivity in privatising vital Communist sectors as steel and mining although they are ineffective.

Throughout the 1990s as the dream of rapid transition processes instigated by privatisation and price liberalisation vanish, the EU plays a greater role as driving force in the transition processes, and the institution of the existing industrial structure and ownership plays a great role in slowing down the processes.

In this way, the two discourses became more equal regarding power position. This could also be seen as Poland establishing an antipole to the passive EU integration, which very much took place before the membership was promised in 1993.

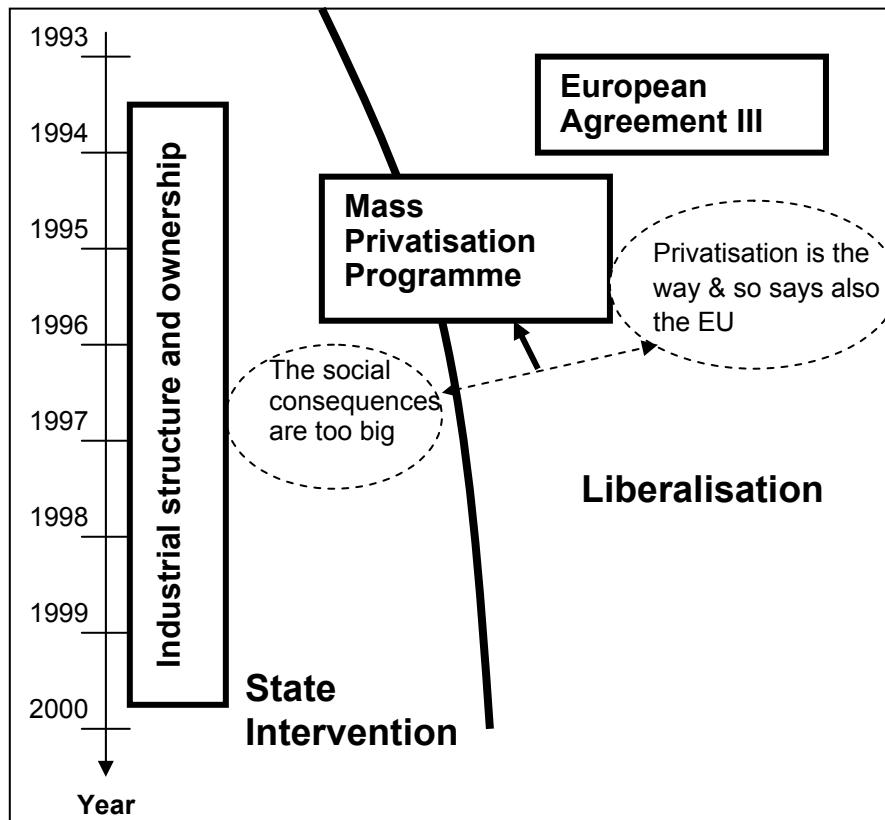


Figure 7.8: The main discursive developments regarding industry in the mid and late 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares.

7.3 Imposed Environmental Policy

In the early 1990s, a wide-ranging belief was that the political and economic transition processes would inevitably improve the environmental state also in Poland. This development would occur as a result of the Soviet style heavy industry being replaced by light industry, and the service sector expanding on expense of the industrial

sector. Furthermore, new less-polluting technologies would be implemented in the industrial sector, and the narrow focus on economic output dominating the industry in the Communist period would be changed to a more environmental-conscious view. These developments would be supported by enforcement of environmental laws (Pavlínek & Pickles, 2000: 6). However, the transition in the environmental area proved more difficult than first imagined. All countries in Central and Eastern Europe experienced a considerable improvement of the environmental state in the early 1990s, mainly due to shut down of inefficient polluting firms (Pavlínek & Pickles, 2000: 7 & Baker & Jehlička, 1998: 8), however, new environmental issues arose, e.g. the growing transportation with private cars (Baker & Jehlička, 1998: 8).

The promised EU membership in 1993 had great influence on the environmental agenda, as the environmental legislation had to approach the EU legislation. In this way, the driving force for the new environmental laws became external to the domestic developments. This section analyses the discursive developments within the environmental area. Like the previous two sections, the analysis falls in two parts. The first three paragraphs deal with the developments in the early 1990s, i.e. 1989 to 1993. The next two paragraphs cover the period from 1993 to 2000.

7.3.1 Environmental Reforms

The environmental issues were discussed in one of the committees related to the April Pact, other committees discussed issues as health, education and judicial reforms, while the most important committees related to political reforms, economic and social affairs and trade union pluralism (Millard, 1994: 61-62).¹⁴⁹ This illustrates that the environmental issue had big priority in the late 1980s.

At first the environmental legislation from 1980s survived the transition processes (Andersson, 1999:104), but new central institutions were added. In 1989, the National Fund for Environmental Protection and Water Resources was established¹⁵⁰. It gathered environmental changes and non-compliance fines (Pavlínek & Pickles, 2000: 209). The money was used as soft loans and grants for environmental improving projects, see also appendix IV. In 1994, the environmental funds provided approximately 40 percent of all investments in environmental protection (Angel, et al. 2000:579).

Also as a result of the roundtable discussions in 1989, the Environmental Ministry complied and published an inventory of Poland's 80 "greatest polluters" in 1990. For these firms fines for violating emission standards were increased tenfold, and each firm was also required to present an environmental action plan. In 1996 an assessment was reasonably optimistic, though only 17 of the 80 had fulfilled their environmental obligations (Millard, 1998: 153-154). Many of the firms left the list as they went bankrupt or the firm divided into smaller units and sold. In 1991, a new environmental bill was suggested, but the parliament eliminated all pollution control provisions and passed a pure nature protection bill, although the State Inspectorate for Environmental Protection was given right to impose fines, earlier it was a pure monitoring institution (Andersson, 1999: 104). During the early 1990s, the environmental issues gradually lost its position on the public and governmental agenda (Andersson, 1999:94).

In a discursive perspective the discourses of the Communist period continued in the early 1990s, see section 6.3 *Health as an Environmental Risk*. The "Environment" discourse appeared strong around 1990 with many institutionalizations e.g. by the environmental funds and the list of the 80 greatest point polluters. However, by 1991 the discourse seemed to have lost power to the "Industrialisation" discourse. I view the lost pollution control act as a victory for the "Industrialisation" that persisted in the implementation gap, while nature conservation had no conflict with industrial production.

This change in priority of the environmental issue was also visible in the level of pollution charges. Since 1989 the charges were raised annually based on expected inflation rates and other factors to a relatively high level (Pavlínek & Pickles, 2000: 209). However, also the economic recession had influence in the environmental area, thus the environmental charges were reduced with up to 90 percent in 1992 (Andersson, 1999: 99); just to return to the 1991 level in 1993 (Pavlínek & Pickles, 2000: 209). Still, the fluctuations in the charge levels indicated a strengthening controversy between the "Environment" discourse and "Industrialisation" discourse on the burden the firms were able to bear in the given economic situation. Figure 7.9 below illustrates the development in the implementation gap in the early 1990s indicated by the collection rate of environmental fines.

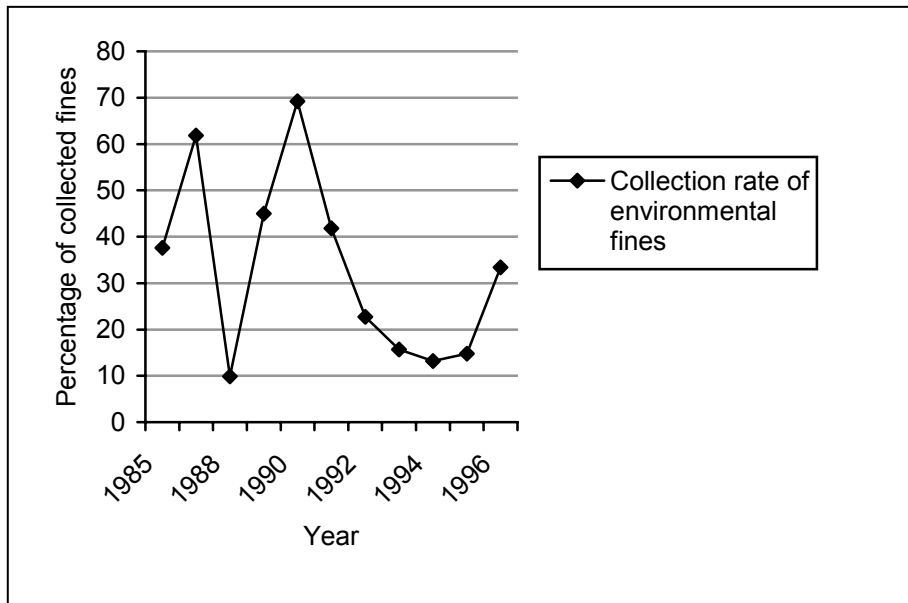


Figure 7.9: Collection rate of environmental fines. Source: Andersson, (1999:115).

The collection of non-compliance fines was very low in 1988 and increased considerably in 1989-1990 where the environmental issues were high on the political agenda, then it fell considerably in 1991 to 1995 illustrating the growing power of the “Industrialisation” discourse during the economic recession. On the other hand it could also be a consequence of the firms not having any money during the economic recession.

7.3.2 Approaching the EU

In early 1990s, it was a strategic goal in Polish foreign policy to harmonise the national law with directives of the European Union, even a membership was out of reach (Andersson, 1999: 105). This strategy was in line with the hegemonic constellation of “Return to Europe” established in the identity area, see section 7.1 *The Return to Europe*.

Based on an analysis conducted between 1990 and 1992 four areas were appointed as weak in Polish legislation. Weak compared with the EU legislation i.e. chemical turnover, GMO¹⁵¹s, public participating in policy processes, and assess to environmental legislation. In other

areas the Polish environmental legislation was more comprehensive than the EU legislation, e.g. the drinking water area (Andersson, 1999: 106).

In 1990, the Polish environmental statistical data was modified so it could be exchanged with the EU statistic office¹⁵² and also, that year initiatives were taken to reduce the pollution in the Black Triangle¹⁵³ (Andersson, 1999: 108). The Nature Protection Act from 1991 was very much in line with the EU directives, see paragraph 7.3.1 *Environmental Reforms*. Also in 1991, the water law was analysed in order to point to changes that would make it apply with the EU legislation (Andersson, 1999: 106). In a discursive perspective the hegemonic constellation of “Return to Europe” and the attempts to get institutionalised in the environmental area lead to a further institutionalisation of the “Environment” discourse.

Other significant international influences on the environmental area was the Convention on Long-Range Transboundary Air Pollution, which Poland ratified in 1985 excluding the sulphur protocol as its goal of 30 percent reduction was assessed unrealistic (Andersson, 1999: 134). However, Poland did sign the second sulphur protocol in 1994, signed by twenty-six European countries. The goal of this protocol was to reduce the sulphur with up to 80 percent by 2000-2010 (Salay, 1996: 206). Already in 1994, Poland was 34 percent below the 1980 sulphur emission level, thus fulfilling the demands of the first protocol. The main reason for this drop was the drop in economic activities in the period resulting in a drop in electricity demand (Salay, 1996: 207). Another part of the explanation was found in the use of coal of a better quality that earlier due to the liberalised coal market in Poland. A third element of the explanation is found in the increasing environmental charges and finally, also the structural changes were the most ineffective firms have been closed down bear a part of the explanation (Salay, 1996: 206). These first changes had appeared with instalment of desulphurisation equipment, however, no doubt exists that the next 10-15 years of sulphur reduction will be much more difficult and expensive (Salay, 1996: 208 –210).

The environmental assistance from international aid programmes also had a great influence on the environmental agenda in the early 1990s. In the period from 1991 to 1994 Poland received environmental aid corresponding to 26,4 ECU/capita, mostly in forms of loans (Kolk & van der Weij, 1998: 57). This gave a lot of possibilities in the Polish economic situation, but it also had some disadvantages. The first related to the setting of the political agenda. A

way to conceptualise the political dependency is to look at the actors, the international environment, the government and the interest groups, which bargain over certain policy. In the case with massive environmental aid the dependency triangle becomes lopsided as the interest groups are excluded from the process (Waller, 1998: 49).

7.3.3 Discursive Developments regarding Environment in the Early 1990s

In the early 1990s, the discursive development in the environmental area was a direct continuity of the discussions in the 1980s. As a direct result of the April Pact the environmental charge level was increased, the Environmental Funds were established, and the 80 greatest point polluters were appointed and put under strict environmental regulation. All these initiatives were an institutionalisation of the “Environment” discourse. However, as the economic recession deepened, the “Industrialisation” discourse gained more power. In 1991, it was clear in the rejection of the new environmental pollution control, but at the same time the acceptance of the new nature protection act.

The strengthening of the “Conservation” discourse at the expense of the “Environment” discourse, would remove the focus from the environmental cost of industrial production, which were in the interest of the “Industrialisation” discourse. The practice of weak collection of environmental fines could be considered as an institutionalisation of the “Industrialisation” discourse. Thus by 1991, the “Industrialisation” discourse began to gain more power, but still the “Environment” discourse was institutionalised by new initiatives. E.g. the implementation of the second Convention on Long-Range Transboundary Air Pollution (LRTAP) in 1992 was an institutionalisation of the “Environment” discourse. This institutionalisation as also institutionalisations of other international standards and EU directives were not for discussion at the domestic political stage, because it was a part of the institutionalisation of the hegemonic constellation of “Return to Europe”. On this background, the legislation was not questioned, the discursive struggles related instead to the implementation issues. This development also related to the lopsided dependency triangle, where the interest group of Polish industries are left out of influence in the formulation of legislation,

and for this reason the struggles could only take place in the implementation area. Figure 7.10 below illustrates the discursive developments in the environmental area in the early 1990s.

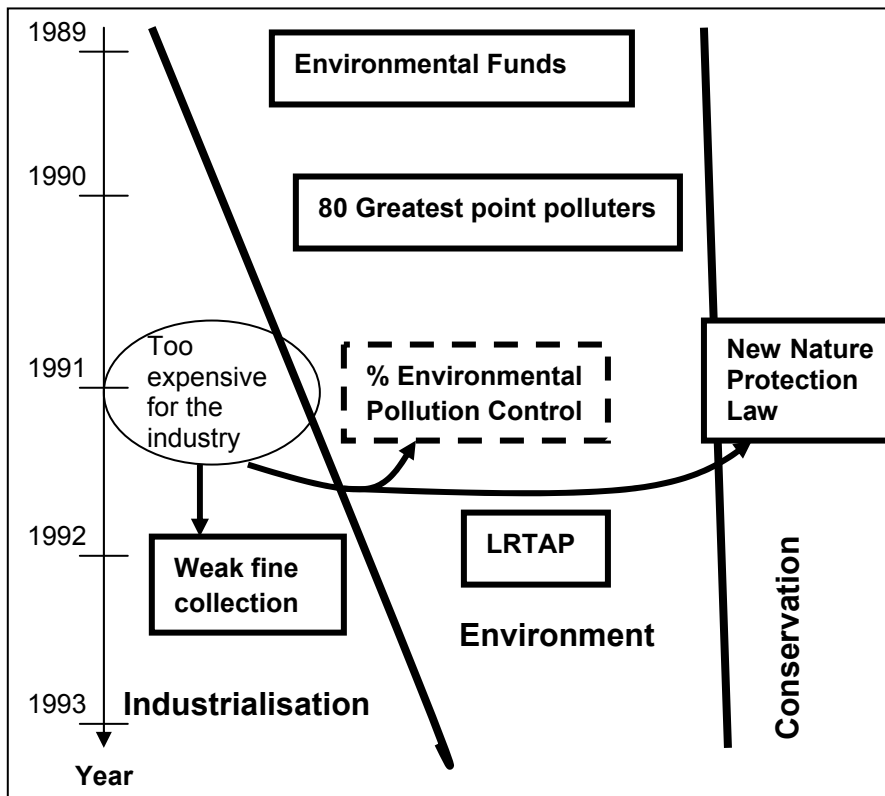


Figure 7.10: The main discursive developments regarding environment in the early 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares.

7.3.4 Driving Forces in the Environmental Transition Processes

The decline in political interest in the environmental issues continued after 1993, but at the same time the “Environmental” discourse continued to be institutionalised by the demand for approaching the EU legislation.

The strong environmental movement of the 1980s disappeared as the economic collapse undermined the living standards in 1990/1991. The close relationship with the Solidarity trade union faded away as the previous Solidarity divided up in fractions, and furthermore and many environmentalist began to work for the government and thereby weakened the environmental movement further. (Pavlínek and Pickles, 2000: 180). In this way, the environmental movement became rather isolated in the Polish society. It had relatively few members and it tended to rely on support from Western Europe and USA rather than from the Polish citizens (Andersson, 1999: 93-94). Thus, not only the industry, but also the Polish public was lacking in the domestic environmental debate.

In the early 1990s, the Environmental Ministry and the environmental movement worked closely together, however, by around 1993 this situation changed. The ministry got a new minister with less respect for the environmental movement and the movement was also very critical towards the high priority of economic issues on the expense of environmental issues (Andersson, 1999: 97). In a discursive perspective this could be seen as a critique of the growing importance of the “Industrialisation” discourse on the expense of the “Environment” discourse. The supporters of the environmental discourse were not only the Environmental Ministry, but also the environmental movement.

The big driving force in the institutionalisation of the “Environment” discourse in the mid and late 1990s was the promised EU membership and the subsequent need to implement EU legislation. In 1998 the environmental principles and legal institutions were seen as in high compliance with the EU legislation (Anderssons, 1999: 106). However, the EU was only moderately positive in 1997. On one hand it pointed to the need for much greater investments in environmental protection and on the other hand it underlined that adoption of the EU legislation was not only a question of implementing the new laws, standards and norms it was also a question of compliance with the new laws and controlling the level of

compliances (Riishøj, 1997b: 16-17). According to the World Bank the overall cost for Polish industry to comply with EU standards would amount 21 billion US\$ corresponding to ten times the annual environmental expenditures in Poland in the mid-1990s (Andersson, 1999:108).¹⁵⁴ In 2002, the European Commission estimated an annual need for investment in environmental protection on approximately 1,7 percent of the national GNP, most of this amount distributed by the National Fund for Environmental Protection (The European Commission, 2003).

Throughout the late 1990s, Poland continues to implement new environmental legislation in accordance with the EU legislation. In 1995, it regarded Environmental Impact Assessment, in 1997 it was GMO legislation, in 1998 waste management and in 1999 a new chemical legislation was passed (Andersson, 1999: 107). Also in the late 1990s, the Environmental Ministry drafted a new environmental act, which were to gather all environmental acts into an overall legislation (Andersson, 1999: 105). The legislation was implemented in 2000 (The European Commission, 2003).

7.3.5 Discursive Developments regarding Environment in the Mid and Late 1990s

During the mid and late 1990s, the discursive developments in the environment area were mainly directed by the hegemonic constellation of “Return to Europe”; see also section 7.1. *Return to Europe* previous in this chapter. The logic of the future EU membership was not questionable, thus the implementation of the EU directives in Polish legislation were not questionable neither. In this way, the institutionalisation of the “Environment” discourse to a high degree was driven by the EU demand, and the “Environment” discourse was disconnected from the domestic debate. The industry was left out as the EU made the priority in the environmental area, especially after 1997 with the annual assessment of the adoption of EU legislation. With the new Minister of Environment in 1993 also the environmental movement was somewhat disconnected from the domestic debate regarding institutionalisation of the “Environment” discourse. The debate on to what extent the actions of the Environmental Ministry take too much consideration of economic issues was very much a discussion among supporters of the “Environment” discourse.

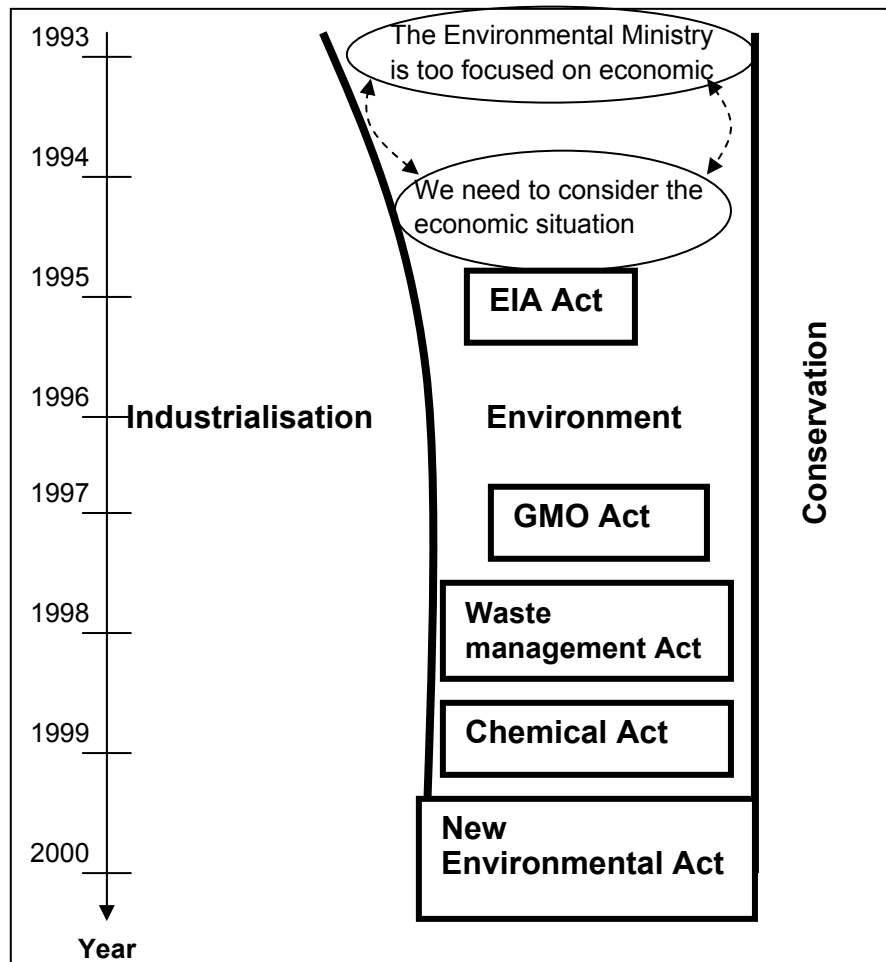


Figure 7.11: The main discursive developments regarding environment in the mid and late 1990s. The width of the area represents the strengths of the discourse. The ellipses state the understanding of the specific issues, and some of these understandings are institutionalised, the institutionalised understandings are presented in the squares.

Figure 7.11 above illustrates the discursive developments in the mid and late 1990s. I have chosen to leave out the hegemonic constellation of “Return to Europe” even though the institutionalisation of the “Environment” discourse appears to come from this hegemonic constellation. Instead the figure focus on illustrating the disconnection of the “Environment” discourse in relation to the domestic

environmental debate. I assess that the “Environment” does not become especially much stronger, despite the strong institutionalisation of the discourse. This is due to lack of connection to the domestic debate.

7.4 Discursive Developments in Post-Communist Poland

Parallel to the discursive developments in the interwar period, Polish identity was a central issue in the 1990s, though in a much different way. Contrasting the situation in the interwar period, the Polish borders were not questioned, Poland existed geographically. In the interwar period, the Polish identity was sought as an independent state, while after 1989 Poland searched for identity as first and foremost *European*. Thus, Poland sought integration in Western European organisations contrasting the previous institutionalisation in Communist organisations. The geopolitical situation was much different in 1918 compared with 1989. In 1919 the three empires of Europe were weak, particularly the Austria-Hungarian Empire was dissolved, so the new Polish republic was established in the vacuum left behind the former European Empires, see also *chapter 5: The Interwar Poland*. After the election of 1989 and the first non-Communist Polish government in over forty years, the two blocks of East and West Europe still remained, thus the Polish identity debate focused on *not-Communist*, and therefore Poland was bound to change allies from the communist East to the capitalist West.

7.4.1 Discursive Connections and Strengths

During the early 1990s, the power of the hegemonic constellation of “Remaining Polish” eroded. It seemed only to keep its power in the identity area especially related to foreign policy, while its influence in the economic area had vanished totally. Domestically in Poland a strong new hegemonic constellation emerged “Return to Europe”, but it was very hard to institutionalise. This was especially true in the identity area, while in the industry area integration in Western

European economy was much easier with aid and trade agreements. In the identity area the “Gradualism” discourse was strong. This discourse shared many common features with the “State Intervention” discourse in the industry area, e.g. the view of strong state in the new society. Opposite the situation in identity the “State Intervention” discourse was weak in the industry area. In the industry area the “Liberalisation” discourse was the strong discourse, while its parallel in the identity area the “Shock” discourse was weak. In the environment area, the “Environment” discourse grew strong concurrently after the change of regime in 1989, but with the growing economic recession the power of the “Industrialisation” discourse grew at the expense of the “Environment” discourse.

The situation changed after 1993 and the promise of a future Polish EU membership at the European Council’s meeting in Copenhagen. Hereby, the hegemonic constellation of “Return to Europe” became strongly institutionalised e.g. by the European Agreements, the Copenhagen criteria and after 1997, the annual assessment of the adoption of the Copenhagen criteria. This paved the way for the future development of the Polish society, thus the importance of the previous discourses of “Gradualism” and “Shock” lost their relevance in the identity area. Gradually through the mid and late 1990s a new discourse emerged. I have called it “Poland a Strong Nation in Europe”, it did not question the EU membership, but it argued that the adoption to the Copenhagen criteria should take a greater concern of the specific Polish conditions especially regarding the agricultural sector.

In the environmental area the hegemonic constellation of “Return to Europe” had vast influence. It actually became the main driving force in institutionalisation of the “Environment”. Thus, “Industrialisation” and the “Conservation” discourses lost their importance in the area disconnecting both the industry and the environmental movement from the domestic environmental debate.

In the industrial field the hegemonic constellation of “Return to Europe” did not have great influence, probably because the liberalisation included in the European Agreements to a great part already was implemented before 1993. The two discourses of the early 1990s remained although in a more equal power relation, i.e. the “State Intervention”, and the “Liberalisation” discourses. The “State Intervention” discourse was especially institutionalised by the former communist industrial structure and ownership, among which the most difficult cases were left to be dealt with, e.g. the privatisation of the

mining sector. The European Agreements especially institutionalised the "Liberalisation" discourse. The different interpretation of the Privatisation programme by the different governments institutionalised the given power relation between the two discourses. This related especially to the degree of privatisation and how it was to be privatised.

7.4.2 Discursive Institutions

In the 1990s, the previous hegemonic constellation of "Remaining Polish" is vigorously de-institutionalised. Even the strong presidency institutionalised in the April Pact which was meant to hold the Communists in power, as its power eroded by the moving walls, thus already in 1990 a non-Communist president was elected. Other institutions and WTO and presence of the Red Army within the Polish borders also disappeared in the early 1990s. However, still the former hegemonic constellation played a strong role and in the early 1990s prevented Poland from joining Eastern European organisations in the security area. Figure 7.12 below lists the main institutionalisation of the discourses in the three areas of identity, industry and environment in the early 1990s.

Many of the institutionalisations had departure in demands from non-domestic organisations. Thus, the Balcerowicz programme was heavily influenced by demands from the IMF. The trade agreement with the EU had included liberalisation demands, and in the environment area laws were made to make the Polish legislations equal to those of the EU. In the economic area the internationalisation are in line with the dominating "Liberalisation" discourse, so a domestic accept of these institutions exists. It is different in the environment area. The implementation of LRTAP in 1992 and the stricter environmental legislation were international institutionalisation of the "Environment" discourse, this development was challenged by the growing "Industrialisation" discourse. However, it was hard to go against the implementation of international law as Poland at the same time searched for institutionalisation of the hegemonic constellation of "Return to Europe". Therefore the struggle was largely related to the degree of implementation, rather than passing the legislation in the parliament. This drew on a long tradition of implementation gap in the environmental area; see section 6.3 *Health as an Environmental Risk*.

In the mid and late 1990s, the hegemonic constellation of “Return to Europe” had great influence on institutionalisation in the identity and environment areas. The institutionalisation of especially different EU directives happens without much consideration of the specific Polish debate in the area. In the early 1990s, this led to a discrepancy between the institutionalised legislation and the actual practice. This might also be true in the mid and late 1990s, anyway the EU is focussed on the compliance of legislation, which might indicate that practice is not changed as fast as legislation, although I do not have much indication in this area.

	Discourse	Institutions		
Identity	Remaining Polish <i>Hegemonic constellation</i>	Strong presidency (dissolve in 1990)	Dissolution of WTO 1990	Redrawing Soviet troops 1992
	Gradualism	Gradual change of legislation	Verification commissions	New Constitution
	Shock	Lustration legislation in 1992	-	-
Industry	Return to Europe <i>Hegemonic constellation</i>	Future membership of EU (1993)	EU trade agreement	-
	Liberalisation	Balcerowicz programme (Trade and prices)	-	-
	State Intervention	-	-	-
Environment	Industrialisation	Practice regarding collection of non-compliance fines	-	-
	Environment	80 greatest polluters	Environmental charge level and funds	LRTAP 1992
	Conservation	New Conservation Law	-	-

Figure 7.12: The main discursive institutions institutionalised (and de-institutionalised) in the period 1989 to 1993 within the three areas of identity, industry and environment in Poland.

The industry area is much the same as before 1993, and the institutionalisation also much the same. The “State Intervention“ discourse is institutionalised by the old industrial structure and ownership, which appear extremely hard to de-institutionalise. The “Liberalisation” discourse was primarily institutionalised by the trade and price liberalisation of the European Agreements. Figure 7.13 below lists the main institutionalisations in the mid and late 1990s.

	Discourse	Institutions		
Identity	Poland a Strong Nation in Europe	-	-	-
	Return to Europe <i>Hegemonic constellation</i>	Copenhagen criteria and their assessment	EU agreement	-
Environment	Environment	EIA & Chemical Acts	Waste management & GMO Acts	New Environmental Act
	Industrialisation	-	-	-
	Conservation	-	-	-
	State Intervention	Industrial structure and ownership	Privatisation programme	-
Liberalisation	European Agreement	-		

Figure 7.13: The main discursive institutions institutionalised in the period 1993 to 2000 within the three areas of identity, industry and environment in Poland.

7.5 Reliability of the Analysis

The analysis of the discursive developments during the post-communist period in Poland is mainly build on historical documents, although due to my lack of Polish language qualifications, these historical documents are often in English and therefore only a reflection of the actual Polish debate. On this background, the quality

and type of sources are critical in assessing the reliability of the analysis. These issues are discussed in the first of the following three paragraphs. The second paragraphs deals with construction of discourses. The third and last paragraph settles the discussion of the reliability of the analysis of the discursive developments in Communist Poland.

7.5.1 Sources

A central source in this chapter has been the Danish periodical *Vindue mod Øst* (Window towards East) in the period from 1989 to 2000. It contains research on Central and Eastern Europe, statistics, and news analyses. In this chapter 35 specific references are made to different articles from this periodical during the period 1989 to 2000. These articles are contemporary referring to events of the present, however the periodical in general has a Danish perspective on the Polish developments. Thus, the articles might reflect the Polish everyday life, but only partly as the views are primarily from outsiders, non-Polish authors. Other central sources are contemporary documents from the European Commission and the European Council. These are to a high degree original documents from the policy process of the time. However, just as the articles the view of the papers is outer, it is the EU's view on especially the Polish membership of the EU. Beside these documents the references also includes some articles on different issues from other periodicals in English.

These specific documents and articles are supported by general historical accounts, accounts on the environmental developments and different statistical sources. These references are not contemporary but have many different analytical perspectives on the developments in Poland. They are also to mainly written by non-Poles, thus again they provide an outer view of the development. I have aimed to take-in a number of different researchers in order to not just refer the first and best analysis. I have also assessed the sources regarding level of detailed knowledge of the specific Polish conditions. These different sources are supported by especially interviews with different parts of the environmental authorities in the region of Łódź.

The sources of this chapter are mostly outer understood as views of non-Poles on the Polish developments. This primarily due to my lack of Polish language qualifications. Nevertheless, it is also important to open towards the possibility of the outer views to question things, which in a Polish context is taken for granted. All in all, I assess this

chapter to build on multi-related sources and therefore to a high degree reliable despite the outer view of the Polish developments. Figure 7.14 lists the main sources in the chapter.

Source	General historical accounts	Specific historical accounts/documents
Non-Central and Eastern European Authors	<ul style="list-style-type: none"> • General history <ul style="list-style-type: none"> • Crawford, 1996 • Henderson & Robinson, 1997 • Lewis, 1994 • Millard, 1994 • Environment <ul style="list-style-type: none"> • Andersson, 1999 • Pavlínek & Pickles, 2000 • Statistics <ul style="list-style-type: none"> • WIW, 1995 • Johansson, 2002 • Urban, 2000 	<ul style="list-style-type: none"> • 35 articles from <i>Vindue mod Øst</i> • Documents from the European Commission • Documents from the European Council • Articles from other periodical in English
Central and Eastern European Authors	<ul style="list-style-type: none"> • Ágh, 1998 	<ul style="list-style-type: none"> • Regulska, 1997 • Interviews with environmental authorities

Figure 7.14: Characteristics of the most central sources used in the analysis of the discursive developments in the communist period in Poland.

7.5.2 Discourse Approach

The discourse developments described in this chapter are very dominated by the promised EU membership in 1993 and the preparation for this future membership, especially in the identity and environmental areas. As the sources are mainly non-Poles this might reflect the views of the non-Poles rather than the domestic views of the Poles. I have to some degree indicated this possibility with the discussion of legislation implementation and its discrepancy with practice. However, all the initiatives both in form of financial support and assessment of legislation connection to the preparation for membership had to influence the Polish society.

A discourse is an analytical construction made by the researcher, and I have seen it as my task to underline the disconnection between all the initiatives and the Polish debate. The discussion is then whether this disconnection has any impact on the Polish discursive development. In my view it has, as the implementation of initiatives defined from abroad remove the legislation from the domestic debate. This might undermine the acceptance of the legislation as the discrepancy between practice and legislation might indicate.

7.5.3 Reliability of the Findings

Overall this chapter build on a big number of contemporary sources supported by historical research. It could be considered a consistent level of references. However, the major part of the sources are written by non-Poles, which give the sources a non-Polish view on the developments. This disadvantage could also be a strength as it opens the possibility to reflect on issues that seem to be taken for granted in a Polish context. Discourses are analytical constructions rather than specific empirical constructions, however, this does not imply that they do not relate to the empirical world. Therefore, I assess the chapter as more or less reliable giving an outer description of the discursive developments in the post Communist Poland in the 1990s.

8 Concluding Remarks

Concluding on a report is often demanding as all the details and perspectives have to be forgotten in favour of the main points. In this conclusion I primarily answer the research question, i.e. “How do industrial environmental practices in Polish industrial firms relate to Polish discursive developments within the identity, industry, and environment areas?” This research question combines the findings of the case studies and the discursive analyses. I will not repeat the main findings of case studies or the discursive analyses here. These findings are found in section *4.3 Feature of Industrial Environmental Practices* for the case studies, and sections *5.4 Discursive Developments in the Interwar Period*; *6.4 Discursive Developments in Communist Poland*, and *7.4 Discursive Developments in Post-Communist Poland* for the historical analysis.

I have divided the conclusion into three parts. The first part presents the empirical findings, i.e. the empirical answer to the research question. The second part evaluates the theoretical framework employed in the study, and the third and last part reflects on the methods applied in the project.

8.1 Empirical Findings

This section presents the empirical finding of the study. The first paragraph looks in to the “taken-for-granted” understandings related to the industrial environmental practices revealed in the case studies. The second paragraph summaries the discursive developments in the identity, industry, and environmental areas, while the third paragraph seeks the relations between the industrial environmental practices and discursive developments. The fourth and last paragraph debates the implications of these findings.

8.1.1 “Taken-for-Granted” Understandings regarding Industrial Environmental Practices

The empirical findings take point of departure in the “taken-for-granted” understandings reflected in the industrial environmental practices. These understandings are seen as fragments of possible conserved discourses and therefore as a potential connection between historical analysis of discursive developments and the case studies of industrial environmental practices.

Environmental Problems Not Our Problem

Among the firms existed a widespread understanding of environmental problems as the substances pointed to by the environmental taxes. The environmental taxes themselves were perceived as *the* environmental problems. This was especially the case for the firms under environmental pressure, i.e. firms already paying environmental taxes. However, to some degree this understanding was also found among the firms not paying environmental taxes. Thus, the textile firm making energy saving underlined that these projects were not environmental as they related to internal objectives of cost reductions.

The “taken-for-granted” understanding in this relation is that the firms are not accountable for taking action to solve environmental problems. They see that as the responsibilities of the environmental authorities. This view is widely carried by the environmental taxes. The firms pay to be allowed to pollute and thereby they also pay for somebody else to take responsibility. The environmental taxes are not the only carrier of this view, as it is also found among the firms not paying these taxes.

All Firms Are Not Equal for the Environmental Law

All the firms under environmental pressure state that other firms are treated more gently by the environmental authorities. The lignite-fired power station stated that it had done much more than other firms, but still it had to pay extra high taxes as one of the eighty great point polluters. The fact that the power station still pollutes much more than most other firms is not a part of their self-knowledge. The state-owned firms believe private firms are treated more gently, while the private firms have the opposite picture. The environmental authority did not recognize any of these pictures. In this relation the “taken-for-granted” understanding is that the firms are not treated equally in relation to the environmental legislation.

Energy is not an Environmental Issue

The two textile firms both have energy saving projects. The projects coincided with raising energy prices and emerging privatisation. Thus, environmental consideration was not the main driver in any of these projects and one of the firms even underlined that their energy savings have nothing to do with environmental issues; it is purely cost reduction. The “taken-for-granted” understanding is that environmental issues and energy issues are not connected. This is partly carried by the authority division of the field, which - as in many other countries - is divided into two separate areas of environment and energy.

Technology Is the Solution

Among the firms existed a widespread belief in technology as the solution to any environmental problems. This is especially true for the firms under environmental pressure, as the focus on reducing the emissions tax to a high degree lead to end-of-pipe technologies. Thus, the “taken-for-granted” understanding is that technology solves any

environmental problem. This view is to some degree carried by the practice of letting visiting suppliers define the solution, and these suppliers have a technology to sell also.

Western Technology is Best

Some of the firms underline the nationality of their production technology, while none of the firms mention the brand of the technology – the nationality is the issue of concern. The two textile firms consider German technology as the best, although the yarn producer has been disappointed by the quality compared with the previous Italian equipment. The printing house mentions all the different suppliers' nationality and their ISO 9000 certificates underlining their western origins. The textile producer and the printing house combined new western technology with a modern image of their firm. Thus, the "taken-for-granted" understanding seems to be that western technology is better than Polish. This is partly carried by the many western technology suppliers visiting firms and selling their production technology in Poland.

Polish Suppliers Are as Good as Westerners

The lignite-fired power station differs from the "taken-for-granted" understanding above by underlining that Polish suppliers are just as good as western. I have only found this "taken-for-granted" understanding at the power station. It seems to be a contra "taken-for-granted" understanding to the previous described "taken-for-granted" understanding of western technology being the best.

8.1.2 Overall Discursive Developments

In the following paragraph, I summarize the main findings within the identity, industry, and environment areas in the historical analysis of discursive developments from the interwar period to the turn of the century. The objective is to illustrate the restructuring of "the old" into "the new". This perspective is not possible to directly connect to the "taken-for-granted" understandings above, however, it provides a beneficial understanding of the general discursive developments.

Identity and Independency

During the interwar period, the identity debate concentrated on defining Poles and Poland as autonomous and independent of the surrounding world. The "otherness" was ignored, e.g. the many non-

Polish ethnical groups within the Polish border, see also section 5.1 *Independent Poland*.

The image of Polish identity as autonomous and independent was undermined by the outbreak of World War II and the following German and Soviet occupation of Poland. Thus, the independency issue was transformed into a societal consensus stating that almost anything could be done to keep Poland an independent country. This hegemonic constellation of “Remaining Polish” dominated the identity area for the whole Communist period; see also section 6.1 *Remaining Polish*.

The fall of the communist regime in 1989 destabilised the hegemonic constellation of “Remaining Polish”, and slowly it was replaced by a new hegemonic constellation of “Return to Europe”, which in Poland was interpreted as integration in Western Europe as a way to remain an independent country also in the future. The mean to gain this goal was membership of the EU, see also section 7.1 *The Return to Europe*. Independency understood in different ways has been the core of the identity issues in Poland from the interwar period to the turn of the century.

Industry, Modernization and Economic Growth

After the damaging World War I, the primarily agricultural dominated Poland sought to industrialise, although the economic recession in the 1930s restricted the success of the efforts. The objective was to modernize and to create economic growth in one of the poorest countries in Europe at that time, see also section 5.2 *Importance of Industrialization*.

World War II destroyed a great part of the Polish industry. The subsequent Communist takeover settled the industrial development to follow the Soviet ideal, however, the objectives remained to modernize industry and create economic growth. By the 1970s, the Communist development model had run into deep economic problems, and the solution seem to be to import new western technology, but the overall objectives remained the same; see also 6.2 *Economic Growth the Communist Engine*.

The fall of the Communist regime did not change the objective of economic growth and modernisation of industry. The biggest change remained the liberalization of prices, while privatisation of the industrial sector proceeded slowly, see also section 7.2 *Shock Therapy*. All in all the discursive developments in the industrial area have been comparatively stable despite the ruptures in history.

Locating Environment on the Political Agenda

During the interwar period nature conservation was a major issue in the environmental field. However, in this period Poland also experienced beginning industrial environmental legislation, see also section 5.3 *Celebration of Wilderness*.

In the early Communism period the environmental issue was neglected more or less, as the building up of an industrial nation was the overall goal. By the 1980s environmental problems due to industrialization constituted a health risk in the most polluted areas of Poland. The environmental issue became linked to the “Reform” discourse, thus modernizing society would automatically solve the problem, see also section 6.3 *Health as an Environmental Risk*.

After the fall of the Communist regime, the environmental issue moved down the political agenda, especially due to the hard economic situation and thereby limited economic resources. However, by the middle of the 1990s, the environmental issue again became central in Poland mainly due to pressure from the EU, see also section 7.3 *Imposed Environmental Policy*. Thus, since the 1980s the central issue in the environmental field has been the importance of industrial environmental problems in relation to economic growth.

8.1.3 Links between Practices and Discursive Developments

This paragraph identifies links between ”taken-for-granted” understandings identified in paragraph 8.1.1 above and the discursive developments found in chapter five to seven. Links in this connection should be understood very broadly. In the end of the paragraph I discuss the features of the links identified. I have divided the links into three types. The first type of link relates to specific legislation, the second type of link relate to historical conceptions, while the third type is related to a contra reaction to historical conceptions.

Links Associated with Specific Legislation

Different forms of legislation carry the most obvious links between the ”taken-for-granted” understandings and the discursive developments. The ”taken-for-granted” understanding “Environmental ProblemsNot Our Problem” is to a high degree carried by the environmental taxes. The legislation constructs different roles for the

different parties involved. E.g. the environmental authorities comprehend the environmental impacts and can identify the core problematic emissions. The industry pays the taxes and can also reduce the emission, the industry describes and documents its actions and the environmental authorities check the state of the environment. The construction of roles also prescribes different knowledge to the different actors. The environmental authorities know about the state of the environment, and thereby they know the environmental problems. On the other hand, the industry knows its production and emissions.

I find it notable that industry and environmental authorities are the only two actors in this process. The public do not seem to be involved neither do the customers; and therefore the environmental authorities seem to have monopoly on identifying the environmental problems. This could relate to the comparatively weak civil society and green markets in Poland.

Another "taken-for-granted" understanding that is carried by legislation is "Energy is not an Environmental Issue". The environmental problems are mainly carried by the environmental taxes also for the firms not under environmental pressure. The energy issues are carried by the liberalization of prices, which again delegates specific roles to buyers and sellers. They do not only define the roles, legislation also defines the complex in which energy belongs. It is a commodity, not something related to the environmental area.

Concluding on legislative links between "taken-for-granted" understandings and discursive developments, I will highlight three issues. Legislative links seem to be a strong channel for roles, distribution of knowledge, and understanding of how one issue interconnects to other issues.

Links Regarding to Historical Conceptions

This link is less evident than the previous, however some of the "taken-for-granted" understandings seem to be carried by historical conceptions, which becomes embedded in society in such a degree that they are taken for granted. The two "taken-for-granted" understandings "Technology Is the Solution" and "Western Technology is Best" is both related to the overall modernization concept, which has run through the Polish industrial area since the interwar period. The discussion of Western technology as better than Polish or Soviet arose in relation to the "Reform" discourse in the 1970s, and was maintained in the repeating reform attempts in the 1970s and 1980s. During the 1990s the Western industry have been

the ideal for Polish development, thus this view has not been questioned.

Concluding on historical conception links between "taken-for-granted" understandings and discursive developments, I will underline their "taken-for-granted" nature, which makes the channel of the link diffuse. Thus, one could say that it was previously carried by legislation. The historical concept link seems to prescribe practice and solutions without questioning basic prerequisite.

Contra Link

The last type of links between "taken-for-granted" understandings and discursive developments identified here I call contra-links. These links occur as a contra reaction to something else. The "taken-for-granted" understanding "All Firms Are Not Equal for the Environmental Law" represents such a contra link. It is associated with the "Industrialization" discourse institutionalized in a practice of not implementing the environmental legislation during the 1980s. The increasing environmental taxes after 1989, and the subsequent stronger enforcement represented a change of practice. The firms questioned this development by the use of the equality issue. It is not merely a strategic action; the firms actually felt unrighteous treated, as their understanding of the environmental legislation is inconsistent with the present practice of the environmental authorities. The channel of this link is not that obvious, although public debate might work. It is related with a resistance to accept the roles prescribed by the new e.g. legislation or practice. Thus this type of link would typically occur in relation to changes.

Another contra-link is associated with the "taken-for-granted" understanding "Polish Suppliers Are as Good as Westerners". To some degree this "taken-for-granted" understanding could draw on the discourse "Poland a Strong Nation in Europe" found in the identity area in the 1990s. It questions the "taken-for-granted" understanding of "Western Technology is Best", and thereby it opens for some of the "taken-for-granted" issues to be discussed explicitly. This link also related to a possible change or at least a restructuring of the historical conception link. The channel could in this case also be public debate.

Features of the Different Linkages

The links described above have different features. They all relate to the general discursive developments, which have reached the industries and especially the industrial environmental practices in

different ways. This way or media for reaching the industrial environmental practice I have called channel. I have identified three types of channels in the empirical materials, i.e. legislative channel, market channel, and debate channel.

The example on *legislative channel* is the environmental taxes. The taxes have to a large extent structured the industrial environmental practices at least for firms under environmental pressure. The taxes also settle roles, and responsibilities as well as prescribe knowledge fields to the different roles. Different types of policy instruments might lead to different levels of structure.

Another example on a legislative channel is the links regarding to historical conceptions, e.g. the taken-for-granted understandings of “Technology Is the Solution” and “Western Technology is Best”. The channels of these views appear diffuse today, however, earlier in the 1970s and 1980s, it related at least in parts to policy initiatives as financial aid for implementation of Western technology in Polish industry. Even though the policy changed, these core understandings remained as traces of old policies. Thus, legislative channels denote links in two ways. On one hand, they lead to legislative links, which exist contemporary with the policy. On the other hand, they might also lead to historical conception links in form of core understandings which become taken-for-granted even though the policy disappear.

An example on the *market channel* is the legislative link related to increasing energy prices. This price increase led to an increased awareness of the energy issue. At the same time it underlines the difference between environmental and energy issues, as the signals regarding these two issues come to the industrial environmental practices via two different channels.

The last type of channels is a *public debate channel*. This type of channel connects to contra links, i.e. links reacting on something else, which they wish to change. The examples are the two “taken-for-granted” views of “All Firms Are Not Equal” and “Polish Suppliers Are as Good as Westerners”. “Taken-for-granted” understandings lose their “taken-for-granted” status by being questioned, especially if the questioning disperse to many actors, it would weaken the link and discourse, which is the purpose of a contra link. Thus, in the empirical findings all the firms under environmental pressure question the equality towards the environmental legislation and in this way they weaken the “Environment” discourse. Opposite the “Polish Suppliers

Are as Good as Westerners” seem less widespread. Figure 8.1 below summarizes the association between different types of links and channels found in this study.

Type of Channel	Type of Linkages	Features
Legislative	• Legislative	• Structures roles, responsibilities and knowledge
	• Historical conceptions	• Conserved understandings from previous legislative links
Market	• Legislative	• Give awareness
Public Debate	• Contra	• Purpose: weaken discourses

Figure 8.1: Association between different forms of links, channels and their main features.

8.1.4 Perspectives on the Empirical Findings

During the preparation of this project many different people have asked me what can it be used for? In the engineer world, where I come from, frequent outcomes of projects are technical products as technology or procedures ready to be implemented in the real world. However that is not the case for this project, still it has implications for the “real” world.

Understandings Are Embedded in Policy

The linkage and channel discussion above show clearly that policy direct more than incentives for specific actions. Within the policy is embedded roles and responsibilities e.g. in relation to knowledge for the different actors. These understandings could remain among the actors long after the policy have been changed illustrated by the historical conception links. Thus, policy design is not only a question of finding the optimal solution, the policy design establishes structures embedding understandings, and thereby it frames the possible actions for the future. It is vital to include these considerations in policy design discussions.

The channels, through which the policies are sent, are also important as they to some degree determine, which issues are interlinked and which are not. This is illustrated by the understanding of the energy and environmental areas among the case firms.

Local Implementation and Imposed Policy

Another perspective relates to discursive developments. Throughout the 1990s, the EU has been the major driving force in Polish environmental policy, and undoubtedly Polish environmental policy has developed, however, this imposed policy might also include some disadvantages. Thus, it is possible to discuss whether the mistrust in equality for the environmental legislation, relate to a mistrust in environmental policy in general. If that is the case it could relate to the external driving force of the environmental policy and the lack of strong Polish civil society actors in the area.

8.2 Theoretical Findings

The theoretical findings discussed in this section relates to two issues. The first issue regards the strengths and weaknesses of the developed patchwork model both regarding the concepts and their application. The second issue regards the implications of the findings on other theoretical approaches.

8.2 1 Assessment of the Employment of the Patchwork Model

In general the patchwork model fulfils its task of combining the macro and micro level. It does not predict the types of links between the two levels beforehand, and this is the major strength of the design. However, the openness puts a great demand on the data collection. Thus, I am sure that more results could be found through a more detailed data collection than the present.

The strength of the present analysis is its broadness covering the discursive developments in the three areas of identity, industry and environment as well as the industrial environmental practice at firm level. In order to include all these subjects, it has been necessary to make a less detailed data collection, than if just one of the subjects were covered.

Industrial Environmental Practices

The concept industrial environmental practice defines the environmental practice at the individual firm, whatever forms it might

take. Again the strength of the concept is the openness for empirical interpretation; which places great demands on the data collection process.

The industrial environmental practices were seen as carried by construction of environmental problems and solutions (meaning), project organization in relation to the external environment (identity form), and internal project organization and follow-up activities (practice). In the application of the concept, I tend to focus mainly on the meaning aspect of these carriers, and in part on the practice especially regarding the following-up activities. The reason for this is partly the data collection form. It is hard to describe practice without including observations, and it is also hard to describe identity form in a retrospective way. Therefore, the industrial environmental practices found in the study tend to overemphasize the importance of understanding of problems and solutions. Another consequence is that it is hard to see if external actors carry new practices into the individual firms, although I have some indication of such transfer. E.g. the power station's understanding of environmental projects as possible beneficial could be seen as a transfer from the previous Dutch collaboration partner on desulphurisation.

Discursive Developments and Hegemonic Constellation

The discursive developments describe the power relation developed between two or possibly three discourses over time. In this description I see the discourses institutionalized in targets and aims embedded in an organization (meaning), the divisions within the organizations all having different roles and relations (role system), and the practice of e.g. the organization (practice).

Parallel to the discussion of the industrial environmental practices I tend to overemphasize the meaning aspect of these carriers. In the literature it is easy to find description of the establishment of different organizations, however, it is harder to find description of how they develop after their establishment including the internal division. I have touched a bit upon the practice in relation to the implementation gap in the environmental field, but in general this is underexposed in the analysis.

The hegemonic constellation describes a constellation between institutions and discourses, which frames the discursive development in a period - a society consensus that all partners have to relate to. I

find the hegemonic constellation concept a strength for the patchwork model, as it is able to locate the Polish development in a more general international development.

8.2.2 Perspectives of the Theoretical Findings

The theoretical findings have implications for the way to conduct studies of industrial environmental practices. In the following I highlight two of these implications.

Environment on the Societal Agenda

The study shows that environmental issues are struggling to obtain a place on the societal agenda in competition with other issues as social problems, economic growth, industrial policy etc. A study of the environmental area alone will tend to overexpose the importance of the environmental area.

The environmental policy in the 1990s in Poland is almost entirely directed by the accession processes towards the EU. A study of this area would only conclude that the EU is the driving force in Polish environmental policy. However, as I also have studied the identity area I see the driving force as the wish to join the EU, a wish that directs the actions of the implementation of new environmental legislation in Poland. Nevertheless, without an understanding of the wish for membership as a driving force, it becomes hard to foretell what happen after the EU membership is reached.

This theoretical implication is not only a question of reducing the empirical area of research, it also relates to over data collection. When investigating environmental issues, the focus in the data collection is on environmental issues, thus the environment appear to be a much bigger part of the everyday life, than actually needs to be the case. Asking for environmental issues direct the thoughts in a specific direction, and in this way it might lead to an overexposing of the field.

The Need for Contextualisation

The combination of the industrial environmental practices and the discursive developments illustrates some links relating both to the present and the past. To a large extent, these links direct understandings and practices in the industrial environmental practices at the firm. Thus, it is important to contextualise the firm both in time and place in order to understand what is actually going on. I find it

misleading to work with local phenomena without placing these phenomena in a broader context. This viewpoint also has another implication. In my opinion it is mistreatment of the findings to treat these so uniquely that there *a priori* cannot be any generalizations identified, as some features of a context are more probable to be found in similar cases.

8.3 Methodological Reflections

The following sector embraces some central methodological reflections, which are not included in the previous methodological discussions. The findings above relate to the specific study at five Polish firms and the relation to discursive developments in the identity, industry and environmental area. The findings are not found at all firms but represent different types of links. This is not a complete description of all types of Polish links, but it points to the links I have found. These findings are neither general nor specific. By this I mean that entering a random Polish firm would not necessarily reveal the same "taken-for-granted" understandings as found here, still generalisation of the findings is possible.

8.3.1 General Industrial Environmental Practices?

The findings of industrial environmental practices are built on five case firms, and in no way representative for the Polish industry in general. First of all the number is too small to make up a statistical generalisation, but secondly the firms are very similar in some features although different in others. The firms all have a Communist past and they are all primarily selling their production on the domestic market. This might have generated a shield from international influences e.g. regarding environmental management and green market demands, influences that might be reflected in other more export-oriented firms or sub-suppliers to foreign firms. Thus, I cannot make a statistical generalisation, but I might be able to make an analytical generalisation.

The design of the study enables me to see the relation between the industrial environmental practices found at the individual firms and general discursive developments in the Polish society. The industrial environmental practices are specific for the individual firms; however, they link to general societal developments. E.g. the environmental systems of taxes and penalties apply to many Polish firms, thus the probability that other Polish firms carry a “taken for granted” understanding among their industrial environmental practices, that “Environmental Problems are Not Our Problems” is big.

In more general terms I would say that the “taken-for-granted” understandings supported by most firms are likely to be found at other Polish firms. They might not be exactly expressed as in my cases, but the firms are like to relate to these issues in some way. The issues are:

- Environmental ProblemsNot Our Problem
- All Firms Are Not Equal for the Environmental Law
- Energy is not an Environmental Issue
- Technology Is the Solution

The two last “taken-for-granted” understandings are opposite to each other as they represent an ongoing discursive debate. Thus it is not possible to say which view it is most likely to find in Polish firm, but it is likely that the firms agree to the discussion of quality of technology depending on nationality. The two “taken-for-granted” are:

- Western Technology is Best
- Polish Suppliers Are as Good as Westerners

Endnotes:

Notes for Chapter 1 “Issues of the Project”:

- 1 Studies dealing with Central and Eastern Europe call the area many different names, e.g. East Central Europe, Central East Europe, Central and Eastern Europe, during the cold war East Europe was usual in West Europe, and earlier before World War II Central Europe. For an expanded version of this discussion see e.g. Ágh (1998: 2-7) and Baker and Jehlička (1998: 1-3). All these names do not cover exactly the same countries but approximately the same area. Thus, the definition of the area is much more political and socio-economically oriented than actually geographical. It relates to small-sized and the middle-developed countries between Germany and the former Soviet Union. By using the name *Central and Eastern Europe* I follow the official language of the European Union (the EU). According to the EU Central and Eastern Europe covers Bulgaria, the Czech Republic, Hungary, Poland, Romania, and the Slovak Republic plus the three Baltic countries, Estonia, Latvia and Lithuania and Slovenia (former Yugoslavian republic). These are also the countries, which have applied for a EU membership in the region. However, in my definition I exclude the Baltic countries and Slovenia. This I do for two reasons. Firstly, I use the Central and Eastern European countries as a background for describing the transition processes in Poland, and in order to get a fair comparison I want countries with approximately the same starting point for the transition processes. Therefore, I have excluded the Baltic States, which during the communist period was republics in the Soviet Union, and consequently had another relation to Moscow than the independent countries. I also exclude Slovenia, which as a former part of Tito’s Yugoslavia had exceptional few bindings to Moscow in their version of Communism (see Chapter 6, paragraph 6.1.3 *Bringing the Domestic Path Back In* for more details). Secondly, I have excluded the Baltic States and Slovenia from my definition of Central and Eastern Europe in order to be able to use three independent sources of data for the comparison, i.e. the EU, the European Bank for Reconstruction and Development, and the Vienna Institute for International Economic Studies. I will underline that the thesis does not deal with actual comparative politics, but merely locates Poland in its historical context. Therefore, the central and eastern European region is seen as an area associating with some of the same historical conditions as Poland, but an area also including lines of development different from the Polish.
- 2 In December 1991, the Commonwealth of Independent States (CIS) was established as a looser knit relation between the former republics of the Soviet Union excluding the three Baltic States, Latvia, Estonia and Lithuania (Mason, 1996:81-82).
- 3 In 1993, the Tempus Programme formed part of the overall programme of European Community aid for the economic restructuring of the countries of Central/Eastern Europe known as PHARE, within which training was one of the priority areas for

cooperation. The objective of the programme was to facilitate the restructuring of the higher education sector in Central and Eastern European countries through inter-university cooperation, exchanges between students and teaching staff and industry-university cooperation between these countries and the countries of the Community. (European Commission, 1990/1993)

- 4 AKF, Amternes og Kommunernes Forskningsinstitut (AKF, Institute of Local Government Studies – Denmark) partly financed by the state budget and partly funded by external projects. The unit, in which I worked, was almost totally funded by external projects, primarily coming from the Danish Energy Agency, the Danish Environmental Protection Agency, and the EU.
- 5 In economic literature the notion agents is often used similar to the notion actors utilised in Social Science in general. Furthermore, the main presuppositions of neo classic economic theory relates to the existence of a free market, i.e. “a perfectly competitive market is one in which both buying and selling decisions have no effect on the market price” (Begg et al., 1991: 132). Such a market has four characteristics. Firstly, the sellers have to be small and many, so no monopolist exists. Secondly, the product sold should be a reasonable standard product, so the products of the different sellers are substitutable. Thirdly, the buyers must have perfect information of the characteristics of the products sold. Fourthly and finally a free entry on the market must exist for the sellers (Begg et al., 1991: 133-134). Many recent approaches to economics deal with the imperfect reality compared to the presuppositions of neo-classic economic theory. E.g. a term like *transaction costs* suggested by Ronald Coase in 1972 expresses the costs of negotiations and concluding a separate contract for each exchange transactions, which takes place in a market. In the 1970s, the concept in further developed by Oliver Williamson (Scott, 1995: 25).
- 6 ISO14000 is an international environmental certificate addressing environmental management, environmental auditing, environmental labelling, environmental performance evaluation and life cycle assessment. When implemented, these standards will ensure consistency in environmental management practices. Even though the standard does not prescribe performance levels, performance improvement invariable appear as a result to the procedures of the standards (American national Standards Institute, 2001)
- 7 The concept *transition* is criticised for being determinist as the final destination of the societal changes is known. This critique, however, is more appropriate for the functional approach to transition than the genetic approach. The functional approach to transition argues that the development of modern capitalist economy is the main reason for the rising middle class along with the organisation of the working class. Furthermore, the approach declares that social structure is the main cause of collapse in authoritarian systems as it ensures the growth of democracy. On the other hand, the genetic approach acknowledges that socio-economic development might promote change and that historically the development of democracy or not is linked

to the presence or absence of classes. However, according to the genetic approach to transition the inherited institutions and the chosen strategies in the beginning of the process of changes develops a path of the transition that is unique for each case. Transition in the genetic approach is the concept adopted in this thesis. The word *transformation* implies a change process without direction or goal, while the term *revolution* is misleading as the changes have not led to a replacement of all previous institutions and systems. Some authors also talk of transition revolution or negotiated revolutions (see Henderson and Robinson, 1997:25-39).

- 8 In 1949, *Committee for Mutual Economic Assistance* (CMEA), also known as COMECON, was founded. It was the communist organisation for mutual trade in opposition to the western OECD. The members of CMEA were European communist countries, non-European communist nations first joined the organisation later, and their membership did not have much importance in economic sense (Lewis, 1994: 207).
- 9 E.g. Korbonski (1993: 443-445) accentuates that western researchers misjudged the situation in 1989 due to inherited conservatism of Central and Eastern European specialists, infatuation of the totalitarian model, uniqueness of communist politics, inferiority complex of central and eastern European specialists, and an aversion to looking ahead.
- 10 E.g. see European Bank for Reconstruction and Development (1999, 1998, 1997, and 1996).
- 11 The Copenhagen criteria include assessment of the political and economic situation, as well as an evaluation of the degree of adoption of the legislation of the Union.
- 12 Parts of Central and Eastern Europe have serious environmental problems e.g. in Upper Silesia in Poland, however also well-preserved ecosystems exist. Thus, 8,5 percent of the Poland is near-pristine ecosystems. Therefore, the bio-diversity in Central and Eastern Europe is also higher than in Western Europe (Andersson, 1999: 8).
- 13 E.g. Ágh, 1998; Crawford, 1996; Henderson and Robinson, 1997; Michta, 1997; Millard, 1994; and Aage, 1997.
- 14 E.g. European Bank for Reconstruction and Development's Transition Reports.
- 15 I adopt this classification (sociological institutional analysis) from DiMaggio and Powell (1991:1). In their introduction to "The new Institutionalism in Organisational Analysis" they link institutionalism to the three disciplines of economics, political science and sociology. The last discipline emphasises the way in which action is structured and order made possible by shared systems of rules.
- 16 The Science, Technology, Society (STS) field was founded in the 1970s in the chase for finding new ways to explore technology society relation on the subject of risks of nuclear energy, the proliferation of nuclear arms, and environmental degradation.

The field has developed into a well-established field, with chair, journals, societies and educational programmes (Bijker, 1995: 4-5).

- 17 See chapter 2 Theoretical Inspirations note one for a brief biography on Paul-Michel Foucault.
- 18 This is what Foucault name the archaeological approach.
- 19 This is what Foucault name the genealogical approach.
- 20 Åkerstrøm Andersen's view of Foucault's work is that the archaeological and genealogical approaches build upon each other (Åkerstrøm Andersen, 1999:40). These two approaches are not the only "guidelines of methods" one can read out of Foucault, but it is the pieces giving inspiration to the design of *this* investigation. Other readers of Foucault see the archaeological and genealogical approaches as following from two broad periods in Foucault's intellectual work (e.g. Darier, 1999:8) although Darier also emphasises the benefit of combining the approaches (Ibid.).
- 21 Babbie (1995: 95-96) divides longitudinal studies into three types, i.e. trend studies that studies changes within a population over time, cohort studies examines more specific sub-populations, e.g. people who were 25 years old in 1968, as they changes over time, and final panel studies are similar to cohort studies except that the same group of people is studied each time.
- 22 The guidelines of continuity and ruptures/changes and stability is common guidelines in discourse analyses, see e.g. Åkerstrøm Andersen, 1999: 52.
- 23 In 1993, the Danish Energy Ministry carried out a project where the potentials for energy savings stated by consultants in connection with an energy audit at a manufacturing firm was compared with a control measurement after the actual implementation. This showed that only approximately 50 percent of the promised potential was realised (Hansen & Togeby, 1993: 11). Like in all field difference in qualities exist among consultants, but the findings of this study makes it necessary to be critical towards promised potentials and their relation to realised savings.

Notes for Chapter 2: "Theoretical Inspirations"

- 24 Paul-Michel Foucault (1926-1984) was a French philosopher and psychologist who has done a versatile heap of empirical research. His work was so wide-ranging that is hard to place in a specific empirical field or academic discipline. His mission was to reveal the history of systems of thoughts and their disciplining power. In this work he departed from the dominating philosophical thoughts of those days, primarily the hermeneutics and the idea of an underlying truth, and the phenomenology and the stressing of subjective intentions. His main works have been *Madness and Civilisation* (1961) concerning mad people as a special category and how society through the eighteen century changes is behaviour towards this group; *The Birth of the Clinic: An Archaeology of Medical Perception* (1963)

regarding development in medicinal practices from 1760 to 1810; *The Order of Things: An Archaeology of the Human Sciences* (1966) dealing with patterns that organise experience and conception inside a particular system of knowledge, and how this pattern gives our knowledge a specific meaning. In 1975 *Discipline and Punish: the Birth of the Prison* was published on the subject of the development punishment for offences in the 17th and 18th century and *The History of Sexuality, Vol.1: Introduction* was issued in 1976 dealing with a historical analysis the understanding of sex. Finally, in 1984 his last two works was issued, i.e. *The Use of Pleasure* and *The Care of Self*, which was the second and third volume of History of Sexuality giving more scope for actors than in the previous works (Lindgren, 1996: 314-315).

- 25 In this way Foucault has found a school, despite it was his explicit ambition not to do so. Consequently, any discourse analyst has to be answerable for his or hers reading Foucault. That is one of the motives for talking of a Foucault inspired analysis in this project, as I find the actually empirical use and findings of a discourse analysis more interesting than an entirely theoretical discussions of the possible specific meaning of Foucault's concepts.
- 26 The Anglo-Argentine philosopher and social scientist Ernesto Laclau (born 1935) and the Anglo-Belgian philosopher Chantal Mouffe (born 1937) presented in the mid-1980s their version of discourse analysis (Laclau & Mouffe (1985): *Hegemony and Socialist Strategy*). This approach draws on a Marxist tradition especially relating to Antonio Gramsci besides Foucault. However, Laclau & Mouffe reject the traditional Marxist division in superstructure and economic bases. These are found in the one and same field produced by discursive processes. In this way Laclau & Mouffe also refuse the economic primat. They underline that economy might have a great influence on societal processes, but it is *not a priori* the only and main explanation of everything (Thomsen & Andersen, 1996).
- 27 Own translation from Danish to English.
- 28 Laclau and Mouffe (1985: 109) call the phenomena for elements and as soon as they are established in relation to a discourse they are called moments. Thus, Laclau and Mouffe define discourse in this way: "...The structured totality resulting from any practice .. of establishing a relation among elements such that their identity is modified.." Laclau and Mouffe (1985: 105). In this study I do not adopt the concepts of elements and moments but use the more general concept of phenomena, which covers both these notions.
- 29 Laclau and Mouffe (1985: 108) explain it in this way: "The fact that every object is constituted as an object of discourse has *nothing to do* with whether there is a world external to thought, or with the realism/idealism opposition. An earthquake or the falling brick is an event that certainly exist, in the sense that it occurs here and now, independently of my will. But whether their specificity as objects is constructed in terms of 'natural phenomena' or 'expression of the wrath of God', depends upon the

structuring of the discursive field. What is denied is not that such objects exist externally to thought, but the rather different assertion that they could constitute themselves as objects outside any discursive condition of emergence. At the root of the previous prejudice lies an assumption of the metal character of discourse. Against this we will affirm the material character of every discourse structure.”

- 30 Approximately 38 percent of the Polish national wealth had been destroyed during World War II, and Poland had also experienced the greatest fatality among all the German occupied countries (Lewis, 1994:40).
- 31 Laclau and Mouffe (1985:113) explain: “The practice of articulation, therefore consists in the construction of nodal points which partially fix meanings; and the partial character of this fixation proceeds from the openness of the social, a result, in its turn, of the constant overflowing of every discourse by the infinitude of the field of discursivity”.
- 32 The hegemony concept origin from Italian Marxist Antonio Gramsci. In his writing he emphasises the political ideologies as a central factor for explaining societal stability and changes. A society is stable as long as a majority find the dominating ideology valid. Emergence of a new ideological current with great public support would with a high probability result in modifications of the dominating ideology (Thomsen, 1997: 68-69). Gramsci understand hegemony as a societal consensus which imposes actions connected to an intellectual-moral societal leadership (Thomsen, 1997: 97).
- 33 Laclau and Mouffe (1985: 122-123) calls this struggles for an uniform meaning among different discourses for antagonism.
- 34 The focus of Berger and Luckmann (1966) is the individual’s relation to one objective reality, thus in discourse notions I would say that they work with one societal discourse and not a number of competing discourses.
- 35 Discourse analyses operating on micro level tend to understand individuals as less uniform. In these approaches the individual holds different threads descended from different discourses. Together these threads might explain some of the different outlooks of subjects (Burr, 1995:50).
- 36 From this approach follows a critical stand towards a classic western conception of the individual as an autonomous subject independent of its context (Jørgensen and Philips, 1999: 52).
- 37 Scott’s (1995: 51) cognitive institutions have much likeness with discourses. Regarding cognitive institutions he states: “Individuals are not simply constrained but informed and empowered by these pre-existing knowledge and rules systems”. It is in this sense the concept of empowering is used here.
- 38 The neo-institutional theories are not true theories in the sense that they lack a clear definition of what institutions actually are, and the theories are rooted in many

different disciplines but mainly political science, economy and sociology. The different approaches have very different understandings of institutions, understanding that in my eyes are incompatible. The only common issues of these theories are a conviction that institutions guide or frame actor performance. DiMaggio and Powell (1991a) describe it in this way: “There are, in fact, many new institutionalisms- united by little but a common scepticism towards atomistic accounts of social processes and a common conviction that institutional arrangements and social processes matter.”(DiMaggio and Powell, 1991a: 3).

- 39 The text is epoch-making in this division, describing the development of the institutional field from an emphasis on different action in local organisations to a focus on similar structures in organisations within the same field. DiMaggio and Powell (1991a) characterise the neo-institutionalism in this way: “This perspective emphasizes the ways in which action is structured and order made possible by shared systems of rules that both constrain the inclination and capacity of actors to optimize as well as privilege some groups whose interests are secured by prevailing rewards and sanctions.” (DiMaggio and Powell, 1991a: 11). A widespread consensus exist that it is a proper way to describe the development, but disagreements of the positive and negative in this development is extensive. E.g. Hirsch and Lounsbury (1997) advocate for a reconciliation of the new and old institutionalism in order to combine the micro and macro levels.
- 40 Critics of the neo-institutional approach, e.g. Åkerstrøm Andersen (1994) emphasises the lack of a clear definition of institutions as a problem. In my eyes this critique might be correct as also the everyday meaning of the word institution confuse a clear definition. A more serious critique is the lack of definition of institution before its relations to other concepts are discussed, concepts such as frame of meaning, cognition, routines, knowledge, discourse, organisation, and rules. This point of critique I will bear in mind in relation to the following outlining of a patchwork model.
- 41 Scott maps out institutionalism in the disciplines of economy, political science and sociology, and the definition of institutions above covers all these three disciplines. However, Scott stresses that the sociological approach look at regulative aspects and norms through cognitive assumptions.
- 42 Own translation from Danish to English.
- 43 See e.g. Christensen & Westernholz, 1997; Norus, 1997; and Garud & Ahlstrom, 1997.
- 44 According to DiMaggio’s and Powell’s (1991a) definition of new institutionalism the focus on institutions as independent of organisations are one of the characteristics. However, this is exactly one of the continuing controversies in new institutionalism (Scott, 1995: 136; and Christensen & Westernholz, 1997: 491).
- 45 See e.g. DiMaggio and Powell, 1991b; and Meyer, Boli, and Thomas, 1994.

- 46 See e.g. Meyer, Boli and Thomas (1994) whose work is informed by a Weberian tradition, see institutions as rationalisation of the everyday life by the mean of collective purposes. The traditional West and the former East Bloc share the rational project of creating progress and justice. DiMaggio and Powell (1991b) describe how the Weberian tradition of rationality driven by the market has changed to the rationality driven by the need for efficiency. Out of structuration of organisational fields, organisations become more and more similar rather than as a result of making them more efficient. Both examples stress the universal aspect and homogeneity of institutions.
- 47 See e.g. Zucker & Darby (1997) who talks of different degrees of institutionalisation and how the institutional environment breeds differentiation rather than isomorphism.
- 48 Bijker, Wiebe E. (1995) *Of Bicycles, Bakelite, and Bulbs. Towards a Theory of Socialtechnical Change*. Cambridge: MIT Press.
- 49 In the case of the bicycle he illustrates how the technical development is linked to the emancipation of women. In the 1870s, the first high-wheeled bicycles was a risky thing to ride, a business for young men of means and nerve, while feminist bicycle riders were not social acceptable (Bijker, 1995: 40-41). However, also in the 1870s the bicycle producers began to think of female users in the design of the bicycle, thus, in 1874 a bicycle with two pedals on the same side were patented, which enabled female riders to “side-ridden”, also tricycles (bikes with three wheels for adults) took female riders into considerations in the design (Bijker, 1995: 43). These examples illustrate impacts of the Victorian society on the bi- and tri-cycle technology. However, the cycles were also used in the women’s emancipation. In the beginning the tricycle and later on the bicycle made it possible for young ladies of good breeding to get out of their stuffy Victorian homes, not so much to go somewhere, but rather to get away (Bijker, 1995: 59). In this way cycles supported the women emancipation process. The example shows how the technical development influenced the societal development and how social conventions influence the development of bi- and tricycles.
- 50 By the end of the book Bijker employs the concept of socio-technical ensemble, which substitutes technical artefact, machine, or social institution to underline that all of these three include both social and technical aspects (Bijker, 1995: 274).

Notes for chapter 4: Industrial Environmental Practices:

- 51 This corresponds to what Babbie (1998: 103-104) calls approximately longitudinal studies. He defines approximately longitudinal studies as drawing approximately conclusions over time even though only cross-sectional data is available. He mentions two different methods either by building on logical inferences, or asking people to recall their past. The last method includes the danger of people lying or forgetting what actually happened, and that is the approach here.
- 52 Mr. Hoeronym Andrzejewski had just started his own energy consultancy firm, when I visited him, but before that he had worked as an official energy consultant in the region of Łódź.
- 53 In January 1998 the Danish prices for electricity for households (averages of all sizes) without taxes was approximately 0,09 Euro. Please note that this is the electricity price, not the production price. Also in January 1998, the average electricity price for small households in Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, and Finland was 0,28 Euro without taxes. Again this is the electricity price not the production cost of electricity. Furthermore, it is important to notice that the small households pay comparatively more for the electricity than other types of customers (Eurostat news release on internet No.22/2000 (2000))
- 54 The power station was built without any environmental clean-up technologies apart from electrostatic precipitators, which remove dust. Such installations were usually in power stations built under communist period in the 1980s, while other airborne emissions were dealt with by dispersal from high stacks (Pavlínek & Pickles, 2000: 46).
- 55 I do not have the exact level of taxes paid by the firm that year, so this is an estimated number and probably a bit underestimated. This calculation is based on a precondition that the firm only paid taxes, thus no fine for violating the emission limits was paid. It also assumes that the firm did not get a discount on the taxes. In 1990, the Polish emission limit was 660 mg/Nm³, which is approximately 65 percent above the EU limits. Finally the calculation assumes that the production in 1991 was equal to the one in 1990, even though in reality it is three percent higher.
- 56 Salay (1996) evidences that the sulphur emission in the Polish power sector was halved between 1988 to 1994 not due to installation of desulphurisation equipment, but due to change in fuel to less sulphur containing fuel, however, this tendency is not so clear for the lignite fired part of the sector.
- 57 In 1996, the sulphur removal project had resulted in a lower environmental fee of approximately 25,9 million zł corresponding to a payback period of seventeen to eighteen years for the whole project and nine years if you only include the part paid by the firm. This calculation assumes that the firm only paid taxes and no fines.

- 58 The payback periods mentioned above all relates to estimates building a precondition that the firm only pays environmental taxes and not the tenfold higher environmental penalties. However, the continuous extension of the system indicates the firm has been in conflict with the emission limits, which would had resulted in a much shorter pay-back period. Unfortunately, I have not been able to uncover the exact numbers.
- 59 During the communist times the heating for residential customers were heavily subsidized. During the economic problems in the 1990s in most Central and Eastern European Countries non-paid bills from residential customers were a usually problem, normally not leading to any cut-off heat supply. As a consequence the revenue for the heating producers fell (see e.g. Worzala et al, 1996: 426). I do not know to which degree this was a problem for the fourth-thermal power station in Łódź.
- 60 This improvements could relate to other issues also, e.g. reduction in production and optimization of the plant.
- 61 This meter is not only connected to the dyeing process, but covers all the heat consumption in the firm, so it will not be possible to measure the exact saving due to the reorganization around the dyeing process.
- 62 In the Danish textile industry heating processes makes up 40 percent of the energy consumption, and of these 60 percent relates to dyeing processes (Johansen et al., 2000). These numbers do not directly say anything of the energy consumption at dyeing machines in Polish textile industries or at this specific yarn producer as the numbers build on the Danish mix of different types of textile industries and different kinds of technologies. However, the numbers indicate that the dyeing process makes up a considerable part of the total energy consumption in textile firms in general.
- 63 Two other major posts of the electricity consumption in the Danish textile sector is lighting and ventilation with twelve and fourteen percent of the consumption respectively(Johansen et al., 2000). Again these numbers can not be directly transferred to Polish production, see the argumentation in the previous note.
- 64 The area of motors used for various purposes in the industry is usually also a field with great saving potentials, see e.g. Dowd et al., 1995. Whether or not the firm realize this might depend on getting new knowledge about these issues into the firm.
- 65 Thus, in 1998 the firm sold for 1.300.000.000 zł.
- 66 The publishing and printing industry was significant under-represented under the communist rule, due to less advertising and packing and perhaps to some degree to the limited freedom over press in the socialist countries (Urban, 2000: 47).
- 67 In 1991, the printing house was privatized with a share capital of 100.000 zł. Polish investors bought 80 percent of the shares and the employees bought the remaining 20 percent. This is in accordance with the condition of privatization in the

Balcerowicz plan initiated in 1990, where the employees could buy up 20 percent of the shares for half price (Millard, 1994: 177; Riishøj, 1990a: 17). By the end of 1991, 38,2 percent of all employees outside the agriculture sector was employed in a private firm, that was an increase on nine percent compared to the previous year. Also by the end of 1991 the sale from private firms has increased by 25 percent compared to the previous year (Den private sektor i Polen, 1992). In 1998, the printing house enlarged its share capital to 100.600.000 zł, due to growing investments in the Polish printing industry in general during the nineties. This restructuring reduced the employees' part of the shares to approximately a half percent.

- 68 E.g. as an example the environmental tax on benzene were increased more than 500 times the original level in the early 1990s (Pavlínek & Pickles, 2000 :209).
- 69 The Polish power plants using hard coal halved their sulphur emission between 1988 to 1994 primarily due to exchange of coal quality. Thus, Poland in 1994 were 34 percent below the sulphur dioxide emission of 1980, meeting the goals of 2000 for sulphur emission by the international protocol on Long Range Transboundary Air Pollution (Salay, 1996: 206-207).

Notes for chapter 5: "The New National-State: Poland":

- 70 The current polarisation in socio-economic development in the regions of Poland is based on the present policy favouring the already strong regions, the earlier communist regional policy, and the previous partition of Poland. Thus, it is still the eastern agriculture dominated regions that remain the poorest (Czyż, 1997: 9-10).
- 71 The numbers listed here might be a bit exaggerated. Millard (1996: 206) states that three million Germans were moved from the "recovered territories". The difference might also arise as Millard states of the removal of Germans after the war, while Lewis compares the pre-war and 1948-population of Germans in the territories. However, they both agree that the consequences were a small and denied German minority in Poland (Millard, 1996: 205; Lewis, 1994: 50).
- 72 The Great Depression began in USA in late 1929 and lasted for almost a decade. From USA the economic recession spread to the rest of the world. The main causes for the depression was extensive stock market speculation and growing unequal distribution of economic growth, between the rich and the middle class, and between the industry and agriculture in 1920s' USA, but also between USA and Europe, who was struggling to rebuild itself after the damage of World War I (Gusmorino, 1996).
- 73 This was not the first environmental law in Poland. Laws issuing animal protection emerged already in the middle age (Andersson, 1999: 46 & Graham, 1995: 34).

Notes for chapter 6: “Communist Poland”:

- 74 The liberation from the German occupation by the Soviet Red Army and its on-going regional presence was a major background condition to the post-war developments and the acceptance of these developments by the western Allies (Lewis, 1994: 54).
- 75 Poland actually had a smaller communist branch of the resistance movement, the Armie Ludowa (AL - the People’s Army), which operated separately, but the main element of movement the Armie Krajowa (AK – the Home Army) were loyal to the London government-in-exile (Millard, 1996: 205).
- 76 After opening the party archives in 1990 it was possible to establish that 73 per cent of the voters had been in fact cast against the proposals of the communists (Lewis, 1994:47-48). Rothschild & Wingfield (2000: 82) state the abolishment of the senate was rejected in protest against the regime, while the question of nationalisation was relatively uncontroversial due to the big state capitalism in the 1930s and the escape of Germans and Jewish industrialists. The third issue appealed to patriotism and therefore it also passed the referendum.
- 77 Such was the sensitivity of this issue that it was only in October 1992 that President Yelsin made documentary evidence of the overall Soviet responsibility of the murders (Lewis, 1994: 37).
- 78 To some degree the communists spending World War II in the Soviet Union represented the “Muscovites”, and the ones surviving the German occupation represented the “local” rivals (Rothschild & Wingfield, 2000: 85).
- 79 An example of this power struggle was neutralisation of former secretary-general Władysław Gomułka between 1948 and 1951 who argued for a national path towards socialism, especially criticising the collectivisation plans (Rothschild & Wingfield, 2000: 150; Lewis, 1994: 65-66; Millard, 1996: 207).
- 80 Jobs of any importance in administration, economy, or social organisations were invariable now taken by party members (Lewis, 1994: 84). Growth in the state administration, explosion of bureaucratic employment, and rapid growth of state-run industry meant that there were plenty of such posts to fill (Lewis, 1994: 125).
- 81 The Communist Information Bureau (Cominform) was formed in 1947. At the first meeting distinctive domestic paths towards Socialism was rejected, instead developments should build on the Soviet example (Rothschild & Wingfield, 2000: 126). Thus, the organisation became a pawn in the power struggles in the 1940s between Soviet Stalin and Yugoslavian Tito. The organisation was dissolved in 1956 by Khrushchev as a part of his de-stalinisation strategy (Rothschild & Wingfield, 2000: 149).
- 82 However, in Poland it was not until the dead of Bolesław Bierut in 1956 and the replacement with the new communist leader Edward Ochac that the reforms really began (Lewis, 1994: 155).

- 83 The Prague Spring denoted the spring and summer in 1968 in Czechoslovakia where reforms accelerated rapidly, among other things censorship was abandoned. The Soviet Union and other Warsaw Treaty members were doubtful of the developments that ended abruptly by the invasion of Warsaw Pact troops in August 1968 (Lewis, 1994: 164).
- 84 The Brezhnev doctrine was also known as the doctrine of limited sovereignty (Crawford, 1996: 39-40).
- 85 Since 1996 a trial on responsibility of the 44 dead in the 1970 riots has been proceeding in different Polish courts. Among others the former president Wojciech Jaruzelski, who was defence minister in 1970, has been put to trial (Kosc, 2001, and Piocha, 1996).
- 86 Gomułka had a mild stroke on December 18 and was two days later replaced by Edward Gierek (Rothschild & Wingfield, 2000: 196).
- 87 Especially the police suffered the changes with regards to the security structures. This was reflected in the 1980 strikes, where regions with almost intact structures and personnel, e.g. Katowice and Bydgoszcz, were the last to show sign of unrest (Bucek et al., 1996: 443).
- 88 The Gdańsk agreement includes 21 demands, which all were met by the representatives of the regime (Millard, 1994: 14). The agreement also included issues of a broad societal concern. E.g. the right to broadcast Catholic Sunday Mass in the state radio, re-examination of unjustifiable incidents during the 1970 and 1976 riots, accessibility to open information about the economic situation in the country, and improvements in health, social security, and housing services (Rothschild & Wingfield, 2000: 199-200).
- 89 According to Millard (1994) among the 9 million Solidarity members, one million was also party members (Millard, 1994:15). Other authors incline to the opinion of approximately 10 million Solidarity members in the early 1980s, see e.g. Crawford (1996: 43); Henderson and Robinson (1997:76); Michta (1997:75) and Roskin (1997:124). I will not judge what numbers that are correct, but just emphasis that 9 million was almost one fourth of the Polish population at that time.
- 90 Previous to declaration of martial law in 1981, the communist party underwent changes in the top. On September 1980 Gierek was replaced by Stanisław Kania as first secretary. On February 1981, the defence minister General Wojciech Jaruzelski took over the post as prime minister from Kania and on October 18th the same year he also replaced him at the post as first secretary.
- 91 The decision of introducing martial law is subject to passionate controversy. Jaruzelski justified the decision with the threat of Soviet intervention (Millard, 1994: 17). Though Millard (1994: 17-18) accentuated that the Soviet Union resisted the idea of invasion in Warsaw Pact discussions, on the contrary they preferred the

selected solution of introduction of martial law. Ágh (1998: 28) question whether the Soviet had the strength to intervene in Poland in 1980/1981, as they were weakened both internal and external. He claims the “walls” of relative independence in the Central and Eastern Europe already were wider in the early 1980s than in 1968 when formulating the Brezhnev doctrine. Rothschild & Wingfield (2000: 202) underline the Soviet complaints about Poland’s “anti-Socialist and anti-Soviet bacchanalia”, a viewpoint that were backed by massive military exercises.

- 92 On 7 July 1989, Gorbachev addressed the Parliamentary Assembly of the Council of Europe in Strasbourg, saying that “any attempts to limit the sovereignty of states are not admissible”. Some writers name this the “Sinatra doctrine” (Crawford, 1996: 75), because, as in the popular song, the Central and Eastern Europe leadership could do it “their way” (Henderson & Robinson, 1997: 7-8)
- 93 In 1947, the Marshall Plan was launched as an American aid programme for Europe after the damages of WWII. The Organisation for European Economic Co-operation (OEEC) was created to co-operate with the government of United States in the planning for distribution of the aid. Some of the goals were to promote co-operation between participating countries and their national production programmes for the reconstruction of Europe, to develop intra-European trade by reducing tariffs and other barriers to the expansion of trade, to study the feasibility of creating a customs union or free trade area, to study multi-lateralisation of payments, and to achieve conditions for better utilisation of labour. Members of the organisation were Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, United Kingdom, and Western Germany. The total donation accounted for 11 800 000 000 US\$ in the period from 1948 to 1951(OECD, 2000). It corresponds approximately to 65,4 million 1989-US\$ (Jensen, 1990a: 7). In this period the biggest receivers were Britain (24%), France (20%), Italy (11,1%), and Western Germany (11%). OEEC was transformed to OECD in 1961, which broaden the target group from Western Europe to the capitalist world (OECD, 2000a).
- 94 At the founding Cominform (Communist Information Bureau) meeting on 22-27 September 1947, Stalin rejected distinctive national paths to Socialism, instead the future developments should build on the Soviet example (Rothschild & Wingfield, 2000:126).
- 95 CMEA is also known as COMECON referring to the Russian abbreviation. The members of CMEA were European communist countries, non-European communist nations first joined the organisation later, and their membership did not have much importance in economic sense. Thus, the non-European members of CMEA were never responsible for more than five percent of intra-CMEA trade (Lewis, 1994: 207).
- 96 Evidence exists that a more active model was originally planned for CMEA, but it was stopped by the internal Soviet political and economic situation in the last years

of Stalin and the dislike of the Central and Eastern European countries' of a supranational organ. Thus, the young chairman of Gosplan, Nikolaj Vozneshenski, was purged in 1949. However, documents published in the 1970s indicate that he had plans for CMEA as a supranational organ with broad regional co-operation, and an organ where market mechanism should play a strong role. Jensen (1989) draws attention to the parallels of these plans and the reform plans of CMEA in late 1980s (Jensen, 1989: 19).

- 97 OECD is an abbreviation for the Organisation for Economic Co-operation and Development.
- 98 The United States imposed a licensing system on all export to Europe. This was the forerunner of the Co-ordinating Committee for Multilateral Export Controls (COCOM), which is the economic arm of NATO (the North Atlantic Treaty Organisation) (Lewis, 1994: 208). COCOM was established in 1950, and roughly 35 percent of the products of Western Europe and United States have been affected by COCOM rules (Riishøj, 1989b: 8).
- 99 From 1955 two annual meetings were held, in 1960 a charter on the organisational framework was published, and finally in 1962 the organisational structure was settled. The CMEA was composed of a Executive Committee with six permanent delegates responsible for policy implementation. It was supported by a Secretary, located in Moscow, which took care of detailed executive and secretarial work. Specialist work on policy formulation was carried out by Standing Committees composed of experts from the member states (Lewis, 1994: 211). This structure remained on the whole unchanged until the dissolution of the organisation in 1991 (Lewis, 1994: 210).
- 100 The policy of production specialisation was not building on consensus among the members and therefore the process did not go very far. Some specialisation was inevitable due to natural advantages and resource endowment, however other products did establish themselves throughout the region. Such vehicles as the Czech trams, Hungarian buses, and Eastern German diesel motors carried forward specialisation movement (Lewis, 1994: 212-213).
- 101 In the period 1966-70 the Soviet purchase of machines and manufacturing equipment from the other CMEA countries accounted for 85 percent of ships, boats, and marine equipment, 60 percent of railway equipment, and 60 percent of equipment for chemical and food industries (Lewis, 1994: 214).
- 102 Collectivisation was never a success in Poland. At its height in 1955 only 24 percent of the Polish agricultural land were collectivised, while the numbers were between 70 and 90 percent for Hungary, Czechoslovakia and GDR by the end of the 1950s (Lewis, 1994: 98).
- 103 Władysław Gólmuka was leader of Poland from 1956 to 1970. He was very popular in his early days, as a representative for a domestic path towards Communism. Thus,

he had been neutralised during the Stalin period, and among other things he stopped the unpopular collectivisation in the agricultural sector. However, during the 1960s he became increasingly unpopular among other things due to his failure in implementing serious reforms (Millard, 1996: 208).

- 104 Researchers agree that, CMEA trade was not advantageous for the Soviet Union during the 1960s and the 1970s. However, they disagree on the amount of money subsidised to Central and Eastern Europe. Some researchers mention eighty billion through the two decades (Jensen, 1990b: 15), another estimate is that the subsidy accounted roughly for the value taken out of the area from 1945 to 1953 (Lewis, 1994: 222).
- 105 In this way, the cheap Soviet oil just supported the economic problems, as it deepened the gap between western and central and eastern European industrial energy efficiency. Central and Eastern Europe continued to specialise in energy intensive heavy industry and lacked the push towards improving energy efficiency (Pavlínek & Pickles, 2000: 13-14).
- 106 E.g. the USA established sanction on the trade with Poland, among other things through COCOM, see note 25 above (Riishøj, 1989b: 8). Thus, by 1986 the trade between USA and Poland was reduced to a third of the 1979 level (“De sidste amerikanske sanktioner mod Polen ophævet”, 1987: 16).
- 107 Different sorts of compensation trade forms became more common through the 1980s, in order to overcome the problem of convertible currency. Compensation trade is trade where a supplier gives up the normal payment in convertible currency and instead receives all or parts of the payment in goods. In 1989, GATT estimated this form of trade accounted for ten percent on world level, while it was approximately twenty percent of the East-West trade in 1987 (Jensen, 1987: 17). The reasons for establishment of compensation trade were many. The most common reason was shortage of convertible currency, while other reasons were lack of knowledge where compensation trade might lead to industrial co-operations, lack of marketing possibilities, or shortage of jobs (Hansen, 1989: 12).
- 108 An example of how the reality overtook the CMEA reforms is the joint venture initiative. In 1984, it was decided to open the possibility of making “real” joint venture among firms in the Soviet Union and firms from other CMEA members, although the specific procedures and rules were not existing in 1987 (Nielsen, 1987a: 4). At that time, joint ventures between Polish and Soviet firms already existed, established to help to cope with the persistent economic crisis in Poland (Lewis, 1994: 222).
- 109 Beside the inter-state joint venture programme, see the note above, it was the Comprehensive Programme for Scientific and Technological Progress for CMEA member countries. The aim of this programme was to make the CMEA region independent of Western technology among other things through integrated research establishments among the CMEA member countries, abolishment of parallel

research, and shorten the distance between research and production (Nielsen, 1987a: 4). Big discrepancies existed regarding this programme. Many central and eastern european countries, among them Poland, regarded western technology as a precondition for development. Furthermore, the financial resources was limited, they would only be able to co-operate in a moderate number of projects, and finally these countries were worried of the Soviet control of all the research projects in the programme (Nielsen, 1987a: 4).

- 110 In 1975, negotiations between EU and CMEA began, but it was not until CMEA gave up its claim for equality of status between the two organisations that it really got started. This claim should be seen in the light of the cold war, where EU acknowledgement of CMEA could be construed as a Western acknowledgement of the political realities in Central and Eastern Europe. Thus, it was always CMEA, which was the pushing part in the negotiation process. In part, the EU commission preferred to make bilateral agreements with the individuals CMEA members, and in part the EU lacked economic stimulation for negotiation as the trade with CMEA was relatively small, in contrast to CMEA's trade with EU (Riishøj, 1987a: 3).
- 111 The Ministry of Territorial Management and Environmental Protection was founded in 1972 and reorganised in 1975, and afterwards called the Ministry for Administration, Territorial Management and Environmental Protection (Andersson, 1999: 49-50). In connection with the regional reform of 1975 each of the new regions established a Department for Environmental Protection and Water Management (Andersson, 1999: 55).
- 112 Thus, from the period 1975 to 1979 the investments in water pollution control declined with 28,2 percent and the investment in air pollution control decreased with 20,2 percent. In the same period less than half of the money allocated for water treatment was spent on this issue (Pavlínek and Pickles, 2000: 14-15).
- 113 E.g. the first Polish environmental monthly magazine *Aura* was established in 1972, however, still much smaller than the main nature protection magazine *Polish Nature*, which had existed since 1957 (Andersson, 1999: 54).
- 114 In 1998, the life expectancy at birth was 72 years in Poland compared with 77 in western Europe, while the infant mortality rate was 12,2 and 5,5, respectively (Pavlínek & Pickles, 2000: 131).
- 115 Other issues influencing the bad human health in Central and Eastern Europe compared to Western Europe, was that Central and Eastern Europe historically was behind Western Europe, the economic factors had influence on the quality of healthy care, less healthy individual lifestyles regarding drinking, smoking and diets, and also the overall economic and political environmental (Pavlínek & Pickles, 2000: 131-132).

Notes for chapter 7: “Poland in the New Europe”:

- 116 It is important to remember that Poland, like most other countries, was surprised by the sudden changes in the communist hegemony in the region. Thus, the opposition grouped around Walesa approached the round table discussion with the main goal of legalising Solidarity. This was seen as a foothold to begin a gradual, peaceful transformation of the system (Barany & Vinton, 1990:193).
- 117 The April Pact of 1989 ensured a strong presidency among other things with the right to appoint ministers to the three most important ministries (exterior, interior and defence) along with nomination of the prime minister. The president was for example able to dissolve the parliament and call early elections, and also, the president could take initiative of or veto legislation (Millard, 1994). The president was elected jointly by the chambers in parliament. However, the power of the president eroded as the road first foreseen in the April Pact was changed as the communist opposition gained more and more strength. The “Little Constitution” passed in October 1992 clarified the relations between the parliament and the president. The parliament had legislative power while the executive power was divided between the government and the president (Henderson & Robinson, 1997). The problem of the division of executive power between government and president was finally solved by the constitution of 1997 (Ágh, 1998).
- 118 The 1991 election built on a new electoral law with no threshold resulted in this extreme fragmentation (Ágh, 1998:150).
- 119 A symbol of this chaos was the “*Polish Party of the Friend of Beers*” that not only won 16 seats in the Sejm (3%) but later also split on internal policy (Henderson & Robinson, 1997).
- 120 In Poland three parties with growing strength dominated the parliament in the 1990s. I.e. first the *Social Democracy of the Republic of Poland* (SdRP) formed of the dissolved Communist party in 1990 (votes 1991: 11,99%; 1993: 20,41%); second the *Polish Peasant Party* (PSL) with roots to the strong peasant party in the interwar period and surviving the communist period as a satellite party. The Polish Peasant Party reorganised in 1990 (votes: 1991: 8,67%; 1993: 15,40%). The third and last dominating party is the *Union of Freedom* (UW) a liberal party formed in 1990 (votes: 1991: 12,32%; 1993: 10,59%) (Ágh, 1998: 126-127).
- 121 The naming of these two discourses are inspired by the discussion of gradualism and shock therapy, which especially related to the economic reforms. *Gradualism* makes policy choices determined by the worst identified problems, and in this manner ignoring the long-term effects of the decisions. It emphasises to use the existing institutions in the creation of a new society, as these institutions are better than some hastily new constructed institutions, thus this approach gives a high priority to small steps before big changes. The models use to help formulate the needed changes are found in existing models and methods, hence an important

intellectual resource in policy making is knowledge of practical, accumulated experience that resides in existing economic institutions and social arrangements. Supporters of gradualism argue that the reversibility in the strategy is the primary strength, thus it enables politicians to reverse or stop policies that have undesirable effects (Henderson and Robinson, 1997:178). *Shock therapy* makes the choices of policy determined by the end-goal of creating market economy. It emphasises the need to break completely with the past through institution destruction and it underlines the requirement of large leaps, when building many new institutions. Shock therapy puts its faith in theoretical reasoning as the primary input for design of society and economy and therefore it sees theorists and technocrats as an important resource for policy-makers. Finally, some people advocate for shock therapy by pointing that the time immediately after the fall of the communists was the best to implement irreversible reforms, as it is the only occasion the population accept such changes, in addition there was a need for such radical transformations (Henderson and Robinson, 1997:178).

122 The voters received a ballot for each seat that was to be filled in Sejm and Senate in their district, the candidates were listed in alphabetic order without any affiliations, and the voters had to cross out all the candidates for whom they *did not* wish to vote (Barany & Vinton, 1990:195).

123 Jacek Kuroń [central Solidarity leader] at an election meeting October, 1991, quoted by Millard (1994: 186).

124 Also supporting to the spilt up of Solidarity (Riishøj, 1992b).

125 The Brezhnev doctrine: “No action in any socialist country should do harm either to socialism in the country concerned or to the fundamental interests of other socialist countries” justified the invasion (Crawford, 1996: 39-40). See also paragraph 6.1.5 *The First Reform Attempts* in the previous chapter.

126 The *Warsaw Treaty Organisation* (WTO), also known as the Warsaw Pact, was founded in 1955, nine days after the Federal Republic of Germany joined NATO. It was the counter-organisation to NATO and throughout the Cold War the arms race between NATO and WTO put a heavy economic burden on especially the Soviet Union. Members of the organisation was: the Soviet Union, Czechoslovakia, Hungary, Poland, the German Democratic Republic, Romania, Bulgaria, and Albania (until 1968). In March 1990 WTO was transformed into a treaty between sovereign states with equal rights. At the same time the Soviet Union began to redraw its troops for Central and Eastern Europe. In July the same year the organisation was dissolved (Lewis, 1994: 189-204).

127 See section 6.1 *Remaining Polish* in the previous chapter.

128 The Conference for Security and Co-operation in Europe (CSCE) emerged in 1975 gathering members from both sides of the iron curtain, including all European states (except Albania) plus United States and Canada. The objective was to exchange

views on the implementation of the provisions of the Helsinki Act (OSCE, 2001), emphasising the issues of human rights and security. In 1990 the CSCE decided to build up permanent institutions in order to play a role in the new Europe, and in 1994 it changed name to the Organisation for Security and Co-operation in Europe (OSCE). Today OSCE, as the only organisation, assembles all nations in Europe, North America including the Asian former soviet republics (Faurby, 1996: 7).

- 129 After 1993, the European Union (the EU) gathered the European co-operation of European Coal and Steel Community (ECSC) (founded in 1951), the European Economic Community (EEC), and the European Atomic Energy Community (Euratom) (both founded in 1957). The last two are often referred to as “the Treaties of Rome” (Borchardt, 2000: 8). In this report I only use the name the *European Union* to cover any of these three, even though the EU was not the official name before 1993.
- 130 The European Council establishes policy guidelines for European integration, i.e. taking basic policy decisions and issuing instructions and guidelines. The European Council is composed of 15 Heads of State or Government and the President of the Commission. The council meets at least twice a year (Borchardt, 2000: 30-31).
- 131 Associated agreements go far beyond the mere regulation of trade and involves close cooperation and wide-ranging financial assistance from the EU. Three forms of associated agreements exist:
- Agreements that maintain special links between certain Member States and non-member countries. (primarily former colonies)
 - Agreements as preparation for accession to the Community or for the establishment of a customs union. (The agreements from 1990 focused on the latter part of this type of agreements)
 - Agreement on the European Economic Area (EEA)(Borchardt, 2000: 59-60).
- 132 The Commission is first of all the ‘driving force’ behind all EU policy. It is the starting point for every EU action, as it is the Commission that has to present proposals and drafts for Community legislation to the Council. The Commission is composed of 20 members, including a president and two vice presidents, representing all member countries. (Borchardt, 2000: 44-45).
- 133 The *economic criterion* regards the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the European Union (The European Commission, 1995/2001a).
- 134 The *criterion concerning adoption of the Community Acquis* regards the ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union (the so-called *Acquis Communautaire*) (The European Commission, 1995/2001a). In 2001, the screening processes, looking at the approach of central eastern European legislation towards the EU legislation, including 31 areas, i.e. free movement of goods, freedom of movement for persons, freedom to provide services, free movement of capital, company law, competition

policy, agriculture, fisheries, transport policy, taxation, economic and monetary union, statistics, social policy and employment, energy, industrial policy, small and medium-sized undertakings, science and research, education and training, telecommunications and information technologies, culture and audiovisual policy, regional policy and coordination of structural instruments, environment, consumers and health protection, cooperation in the fields of justice and home affairs, customs union, external relations, common foreign and security policy, financial control, financial and budgetary provisions, institutions, and other.

- 135 The *candidate countries* are the Central and Eastern European countries, which have applied for EU membership.
- 136 Proposals for further actions in a specific area could be presented in the so-called Commission White Papers. In some cases the White Papers follow a Green Paper published to launch a consultation process at European level. Examples include the White Papers on the completion of the internal market, on growth, competitiveness and employment and the approximation of the laws of the associated states of Central and Eastern Europe in areas of relevance to the internal market. When a White Paper has been favourably received by the Council, it can become the action programme for the Union in the area concerned (The European Commission, 1995/2001d).
- 137 In 1993 the biggest priorities in the Polish share of the Phare programme were modernisation of the railroad (13%), privatisation of the agricultural sector (13%), guarding the borders (8%), and restructuring the statistical system (5%) (Kort nyt, 1994a).
- 138 See the explanation in the previous note.
- 139 The following year in Madrid the Council included judicial and administrative capacity as a part of the regular assessment criteria (The European Commission, 1998: 6).
- 140 The Amsterdam treaty was meant to solve these problems, but it ended up postponing the decision to the Nice Treaty in 2000 (Laursen, 1997). The Nice Treaty solved the institutional restructuring problems, but not until year 2005 the changes will first coming into force. Before this date, the plan was to admit the candidate countries by approximately 2007 (The European Commission, 1995/2001e).
- 141 See note six above.
- 142 Named after the Minister of Treasury Lezek Balcerowicz in the Mazowiecki government.
- 143 The April Pact joined in spring 1989 included issues on the wage policy in relation to establishment of a free market, the workers had been promised 80 percent cost-of-living adjustment of the wage level, but this was changed by the new government (Riishøj, 1990a: 17)

144 Prime Minister Mazowiecki ran for presidency in 1990 together with among others Wałęsa and lost. He interpreted his defeat as a lack of confidence in the government and resigned on this background (Millard, 1994: 86).

145 See also section 6.2 *Economic Growth the Communist Engine* in previous chapter. Throughout the communist era the major part of all foreign trade was going through CMEA. In 1991, the organisation was dissolved after it had lost its significance with the ending of Soviet bloc in 1989 (Lewis, 1994:206-225).

146 For instance in 1993 the following Danish programmes existed directed towards Central and Eastern Europe:

- Investeringsfonden for Central- og Østeuropa (The Investment Fund for Central and Eastern Europe) founded in 1989 in order to support Danish investments, including joint-ventures, in the region. By the end of 1992 it had committed itself to invest approximately 21,5 million ECU.
- Investeringsgarantiordningen (the Investment Security Programme for Central and Eastern Europe) gave security in relation to investments in central and eastern European countries with political uncertainties (total budget: 268,7 million ECU).
- Eksportkreditfacilitet (the Export Credit Facilities) gave sureties and credits to Danish firms operating in Central and Eastern Europe. The total economic frame was 1 billion ECU.
- Østeuropainitiativet (The Initiative regarding Central and Eastern Europe) granted in-service training in Denmark for leaders from Central and Eastern European industries. Until 1993 the budget was on 5,5 million ECU.
- Østpuljen (The Eastern Pool) supported projects in industrial sectors and education. In 1992 the budget was on 20,8 million ECU.
- Miljøstøtteordningen (the Programme for Environmental Support) supported environmental protection and strengthened environmental knowledge in Central and Eastern Europe. Until 1992 the annual budget was on 13,4 million ECU, which in 1992 was increased to 20,2 million ECU.
- Demokratifonden (the Democracy Foundation) supported knowledge about the Danish society to Central and Eastern Europe, the annual budget was 10,1 million ECU.
- Furthermore, until the end of 1993 the commitment for Danish humanitarian aid in the region was approximately 13,4 million ECU.

Additional one have to think of the Danish funding given to international aid programmes. E.g. in 1992 the Danish share of the funding of the Phare programme

was approximately 107,5 million ECU (Jensen, 1993: 17). Not only Denmark had programmes directed towards Central and Eastern Europe, similar initiatives existed in other nations especially in Northern Europe.

147 In 1990 the Phare programme was enlarged to also include Bulgaria, Czech Slovak

Federal Republic (replaced on 1 January 1993 by the Czech Republic and Slovakia), Yugoslavia (in 1995 Croatia was suspended and in 1996 Yugoslavia was accompanied by Bosnia & Herzegovina and the former Yugoslavian Republic of Macedonia) and East Germany (left the programme after the German reunification in October 1990). In 1991, Albania and Romania joined the programme, in 1992 Estonia, Latvia, Lithuania, and Slovenia. The former Soviet Republics (except Latvia, Estonia and Lithuania) are included in the TACIS programme, which had the objective as Phare, but is directed towards the former Soviet (Jensen, 1993: 14).

148 It is problematic to cluster data from different sources as the data might build on different categories. The objective of this figure is not the specific numbers but the trend in export relation, therefore I find it suitable for the purpose. Furthermore, both set of data builds on WIIW database.

149 Thus, environmental protection was the third issue listed in Solidarity's election campaign in 1989 (Andersson, 1999:94).

150 The National Environmental Protection and Water Management Fund received a share of the environmental fines and taxes collected among industries. In 1993 additional funds were established on regional and local levels (The Environmental Protection and Water Management Fund of Łódź Voivodship, 1999; & Andersson, 1999: 109-110).

151 GMOs are **Genetically Modified Organisms**.

152 This included a stop for data on the environmental performance of specific enterprise, which had been the tradition for the largest firms previously (Andersson, 1999:107).

153 This was a cooperation between DDR, Czechoslovakia and Poland (Andersson, 1999: 108).

154 This corresponds approximately to 452€/capita during the period of transition. For comparison the EU industry spent 23€/capita on total environmental protection capital expenditure in 1999 (Johansson, 2002: 1).

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Appendixes

Appendix I

Case Studies

A. FRAME OF QUESTIONNAIRE	298
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This appendix deals with the interviews made during my stay in Łódź in Poland February 1999. It supplies the reader with a summary of the empirical background for the analysis especially chapter 4 *Industrial environmental practices* in the thesis.

Form of the Summaries

For each of the five firms exists a summary of my learning. These summaries are based on interviews and additional material as articles or brochures handed out by the interviewed. A list of the materials used for the different summaries is included in relation to the descriptions.

It has been an aim of these summaries that they could be read and understood independently of the thesis. Therefore they include some information on general issues, e.g. the structure of the Polish environmental legislation. This information all have specific references, thus information without references associates with the interviews or materials handed out in that relation.

The interviews have not been taped. Part of them is made with interpreters and another part is made in English, which is a foreign language for both the interviewed and the interviewer. Therefore I have found it too uncertain to refer the interview in spoken language, instead I have told the main story as a more neutral text. Consequently, the “quotes” from the interviewed persons are my wording of the meaning of the statements, rather than exact quotes. As I am not using the interviews for text analysis, I have found this approach useful.

The interviewed have had the opportunity to read the summaries and possible remarks are included after the individual summaries. No fundamental comments were made.

A. Frame of Questionnaire

This section introduces the frame of the questionnaire used in the interviews at the five firms. The interviews were made as semi-structured interviews and before the visit each firm had received a brief description of my interests. The theoretical fragments upon, which the questionnaire is developed, is described in chapter 3 *The Patchwork Model*.

A.1 Environmental Projects

The direct purpose of the interviews is to get a good idea of the processes of environmental activities at each firm and on these matters reveal industrial environmental practices.

All the firms work with environmental issues in form of environmental projects. Environmental projects are here defined as projects the investigated firm sees as environmental. As mentioned above the environmental project is a process of unbroken activities dealing with the same subject, e.g. reduction of chemicals in wastewater. At first sight the investigation of environmental projects do not imply any assessment of the outcome of the project e.g. in relation to sustainability, I take the point of departure in what the firm identify as environmental. Although, the firms themselves define which are environmental projects and which are not, I need a clearer definition to identify their industrial environmental practices. Here the different types of carries defined in figure I-A.1 above are helpful. The carries are construction of environmental problems and solutions, project organization in relation to the external environment, and internal project organization and follow-up activities.

Although, the projects are not assessed in relation to the actual outcome, it is an important issue to get around in the interviews. Actual outcome of the environmental projects often makes an interview more related to the actual activities rather than flighty plans and ideas for the future. The outcome is partly stated in form as reduction in resource consumption or emission but it is also stated as less measurable units, e.g. better working environment. However, it is often difficult to get reliable information on the outcome of an environmental project. First, the effects of an environmental project might not be visible before a long time after the implementation, e.g. changes in behaviour might occur gradually as habits of turning of the light among employees. Second, many firms do not measure the actual outcome of an implementation process in form of e.g. saved resources. It is often expensive to make such measurement, unless they have to use it for other reasons. It could be costly just to control, e.g. implementation of a new more energy efficient technology. The firms often state data that relates to potential savings given by

consultants or suppliers rather than the actual outcome.¹ Third, it is important to see the outcome of an environmental project in relation to sustainability; thus, less resource consumption at one firm might be eaten up by growing production in general. These issues are normally of less interest to the individual firms.

The environmental projects are investigated in a process, i.e. from the idea shows up through the actual implementation ending up with the continuity of the process. A special interest is involved actors in the different phases. Figure I-A.1 illustrates such a process. In focus in the process is participation in decision and implementation, knowledge acquisition, the learning process and the actual outcome.

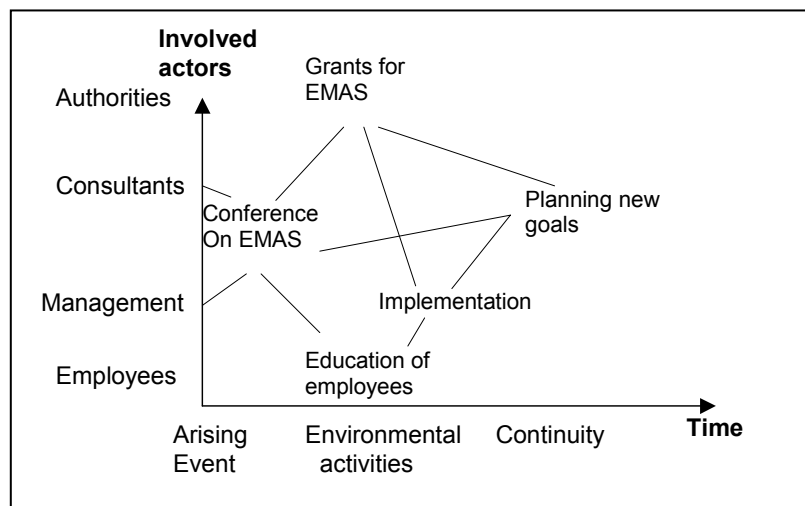


Figure I-A.1: Example of the history of an environmental project at a firm. The example has no direct relation to a case firm.

For each firm I have looked into one environmental project in more details. It is the project the interview persons mentioned as the *first* environmental project at their firm. The first environmental project indicates a change for the firm, taking in some environmental considerations in their activities. When looking at the first environmental project I can say something about the driving forces

¹ In an experiment in Danish industry, the actual energy savings of different energy projects were compared with the potential energy saving stated by an energy consultant making an energy audit. The potentials were approximately twice the size of the realised savings (Hansen & Togeby, 1993: 11).

behind beginning environmental activities at the five Polish firms. Furthermore, looking at the subsequent environmental projects I can say something about whether or not the continuity of environmental projects are based on external pressure or also internal aspiration of improving the firms environmental performance.

Questions regarding an Individual Environmental Project

- How did you begin to work with environmental issues at your firm? (Why)
 - When was it?
 - What was the first project?
 - What problems did it seek to solve?
 - What solutions saw you to the problem?
 - Why did you choose the final solution?

- How do you organize the environmental activities?
 - From where did you get ideas to the project?
 - Who took the initiative?
 - Who is responsible for the projects?
 - Who decided what to do?
 - Who made the work?
 - Which divisions in the firm are involved?
 - Were external actors involved?
 - How was the co-operation with the rest of the firm's activities? (Why)
 - Did this way of organizing things differ from how you usually organize your activities? (Why (not))
 - Why is the work organized in this way?

- Did you have all the knowledge needed to implement the project before you begun?
If, no
 - Did you have any ideas where to get this information?
 - How did you provide such information?
 - How did you decide how to solve the problem?
 - Have this knowledge seeking influenced your later environmental projects?

- What was the outcome of this environmental project? In respect to
 - Was there a change in the quantity resource consumption?

- How much?/ How have you measured this change
- Was there a change in the amount of waste and emissions?
 - How much?/ How have you measured this change
- Was there a change in the qualitative issues of waste and emissions?
 - How?/ How have you measured this change
- Was there a change in the safety and health issues in relation to the project?
 - How? /How have you measured this?
- Did the project lead to any new behaviours relating environmental issues with an impact on the environmental performance of the firm?
 - How? /How have you measured this?
- Which environmental activities have you worked with since this first one?
- Why these projects
- How do they interact?

Questions regarding Other Environmental Projects

Besides the individual environmental project I seek an understanding of the environmental work at the firm in general. The following questions throw light on these issues.

- Which other environmental projects have you made?
 - How come that the firm began on this environmental project? (Initiating event)
 - Which environmental activities did take place? (Focus on environmental problems and solutions)
 - Who was involved? - and what were their tasks? (Actors and tasks)
 - What was the result of this environmental project? (Outcome – quantitative and qualitative)
 - How did you follow-up on this environmental activity? (Continuity)
- How has the process influenced future environmental projects in this firm?
- How do you work with environmental activities in the everyday life of the firm?
 - How do you measure the environmental activities?
 - How often do you measure these activities?

- Why do you do it in this way?
- How do you follow up on you environmental activities?
 - How often do you follow up?
 - Why do you do it in this way?
- Has the work with environmental issues led to any reorganization in your firm? (How and why)
 - Do you have the same divisions?
 - (if NO) How are the new divisions integrated with the old divisions?
 - Have you changes the management? (How and why)
 - Have you changed the size of the management? (How and why)
 - Have you re-educated the management? (How and why)
 - Do you employ the same number of employees? (How and why)
 - Have you educated the employees in any way?
- Have your responsibilities and duties changed in the firm as a result of the work with environmental activities? (How and why)
 - How does that relate to the changes in the organization?
 - Have other employees at the firm had changes in their responsibilities and duties? (How and why)
 - How does that relate to the organization of the firm?
 - Has the corporation between different divisions in the firm changed due to the work with environmental activities? (How and Why)
- How do you normally organize your environmental activities?
 - Why is the work organized in this way?
- Has your relation to other firms e.g. suppliers and customers changed since you began to work with environmental issues? (How)
 - Economy/knowledge/activities

General Questions regarding the Production

- What kind of products do you produce?
- How much do you produce?
- Has the production volume changed through the transformation process? How and why
- Has the product mix changed through the transformation

- process? How and why?
- How much energy is used per product (alternative total energy use per year, cost of energy in relation to earnings)
- How is your situation regarding financing, e.g. your credit situation?
- How is the competition in your sector? What is your position?
- How big is the firm?
- Yearly turn-over
- Yearly output
- No. of employees
- Who owns the firm?
- When was the firm founded in its present form?
- Has the firm a history before this time?
- What is the history?
- When and how do you decide how much to produce? (why)
 - Orders?
 - As much as possible?
 - What products?

A.2 Questions regarding Contextual Issues

In addition to the analysis of the case studies, this thesis also includes a historical analysis of the development in the environmental and industrial fields along with an analysis of the development of the Polish identity. These analyses are found in chapter five, six, and seven. The historical analyses are mainly based on written materials; however, I have found it important also to get the firms' views on some of these issues. These questions are listed below.

- Has the status of your firm changed after the fall of the communism? (How)
 - Has it influenced the economic status of the firm? (How and why)
 - Has it influenced the firm's interdependency of e.g. other firms? (How and why)
 - Has it influenced the relation to the government/regulative institutions? (How and why)
 - Has it influenced the relations to the local community? ? (How and why)

- Has your relation to other firms e.g. suppliers and customers changed since 1989? (How and why)
 - Economy/knowledge/activities
- How has the relation between the state and firm changed during the transformation process? (Why)
 - How has it influenced the regulations of the firm? (Local level, regional, national, and international?)
 - Has it changed the tasks of the firm in relation to the state, e.g. regarding residence, work security, pension etc.? (How and why)
 - Which new tasks have you got? (How and why)
 - Which tasks have you got rid of? (How and why)
 - How has the employees reacted to these changes?
- How has the relation between the market and the firm changed due to the transformation? (Why)
 - Have you got new assignments in relation to your buying and selling of products? (Which and why)
 - Have you got rid of assignments in relation to buying and selling? (Which and why)
 - How do you deal with these changes? (Why)
 - How does the employees react to these changes?
- How has the relation between you and the local society/community changed due to the transformation process? (How and why)
 - Do you feel responsible for problems in your community (#name)? (How and why) What do you do in this relation?
- Have your relation to the authorities changed during the period of transformation? (How and why?)
 - I specifically think of the relation with the local, regional and national environmental authorities?
 - The local, regional and national tax authorities?
 - The local, regional and national social authorities?
- Have your relations with your suppliers and customers changed due to the transformation process? (How and why?)
 - Have your economic relations changed? (How and why)
 - Has your interdependency of these relations changed (How and why)
 - Has the form of corporation changed in this period? (How and why)

- Has the fall of the communist regime led to any restructuring at your firm? (How and why)
 - Do you have the same divisions?
 - (if NO) How are the new divisions integrated with the old divisions?
 - Have you changed the management? (How and why)
 - Have you changed the size of the management? (How and why)
 - Have you re-educated the management? (How and why)
 - Do you employ the same number of employees? (How and why)
 - Have you educated the employees in any way?
- Have your responsibilities and duties changed in the firm as a result of the transformation process? (How and why)
 - How does this relate to the changes in the organizations?
 - Have other employees at the firm had changes in their responsibilities and duties? (How and why)
 - How does that relate to the organization of the firm?
 - Has the cooperation between different divisions in the firm changed due to the transformation process? (How and Why)

B. Power station

In the 1960s, rich deposits of brown coal were discovered around the power station's present location, the size of the deposits was estimated to 2000 million tons. In 1975, it was decided to build a mining and power station complex at the location and in December 1981 the first unit was installed, and the last of the twelve 360 MW units followed in October 1988. The power station has a total capacity of 4320 MW, thus it is the largest brown-coal fired power station in all of Europe, producing approximately 20 percent annual domestic electrical production (27 TWh). The open cast mine nearby supply the power station directly with brown coal via a conveyor belt at a maximum rate of 6400 tons an hour. Besides electricity, the power station also produces heat for towns near by, although the amount of heat used for district heating only makes up approximately 1,5 percent of the total heat production.

The power station employs almost 6000 people (approximately 20 percent white-collar employees). Most of them live in the nearby town, which grew up along with the construction of the mine and the power plant.

Between 2004 and 2009 the brown coal mine will run into problems with maintaining the present level of output for the current electricity production. In order to meet this problem and in the light of the forecasted growth in Polish power consumption it has been decided to establish a new power station beside another open-cast mine close by. The new power station will be established under the organization of the present power and mining complex, and partly financed by the present company. Presently, the most important step for the new power station project is to find the necessary investors.

I was not on a guided tour at this firm, therefore I have only few impressions from the inside of the power station, beside that is big. Afterwards, I drove with a car looking at the mine, which is an enormous hole nearby, which in parts lay empty in the areas where the brown coal deposits have been emptied. The picture below shows the power station and part of the opencast mine in the background.

The Interview Situation

I visited the power station together with Mr. Andrzejewski. It is located in the region south of Łódź City, however, after the administrative reform of January 1999, this location is a part of the new bigger Łódzkie region. First, I briefly visited the economic management, and we talked about the economic situation. Then I had a discussion with an environmental engineer responsible for the desulphurisation system. Both these talks were in English without use of interpreter.

Beside the interviews I have:

- Two general brochures on the power station in Polish and English
- An annual report from 1997 also in both Polish and English
- An English description of the installation of the first flue gas desulphurisation unit written by the Dutch supplier
- Fact sheets on the technical characteristics of the power station, the 1997 business year, the organization of the power station, and the environmental protection status, projects and plans – all in English.

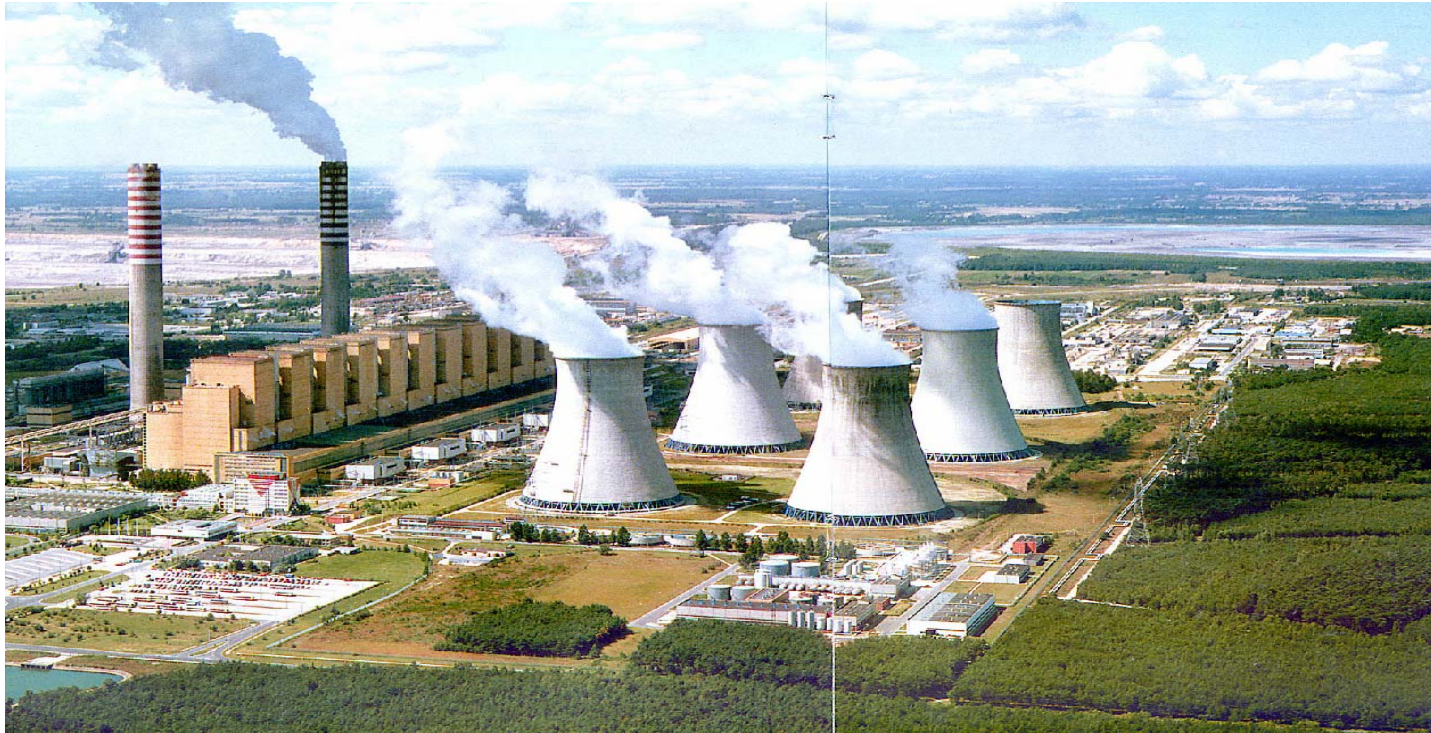


Figure I-B.2: Picture of the power station. The mine is partly visible behind the power station, as the light areas in the back.

The Economic Situation

The power station generates the cheapest electricity in Poland, in 1997 the cost of one kWh was 0,50 zł approximately 0,14 Euro.² During 1997 the power station signed a long-term sales contract with the Polish Power Grid running from 1997 until 2005. The contract guarantees beneficial prices of electricity and power, and the money earned will be used for operational expenses and funds for investments and modernisation. The funds will among other things be used for the building of the new power station (the plan is to begin the construction process in 2003) and further environmental projects at the present location.

Due to the cheap production price the power station is not influenced by the variation of power consumption over the year, but can uphold a continuous production level throughout the year.

In general the Polish power section is in an economic good shape as energy is a necessary good for most consumers.³ Therefore, the production decline that hit many sectors in the early 1990s has been less influential in the power section⁴. This is also true for the specific power station in focus due to the low production price.

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- 2 The Euro amount is estimated on basis of 2002 currency rates. In January 1998 the Danish price for electricity for households (average of all sizes) without taxes was approximately 0,09 Euro. Please note this is the electricity price, not the production price. Also in January 1998, the average electricity price for small households in Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, and Finland was 0,28 Euro without taxes. Again this is the electricity price not the production cost of electricity. Furthermore the small households pay comparatively more for the electricity than other types of customers (Eurostat news release on internet No.22/2000 (2000))
 - 3 Within microeconomics one talks of necessity for goods that have an income elasticity less than one. This means that if the income raises one percent the change in quantity demanded raise less than one percent. Opposite, if income decreases the change in quantity demanded of a necessity raises (Begg, et al., 1991: 71-72).
 - 4 The final energy consumption in Poland declined with 19,5 percent from 1987 to 1997, most striking in the industrial sector where the energy consumption fell with 32,2 percent. However, the electricity generation was comparatively unaffected by this trend. In the period from 1987 to 1997 the electricity generation fell with only 1,8 percent (OECD, 1999: 44-45).

In 1996 the net profit was approximately 54 million zł (15,2 million Euro), while in 1997 it had fallen to 23,4 million zł (approximately 6,6 million Euro)⁵.

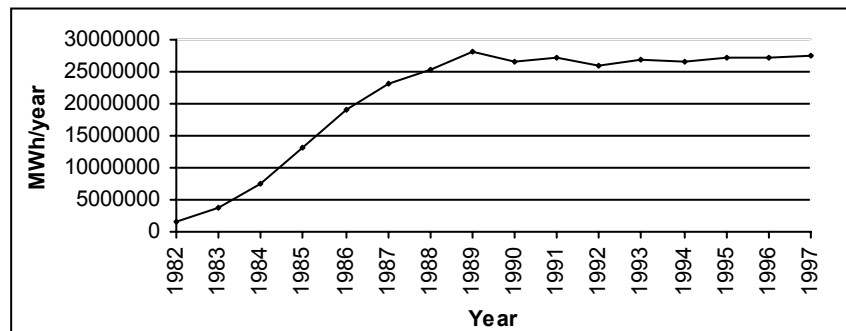


Figure I-B.3: The annual development electricity production in MWh at the power station. In 1988 all the twelve units are installed.

Prospects for the Future

By the turn of the year 1998 the Polish energy prices will be liberalized.⁶ Already in 1997, the first step towards privatization of the energy sector was taken as the responsibility for the state-owned power sector was moved from the Ministry of Industry and Trade to the Ministry of Treasure. This action was taken in order to adjust the Polish legislation to the EU.⁷ The grid has also been extended into covering a bigger area for distribution as a preparation for the liberalization.

The power station has great expectations to the privatization. As the cheapest electricity producer in Poland, they do not imagine that it will be hard to find investors. In connection with a press announcement on the investment in the new power station project 22 firms responded coming from Poland, Germany, Japan, France, United Kingdom, Switzerland, Holland, Finland and United States. On this background, the prospects of the privatization process seem bright. The management is preparing for the long-run opportunity of

⁵ The fall in net profit is explained by decrease in business operation and other activity results.

⁶ The enforcement of the law was postponed to 15 March 1999 due to organizational problems.

⁷ Approved by the EU Parliament December 11 [*EFT C 20 of 20.1.1997*], statement by the EU Commission December 12 [*KOM(96) 710*].

the open market in the EU, among other things through an internal restructuring plan implemented in 1997, see below.

The enlargement plans for power generating indicates a supply side focus at least at the power station. Asked about whether they had any demand side management strategy, they answered: “Energy savings are not a duty of an electricity plant, we have to sell electricity, not reduce the demand. I myself do not think of energy savings in my home - we have plenty of energy.”

Internal Restructuring Programme

The internal restructuring programme includes a decentralization of management structure linked with separation of internal divisions and implementation budgeting and cost controlling for all activities. Another important issue in the programme is implementation of modern human resources scheme with attention on motivation systems, training programmes and communication with staff. The figure below illustrates the organizational structure after implementation of the internal restructuring programme.

The seven divisions have all activities directed towards the internal electricity production but also activities directed towards external customers such as sale of knowledge capacities or hiring out spare equipment.

Especially the divisions of social and tourist services and the health services are subordinate from the production of power. In a Danish context it not unusually that firms offers cheap summerhouses to the employees, but Danish production firms rarely run hotels or hospitals.⁸ However, the existence not-directly production related activities in a production firm depends of many factors such as taxes, employee preferences, and history. In communist Poland, the production firms were the central co-ordinating actor for many activities, such as cheap housing, shops, holiday activities etc. The power station has got rid of parts of these activities, e.g. their formerly owned housing facilities are being sold to the employees living in them. All in all as a result of the privatization and market economy I imagine that a concept as

8 The Danish development could be seen as a consequence of the discussion of streamlining firms, and consequently they concentrate their efforts at what they are best at – the core activity. Therefore, many non-core activities are outsourced, i.e. handled by external firms. Numerous of ways and degrees of outsourcing exist and you can outsource different kinds of issues as production, knowledge, knowledge development, and services.

streamlining will gain more and more weight at the Polish agenda during the coming years.

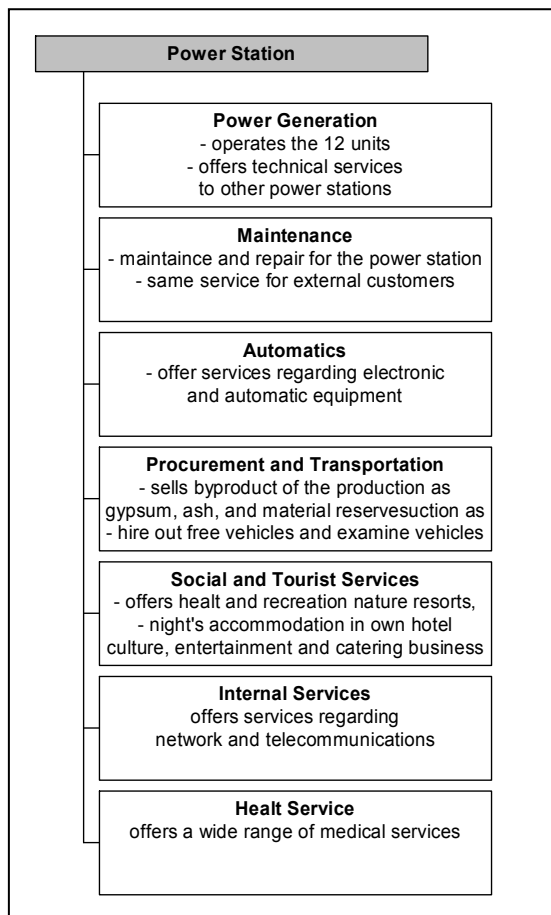


Figure I-B.4: The organizational structure of the power station of the restructuring in 1997 including a description of the tasks of the different divisions.

The employees also have advantages regarding the price of electricity. In communist Poland consumption of water, heat, electricity etc. was included in the rent for a residence, but today

people have to pay in relation to the level of consumption.⁹ The employees in the power sector get approximately 100 kWh/month to between a fourth and fifth of the ordinary price. Beyond this limit they have to pay full price for the electricity. Earlier, until 1996 electricity below the monthly limit was free for employees in the power sector.

Environmental Projects

As an offshoot of the 1989 roundtable discussions, the 80 greatest industrial source polluters were selected in 1990. These firms were put under a special legislation. The fines for violating emission standards were increased tenfold and each industry at the list had to present an environmental action plan (Millard, 1998: 153-154)¹⁰. The power station was included on the list as the largest single sulphur source polluter in Poland. In 1988, this power plant had a sulphur emission on 342 000 tons approximately corresponding to annual sulphur emission of Belgium that year (Salay, 1996: 205).

On this background a number of environmental projects have been implemented at the firm. In 1990, it was decided to reduce the sulphur (SO₂) emission by implementing a Flue Gas Desulphurisation (FGD) system, the first of its kind in Poland. The first four production units had been connected to a FGD system in 1996, and two others are to follow by the end of 2002. Thus, at this time approximately half of the smoke containing sulphur dioxide is cleaned.¹¹ The sulphur project is described in more details below.

In 1992, the firm began to optimise its combustion processes in order to reduce the emission of nitrogen oxides (NO_x). This led to a reduction of nitrogen oxides at around 40 percent in the period from 1992 to 1997.¹²

9 In order to support this development buildings built after 1994 have to have individual measurement equipment installed, but that do not account for older buildings.

10 In 1996 an assessment of the progress was relatively optimistic even though only seventeen of the 80 had fulfilled their environmental obligations, either by ceasing productions of certain products or through investments in technology. Another group on the list was in the progress of meeting the required standards and they were given extra time. However, five new firms were added to the list in relation with river pollution and later it was extended with the most harmful enterprises in certain regions (Millard, 1998: 154).

11 This estimation is based on the precondition that the twelve units produce equally.

12 The 40 percent reduction in nitrogen oxide emissions corresponds to a reduction from 77000 tons in 1992 to 38738 tons in 1997.

Electrostatic precipitators were included at the plant from the beginning of operating, such an installation remove dust from the smoke. However, first in 1993 the fly ash was removed to a modern dry-ash disposal installation instead of the location below the chimneys. According to the firm the removal efficiency is around 99,6 percent.¹³ In 1997, 2.544.141 tons of ash was disposed. Figure I-B.5 provides an overview of the main environmental projects at the power station.

According to Polish environmental legislation the industry has to pay duties for water and air pollution, solid waste disposal, water withdrawal, tree cutting, water transport, mineral extraction, mining concessions, conversion of forestland into non-forest uses, and conversion of agricultural land into non-agricultural uses (Pavlínek & Pickles, 2000: 209). Beside the duties the have to keep the emission below certain limits based on concentrations of pollutants in the emission. The environmental authorities set these limits¹⁴, and if the firm exceeds the limit, it has to pay a fine, which is ten times higher than the duty (Salay, 1996: 206).

13 Often stated efficiency degrees relates to the guarantee of the producers of the equipment.

However, the power station has detailed information of the outlet from the chimneys due to automatic measure station implement there, and the annual payment of environmental duties also relate to the emission of dust. Therefore I suppose that the removal efficiency stated above relate to the measured efficiency.

14 In 1996 the limits where 32 $\mu\text{g}/\text{m}^3$ for SO_2 , 50 $\mu\text{g}/\text{m}^3$ for NO_x , and 50 $\mu\text{g}/\text{m}^3$ for suspended dust.

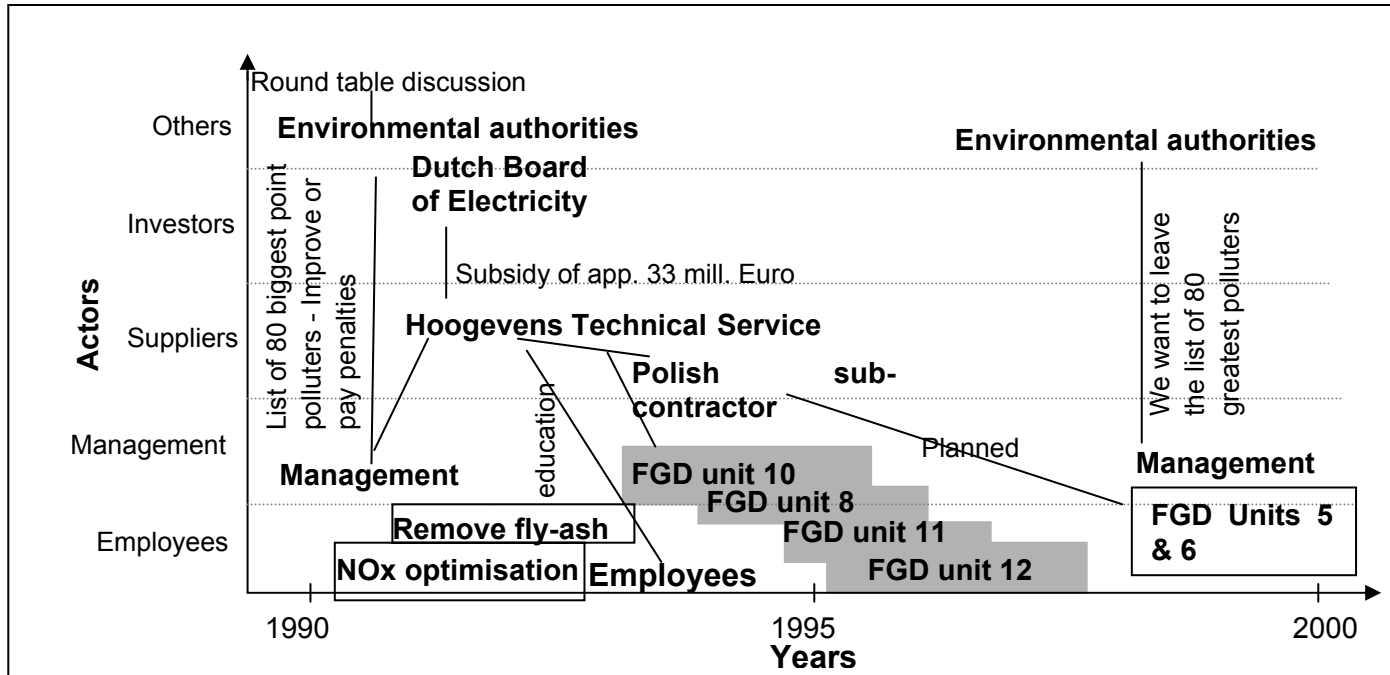


Figure I-B.5: Flow-chart of the development of environmental projects at the power station. The grey boxes are the project in focus.

This power station ranges in the lower end of environmental performance in the Polish power sector. In 1994, most power stations were below the sulphur emission demands to be implemented in 1998, however, not this firm (Salay, 1996: 209). Most of the improvements were found by shifting to less sulphur containing coal, a strategy hard to follow for this power station, which is closely linked to the nearby lignite mine. In 1996, the power station paid environmental taxes corresponding to approximately 7 percent of its running costs. "We have to pay because we are a big firm, maybe small firms do not have to pay" the interviewed stated. "However, we did not pay any fines in 1998 only environmental taxes".

On the background of these actions and the excessive environmental fees, the power station wished to leave the list of the eighty polluters. Therefore, they send an application to the Prime Minister in December 1998. None of the firms on the list has left it due to improved environmental situation, the interviewed tells, thus no precedence exist for such a situation. By the time of the interview they had not received an answer yet.

The Sulphur Removal Project

In 1990 the firm produced some 335.000 tons of sulphur dioxide, which went directly out in the atmosphere through the two 300 metres chimneys. Pavlínek & Pickles (2000: 209) the environmental fees have periodically increased to a rather high level after 1989, although they remain low in many specific cases e.g. due to lack of enforcement. In 1991, the level was 680 zł per kg of sulphur (0,08 Euro). Assuming the tax level of 1991 was also the level in 1990, it corresponds to an environmental tax for the power station of 227,8 thousand millions zł (26,4 thousand Euro).¹⁵ In 1996, the sulphur removal project had resulted in a lower environmental fee of approximately 25,9 million zł corresponding to a payback period of seventeen to eighteen years for the whole project and nine years if you only include the part paid by the firm. The limits for sulphur and dust emission are listed below.

¹⁵ Actually, the production raised with approximately three percent from 1990 to 1991 measured in produced MWh, so the tax might have been higher. However, I do not know anything of the sulphur content in the coal in 1991, or if the firm received a discount. Thus, the numbers stated illustrate the level of tax in general rather than the specific environmental pressure at the power station.

	Sulphur dioxide (SO₂)	Dust
Polish limit 1990	1070 g/GJ (660mg/Nm ³)	95 g/GJ (60 mg/ Nm ³)
EU limits¹⁶	≤400 mg/ Nm ³	≤ 50 mg/ Nm ³

Figure I-B.6: Emission for sulphur dioxide and dust from Poland and the EU.

In the long run, the aim of the power station is to observe the EU emission limits, both as a consequence of the Polish legislation approaching the EU level and as a possible precondition to enter the open market of electricity of the EU

In 1989, the power station invited tenders for building a FGD plant on four of the twelve production units. The motivation for this decision was the increasing environmental taxes. After a two-stage bidding procedure the Dutch firm, Hoogovens Technical Services Energy and Environment (HTS E&E), won the contract for design, construction, and start up of the four FGD plants.

The power station chose HTS E&E, as it was the cheapest and the best. The low price for the project was a consequence of subsidise from the Dutch Electricity Generating Board at approximately 60 million guilders corresponding to fifteen percent of the costs, see figure I-B.6 for the structure of financing the project. The Dutch Electricity Generating Board invested in Polish sulphur emission reductions, as the reduction here is cheaper than in the Netherlands, where small improvements are both very expensive and only marginal effective. Investments abroad are made after agreement with the Dutch environmental authorities, through so-called AIJ Programmes (Activities Implemented Jointly) where the foreign investments in emission reduction replace parts of domestic reductions in the Netherlands.

16 This relate to the 1988 EEC Large Combustion Plant Directive No. 88/609, this directive was replaced with directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants. However, this power station relates to the old directive. However, the coming new power plant relates to the new limits, i.e. ≤ 200 mg/ Nm³ for sulphur for plants bigger than 300MWth (EU Directive 2001/80/EC).

	Cost in millions zł	Percent of total cost
Total cost	453	100
Own resources	240,5	53
Depreciation	209	46
Profit	25,7	6
Other	5,8	1
Grants and donations	114,5	25
The Dutch Electricity Generating Board	67	15
Regional State Administration	29,2	6
The regional environmental fund ¹	12	3
The local authorities	3,3	1
Clean Air Fund	3	1
Prime credits and loans	98	22
The national environmental fund ²	30	7
The regional environmental fund ¹	28	6
Environmental Protection Bank	40	9

¹The Provincial Environmental Protection and Water Management Fund

²The National Environmental Protection and Water Management Fund

Figure I-B.7: The structure of financing the first four FGD plants.

The four FGD plants were installed in 1994, 1995 and the last two in 1996, respectively. During the installation period (three years – the period of guarantee) HTS E&E held internal courses regarding structure and functions of the new technology in order to educate the Polish employees responsible for the future work with the FGD systems. Such education programmes in relation to implementation of new technology is not usual in Poland. The internal training of employees had resulted in the power station being able to sell their expertise in FGD systems to other Polish power producers along with part of the by-production of gypsum. “We did not expect that the environmental product would include sale of expertise and gypsum” the interviewed stated.

The installation of the FGD systems has led to a sub-division in the organization connected to the sub-division dealing with ashes, which is one of the original divisions of the firm. Thus, no big changes have occurred in the organization due to the sulphur project.

The installation of the four FGD plants led to a reduction of the annually sulphur dioxide emission with approximately one third corresponding to 120.000 tons. The technical structure of the FGD plant is sketched below in figure I-B.7. Despite the reduction of the sulphur emission with one-third, the firm still needs to reduce its sulphur emission according to the local environmental authorities.

In 1994, the power station had a discussion with the environmental authorities regarding the actually level of sulphur emission from the firm. The environmental authorities questioned the reported emission levels, which were stated in the environmental reports sent from the firm to the environmental authorities. The environmental authorities based their doubt on the sulphur concentration in the area around the firm. The firm argued that these levels in the area reflected that it had had this production location since 1982. Also, this dispute relates to environmental costs, as a higher level of emission leads to higher taxes and possible also fines. As a result of this discussion the firm installed automatic measuring stations in the two chimneys.

The relation between the environmental authorities and the firm is shifting. Since 1989, the environmental authorities are controlling the emission level from the power station, which they did not do earlier.¹⁷ Two new FGD plants are planned for implemented in 2000 and 2002. These units are built by one of the Polish sub-contractor of the previous project. "Polish firms are very well capable of building such plants without the help from foreign firms" the interviewed answered when I asked for the motivation behind this choice. Also the implementation of the two new FGD plants is financial supported by the local authorities as well as the regional and the national environmental funds

¹⁷ Environmental taxes were introduced in the 1970s, but they largely failed to stimulate polluters to change their practices (Pavlinek & Pickles, 2000: 209). However, the calculation of tax level for the firm was based on its own statements on emission level.

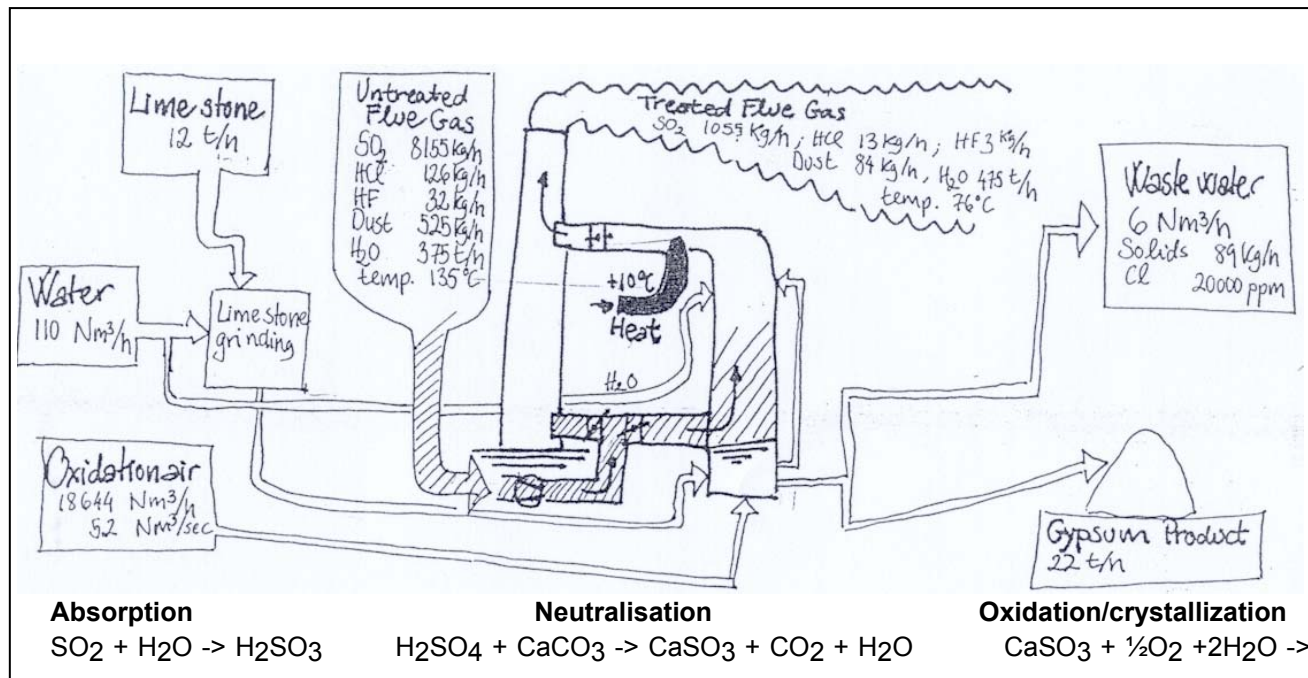


Figure I-B.8: The technical structure of a flue gas desulphurisation (FGD) plant attached one production unit and the main chemical reactions..

C. Textile Producer

This firm produces woven ribbons, but due to the present bad economic situation for the firm, it has broadened the production to also include elastics, straps, labels for cloths, and nylons. The production is approximately 5.000.000 m/month corresponding to twenty percent of the full capacity.

The firm was founded in the 1880s in Łódź at that time one of the three big textile centres in Europe (Czyż, 1997: 11). The present location, however, was established in the late 1970s. The firm is one of fifteen similar big Polish firms all competing mainly on the decreasing domestic market. The firm has 200 employees.

My impression of the firm as a textile firm in grave economic problems is partly based on the showing round on the firm after the interview. The production halls were dark and filthy, many of them filled with non-moving technology. Some halls had holes in the floor only strictly necessarily shielded for falling through. Most of the technology was old based on punched card technique. In the halls with running machines the noise was loud.

The Interview Situation

I visited the firm together with Mr. Andrzejewski. It is located within Łódź City. At this firm I spoke with the technical director, and as he did not speak English, this is one of the interviews where I used interpreter. After the interview I had a showing round at the firm.

The Economic Situation

Originally, the main product was woven ribbons used for e.g. national costumes in many of the earlier Soviet republics, and on priests' gowns. With the collapse of the Soviet market this market disappeared, and today the ribbons is neither the only nor the dominant product of the firm. Far the most of the production goes to the domestic market and a bit to Germany and Ukraine. Earlier the export to Western Europe was bigger due to the low Polish currency compared to e.g. the US dollar, but that is not the situation today. The

firm tries to develop new products but it is hard to export these products. I asked if the firm had made any analyses of the market, but this question was not understood.¹⁸

Since 1989, the firm has changed their product assortment regularly in order to keep up with fashion developments. The products are produced to fulfil product orders from the firm's shops in the bigger Polish cities, but the firm is also producing without orders just to sell the products on the open market. During the year of 1999, the firm has to be privatized, it has not yet been decided which method of privatization it will take. The firm has already phased out earlier social obligations e.g. cheap residences for employees in order to improve the poor economy.

Environmental Issues

The new location of the firm in the 1970s resulted in establishment of a sedimentation tank for the wastewater and regulation of the water temperature. The local municipalities subsequent treat the wastewater from the firm and sludge of the sedimentation tank.

According to the environmental legislation, the firm has to observe concentration limits for chloride, sulphur etc. The firm fulfils these limits by thinning the wastewater with clean water. The firm does not get penalties for not surpassing the limits. The environmental authorities control the concentration of the wastewater treatment. Thus, the firm fulfils the environmental legislation and therefore it does not have contact with the environmental authorities.

Environmental Project

The environmental project mentioned by the firm is a new colour machine brought by a German supplier - it saves energy. The interview person proudly explains to me that the firm measures its energy consumption; later on it appears that the meter was installed

¹⁸ The questions were stated in English translated to Polish – and subsequent answer was translated to English. Therefore, it is unclear whether it was the interpreter or interview person who did not understand the word *market analysis*.

for the whole firm as the electricity companies began to demand payments according to consumption. Thus, the meter could not state the amount of energy saved due to the new machine.

Due the interview I was told that the firm did not lack any technical knowledge and they had new equipment, however, the showing around demonstrated that most of the equipment was old.

D. Printing House

The firm produces newspaper, magazines, catalogues, and at the latest also advertising brochures based on its own production of plates for the printing process. The firm operates by rotary offset technique. Besides the printing activities the firm also cuts and packs the products.

The firm was founded in 1947. Today, the firm has 500 employees producing on two different locations and it is the third largest printing house in Poland.

My impression of the firm as a modern printing house is based on the showing round on the firm after the interview. The production halls were clean, the smell of the printing processes was not that bad, the production areas had ventilation over the machines, all the workers I saw wore hearing protectors, and walls were installed to reduce the noise influence.

The Interview Situation

I visited the printing house in late January 1999 together with my guide Mr. Andrzejewski. I had sent a brief version of the questionnaire out to the firm before the interview. At the firm I met with the director of economy, the director of environment, and the director of energy.

The interview began by the director of economy holding a speech where he answered the question sent before hand. He asked not to be interrupted by questions. Afterwards, I had a few questions, which he answered in English and then left.

The rest of the interviewed had a dialog form where I asked questions and one or both of the two interview persons answered. The interview took place without use of translator.

I got examples of the printing materials printed in the house, and brochures on the technical data and the firm in English and Polish.

The Economic Situation¹⁹

The firm was privatized in 1991 with a share capital of 100.000zł. Polish investors bought 80 percent of the shares and the employees bought the remaining (20 percent)²⁰. In 1998, the firm enlarged its share capital to 100.600.000 zł, due to growing investments in the Polish printing industry in general during the nineties. That is 1006 times the size of the original share capital. The added capital was primarily coming from the Polish magazine “Wprost”, which today is the main shareholder in the printing house. This new investment reduced the employees’ part of the shares to approximately a half percent.

The firm’s products are only sold in Poland. Poland is a big market and there is no need to sell the products abroad.²¹ Today, many Polish newspaper firms have their products printed in the West, still more and more offset printing companies appear on the Polish market. Important is also the good geographical location of the firm in the centre of Poland and its quality products. The firm is now entering the advertising market, which is a market of big potentials in Poland compared with Western Europe.

The firm is in a good economic shape. Last year (1998) the firm had a turnover of 1.300.000.000 zł. Approximately 23% of this amount (30.000.000 zł) was invested in a second-hand rotary offset-

19 This part of the interview is based on the information given by the director of economy.

20 I do not exactly know the route of privatisation for this firm. But I guess that it was privatised under the Balcerowicz plan initiated in 1990, here the employees could buy up 20 percent of the shares for half price (Millard, 1994: 177; Riishøj, 1990a: 17). By the end of 1991, 38,2 percent of all employees outside the agriculture sector was employed in a private firm, that was a increase on nine percent compared to the previous year. Also by the end of 1991 the sale from private firms had increased by 25 percent compared to the previous year (Den private sektor i Polen, 1992).

21 The publishing and printing industry was significant under-represented under the communist rule, due to less advertising and packing and perhaps to some degree to the limited freedom of press in the socialist countries (Urban, 2000: 47).

printing machine from Lithoman. We were the first firm in Poland to invest in a rotary offset press.

The firm's external relations have not changed much since 1989, at least in relation to customers. Today, the suppliers are mainly coming from the West Finland (printing ink), Germany and Austria.

Environmental Issues

According to the environmental law we have to send in an obligatory environmental report to the Environmental Inspectorate twice a year. The firm contains a certified laboratory, which measures the emission from the firm according to the law. These data is included in the environmental reports, which are verified by outsiders before sent to the Environmental Inspectorate. The reports are stored in the Environmental Inspectorate's Statistical Office, and it is public.

I asked about whether they have received complaints regarding the emission e.g. from NGOs. They laughed by the silly idea of taking an organization like Green Peace serious. It is not Polish. More respect existed for complaining neighbours, which now have access to environmental data regarding the firm.

This year the environmental taxes have been low, though the firm expects higher payments next year due to the new waste law²². The law demands that we reuse our waste, if that is not possible we have to pay penalties.

It is okay that we have to pay a lot of environmental taxes. Poland pollutes also the neighbour countries and the pollution is not good for your health. Young Polish people want a long and healthy life, like in Belgium and the Netherlands; these countries do invest in environmental improvements.

22 Very briefly the Polish environmental legislation is build on environmental taxes and penalties for surpass emission limits set up by the environmental inspectorate. The firms pay environmental taxes for water consumption, air pollution, and production of sewage and waste. But, the quantity has to be above a certain level before the environmental inspectorate executes these taxes. The taxes paid are only dependent of the amount consumed or produced. The level of taxes is on a reasonable level that might end up with pretty expensive environmental taxes. Beside the environmental taxes, the firms have to keep limits for the emissions set by the departments of environmental protection. If the surpass the emission limits the penalty is a fine paid, which also includes payment for the inspection visit. Taxes and fines are collected into a national fund and distributed to the lower fund from here, depended on the number of polluting firms in the region and the state of environment (The Regional Environmental Inspectorate, 1999).

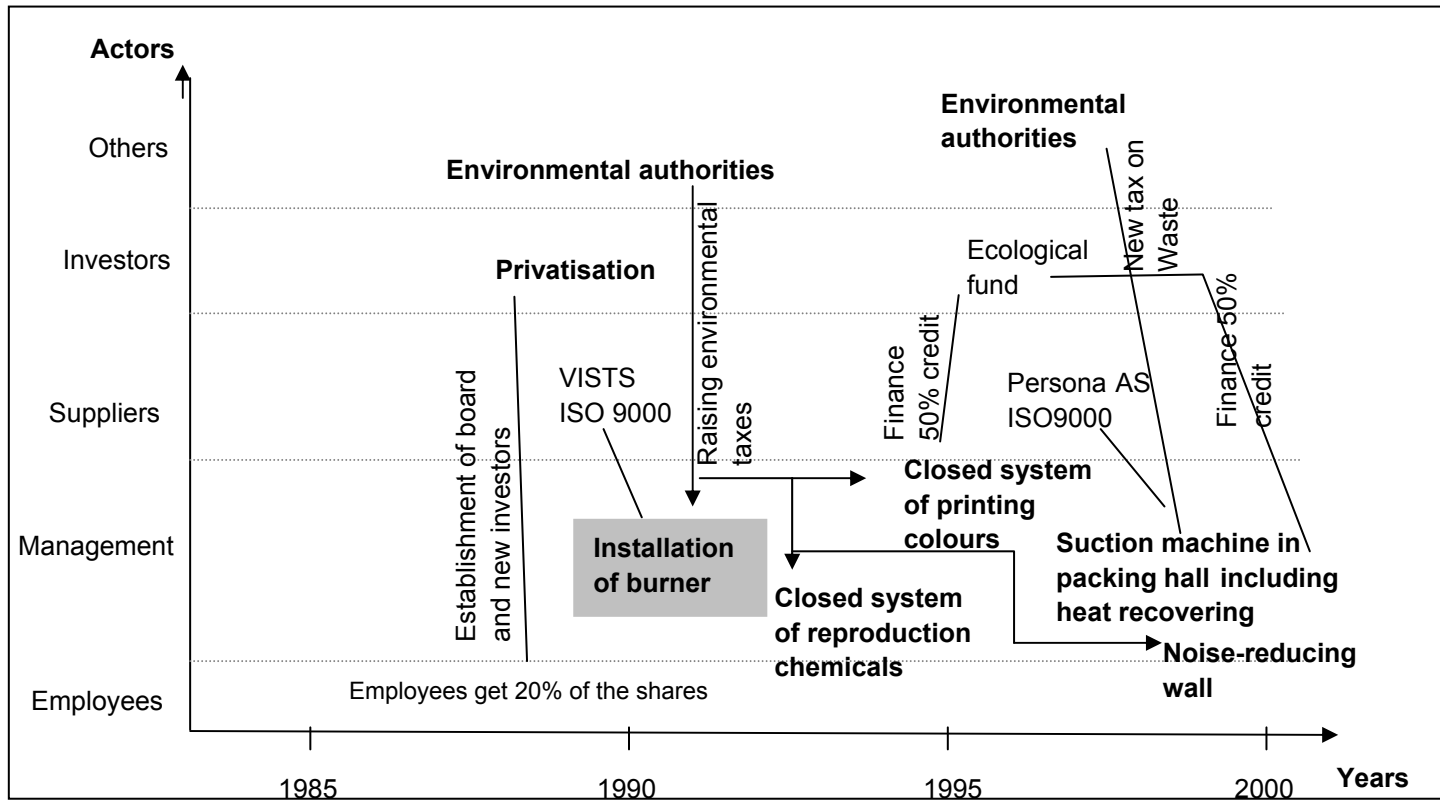
Foreign firms establishing them in Poland influence this process. They bring along Western standards of production. They press the government to implement the same standards as in the West. Nevertheless, we need to invest more than the West in this time because we have not done so much before.

In the long run we might work on getting an environmental certificate, but no concrete plans exist yet. All our suppliers need to have a qualitative certificate, but we have no plans of getting one ourselves. A quality certificate is not demanded in the printing industry in general, only for firms printing on paper for wrapping around food. We would get a certificate if the law demanded it or if a market existed for certified products. In Poland the big firms look at environmental issues. It is a parameter of competitions just as in Western Europe, especially for modern firms. The firm buys machinery from suppliers with qualitative certificate, as it knows this machinery is good. Though, it is not all Polish firms that care about environmental issues, but maybe in the future they might care as the level of penalties raises. The big firms are interested in environmental issues and the small firms - they close! Environment and business are two sides of the same coin; it is not good to be poisonous. On the other hand an ecological certificate is only paper.

Usually, we know the suppliers delivering new equipment beforehand. Often foreign specialists from these suppliers visit different printing industries in Poland. When we identify an environmental problem, we send out an invitation to the suppliers to send in suggestions for solutions. I asked whether they considered solutions as e.g. inorganic printing colours. We use the best solution was their answer.

In relation to installation of new technology, we have never arranged training of the employees, as the machines work automatically.

Flow-chart of the development of environmental projects in the printing house. The grey box is the project in focus.



Environmental Project

In 1992 the firm made its first environmental project. I.e. they installed a burner driven by gas that burned of poisonous substances in the airborne emission (VOC²³). The German firm VITS installed the machine in connection with the two old printing machines. VITS has an ISO 9000 standard, which was one of the reasons for choosing this firm, they showed me a copy of the certificate for VITS. The burner cleaned the air 98,9 percent. In the newest rotary press installed in 1995, the burner is built-into the press. The German firm KRANTZ installed that equipment; it also possesses an ISO9000 quality standard. Thus, today the firm has burners for all three printing machines. The motivation for these investments was the level of the environmental taxes. As a private firm, we have to pay the taxes, while it for State firms are different. Furthermore, the level of the taxes is high.

The next environmental project was a suction machine in the cutting and packing department, sucking up paper and paper dust. The machine was combined with a heat recovering system. The machine was delivered by the Swedish company Persona AB, also this firm has an ISO9000 certificate. The efficiency of the dust separating process is 99.9 percent. For this project, the firm got a loan on 50 percent of the investment from the Environmental Protection and Water Management Fund of Łódź Voivodship²⁴. The motivation for implementing this machine was the new environmental law on waste, which demands firms to reuse as much of their waste as possible. Therefore, the paper pieces from the suction machine are pressed and sold to a paper factory. Though, the firm has a problem with reusing the paper dust, as paper factories can not use it. Moreover, it is explosive due to the different organic compound in it. The firm

23 VOC is Volatile Organic Compounds

24 The fund distributes parts of the environmental taxes and fines paid by the firms. The four ways to obtain money from the fund are loans of up to 50 percent of the investments in environmental projects in the industrial sector. The second way to get money is through grants and subsidies, which is given only to non-profit organization, the third and fourth ways are through credit support and capital investments (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999). In the period the fund distributed 80 million zł to various project, and 70 percent of the money was given as loans (Green Fund, 1999). The printing house got the first kind of support.

produces approximately 1000 tonne paper dust per year. It is really a hard problem to solve. The directors had heard of a Dutch firm that used the paper dust for isolation, but did not know very much about it.

The reproduction chemicals are in a closed system, where everything is steered by computer, but the reproduction machines are not separated from the drawing office, which the showing round discovered.

Also the printing colours are in a closed system. All the colours are kept in separate tanks in the cellar and led to the printing machines in pipes, when they are needed. The left-over printing colours are collected in barrels at each machine and returned to the supplier. The Environmental Protection and Water Management Fund of Łódź Voivodship has also supported this project with a loan on 50 percent of the investment.

E. Yarn Producer

The yarn producer spins and colours artificial yarn²⁵ but also mixes of artificial fibres and wool. The annual production is approximately 100.000 tons corresponding to 60 percent of full production capacity. The firm employs 343 people, working in triple shifts.

The firm was founded in 1973 as a state firm and privatized in 1998. In this relation it established a new board, while the rest of the organization mainly remained the same apart from new functions of accounting and budget control.

My impression of the firm is a reasonable well-round textile firm despite the production capacity was not fully utilised. E.g. all the employees I saw had cotton wool in the ears to reduce the possibility of hearing damages. Some of the production halls were silent, and in most of them only a minor part of the machines were running.

²⁵ Asked what kind of artificial material they used, he said 100 percent aniline. I did not know what that was and asked again, and he said it was a common name for artificial fibres. Aniline is an amide, and polyamides are common used artificial fibres, while aniline is mostly used as dye. I presume the artificial material used could be polyamides, but I do not know for sure.

The Interview Situation

I visited the firm together with Mr. Andrzejewski. The firm is located within Łódź City. Here I spoke with the engineer responsible for maintenance and as he did not speak English, I used interpreter. After the interview I had a showing round at the firm.

The Economic Situation

The input to the production is dyed carded artificial fibres, non-dyed carded artificial fibres, and a minor part is carded wool fibres. The pre-dyed and wool fibres are only spun to yarn, while carded artificial fibres also are coloured, see also figure I-E.11 below.

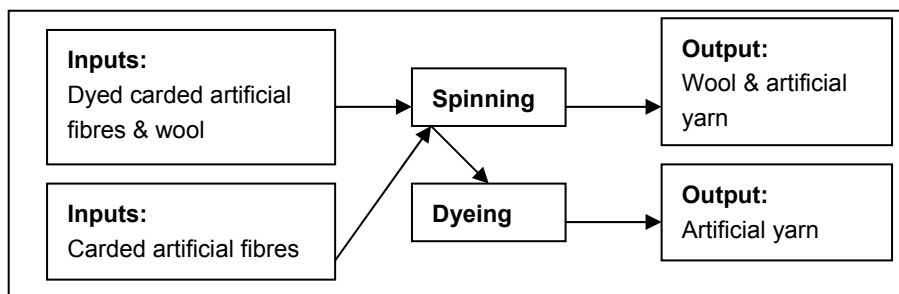


Figure I-E.11: Rough sketch of the different processes for the different kinds of inputs in the yarn production.

The yarns are sold mainly in Poland. Parts of the yarns are used for manufacturing sweaters (especially the woollen-mixes), hats, socks, gloves, and upholstery fabrics. These products are mainly sold at the Polish market, but a minor part is also exported to Western markets.

Overall, the customers and suppliers have not changed much since the communist days. Also the products remains for the most part the same as during the communist times. At present the firm has no plans to make product changes. “Either do we have any plans of implementing new technology just now, that we will do gradually, when we have the money” the interview person states in the same connection.

During the showing around the focus for the interview person was very much on the machines and the technological level compared with

Western firms. The different energy saving activities were less interesting. The following statement includes some of the understanding regarding technology:

We bought these spinning machines in the beginning of the 1980s from Italy, and they have been very good. Then we hear that German technology was better, so we have brought new German machine. But they are not as good as the Italian ones, so I think, that next time we buy Italian machinery again.

(Interview at yarn producer, February 1999)

The firm produces both for orders of specific types and colours of yarn and for stocks, though, the production for stocks is mainly white and black coloured. Subsequently, the white yarn can be coloured.

In 1998, the firm was privatized and the employees were offered twenty percents of the shares. A new board was established and one of its main tasks was cost reductions. The prices on energy, especially heat, had raised drastically before the privatization and therefore the new board concentrated on the energy as an area for cost reductions. This project is described in more details below.

Environmental Issues

The firm has wastewater treatment connected to the dyeing process including temperature adjustment and a sedimentation tank. This equipment was built along with the building of the firm in 1973. The firm pays environmental taxes for use of resources but no penalties, as it does not exceed the permitted emission levels. The reduced production (60 percent of full capacity) brings about emissions level all below the limits, which was not always the case earlier.

Reducing Energy Costs

The new board put focus on cost reduction, which led to the project for reducing the energy costs. The interview person question whether or not this could be called an environmental project as it is dealing with cost reductions.

In 1998 we used 6,7 million MWh electricity and 40.700 GJ hot water and steam. We also began to control the development in these resources, though the meter for heat consumption was first installed

last year. The different activities implemented in order to reduce energy consumption are based on our own ideas – no external experts have been involved.

The first idea was to gather the batches for dyeing in a short period, where the capacity on the machine was fully used and then turn of the machine in the interval before the next dyeing batch. It costs a lot of energy to heat the dye tank. However, we have not measured the heat saved on this process yet.

Other ideas have been to organize the lighting and ventilation so it was separate for each production line. Furthermore both lighting and ventilation have been lowered to a location right above the machine, In this way it is possible to switch of the light and ventilation on production lines not being used and the light and ventilation are more directly coupled to the machines running. The firm did not yet know how much they have saved, due to these activities.

F. The District Heating Producer

The 1060 MWt thermal power plant produces district heating for the city of Łódź. The production site described here is the newest of four thermal power plants within the city limits formally organized in one organization. In 1990, the four district heating plants together covered approximately two third of the heating of all apartments in the city, while the plant in focus covered around twenty percent of the heating in the flats in the city. The firm utilises its full capacity with the variation of heat consumption, which occurs through 24 hours and during the year.

The story of district heating is old in the city of Łódź, the first thermal power station was build in 1907. New plants have been added to the system in 1957, 1968 and latest in 1977. Like the rest of the energy sector the thermal power plants face privatization, which is planed to take place in 2001. The fourth thermal power plant employs around 600 people. I was not at a showing round at this firm so I do not have an impression of the inside of the firm.

The Interview Situation

I visited the thermal power plant together with Mr. Andrzejewski. At the firm I talked with energy and environmental directors. This talk was made by the use of interpreter.

Beside the interviews I have:

- One general brochures on the four thermal power plants in Polish and English from the early 1990s.

The Economic Situation

Earlier the industry supplied the district heating system with surplus heat, but after the economic recession in the early 1990s, their share of the heat supply have been decreasing. Today, it is our obligation to ensure sufficient heat capacity. On this background we are not afraid of the liberalization of the energy markets during this year (1999). The production of heat can only be distributed in a limited local area, and it is hard for us to see any imminent competition. The interview persons told me that the firm utilised its full production capacity, but I do not have knowledge of whether the payment for heat is stable.²⁶

Environmental Issues

The major part of the air pollution in Poland comes from the energy sector. In 1988 it was more than 90 percent of the total sulphur dioxide pollution and more than 80 percent of the particular emission (Salay, 1996: 205). The energy sector is also the major source of air pollution in the region of Łódź (Łódź Voivodship Office & Environmental research and Control Centre in Łódź, 1990: 44). Therefore, a major focus of the environmental authorities has been the air emission from the energy sector, in the 1990s. This is also the focus of the environmental project of the thermal power plant. Figure I-E.12 below illustrates the main air pollution sources in the region of Łódź in 1990.

²⁶ During the communist times the heating for residential customers were heavily subsidized. During the economic problems in most Central and Eastern European Countries non-paid bills from residential customers were a usually problem, normally not leading to any cut-off heat supply. As a consequence the revenue for the heating producers fell (see e.g. Worzala et al, 1996: 426). I do not know to which degree this was a problem for the fourth thermal power station in Łódź.

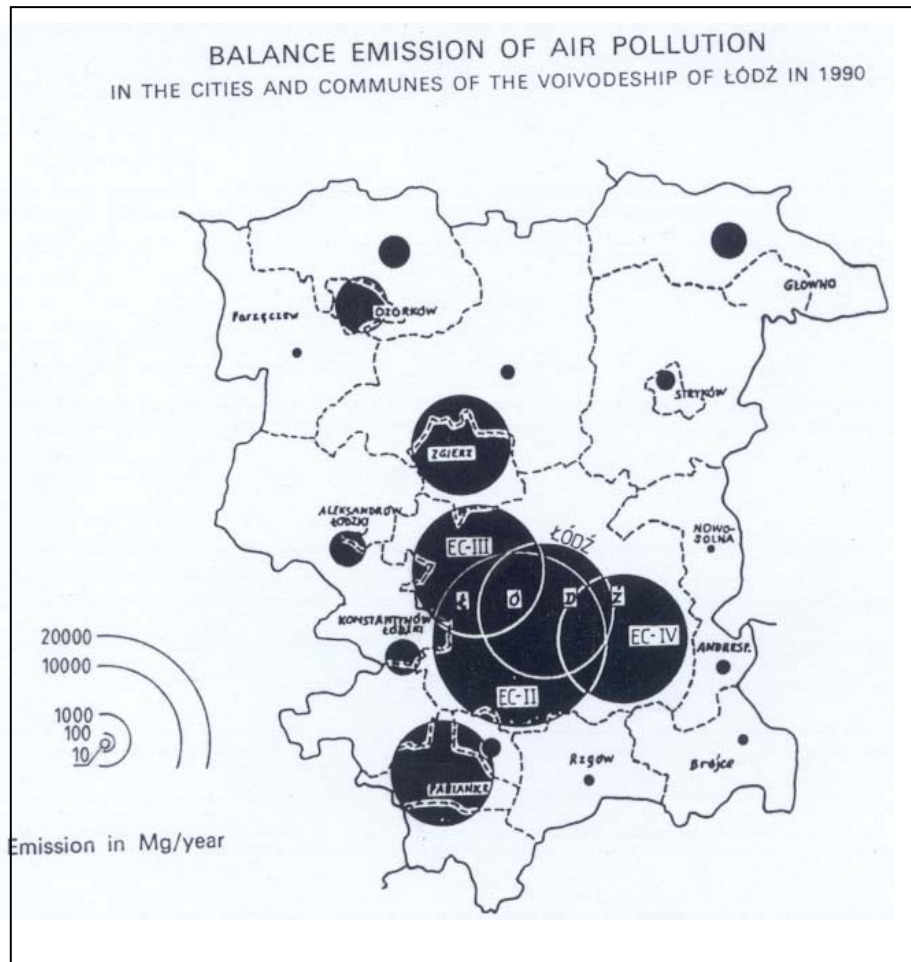


Figure I-E.12: Air pollution in the region of Łódź in 1990. EC-IV is the case firm in focus here. Source: Łódź Voivodship Office & Environmental Research and Control Centre in Łódź, 1990: 47.

In 1990 the thermal power plant produced 152.397 tons of solid waste which all were stored in a dump. Figure I-E.13 above show the amount of solid waste produced at the four thermal power stations in the period from 1989 to 1997.

In 1990, the fourth thermal power station (the case firm) produced approximately 30 percent of the total heat, but 38 percent of waste. This divergence in numbers does not indicate that the firm pollutes more than the other three. Most of the waste is dust from the electrostatic precipitators, and therefore the higher share of waste production compared with heat production indicates that the firm cleans better for dust than the three other firms on average. This claim is supported by the fact that the environmental fund assisted the modernization of electro-filters at the second thermal power station in 1990 (Łódź Voivodship Office & Environmental Research and Control Centre in Łódź, 1990: 79).

Another visible issue coming out of figure I-E.13 is that the waste rate is falling. This could relate to a falling heat production, but it could also relate to the burning of coal with a lower ash content. In the early 1990s the environmental authorities encouraged the energy sector to use better coal, i.e. coal with lower sulphur and ash content and a higher calorific value. In the period from 1988 to 1994 the ash content of coal fell with approximately eight percent. The waste produced in 1997 is approximately half of the amount produced in 1989, thus, the total fall is hard to explain by ash content alone.

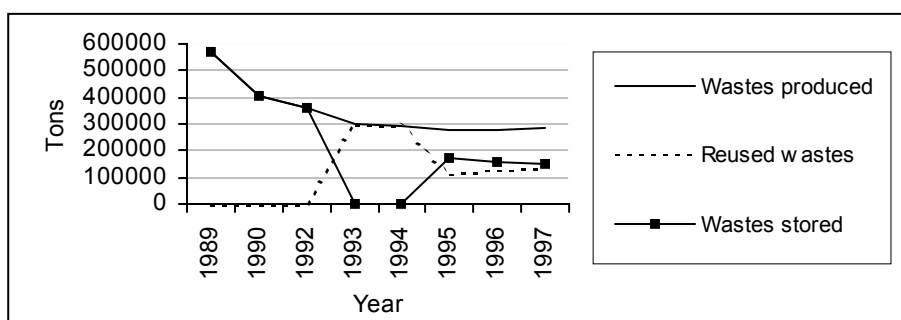


Figure I-E.13: The waste produced, reused and stored at the four thermal power stations in Łódź. Please note the horizontal axis does not include the year 1991, from which year I have no data. Sources: Łódź Voivodship Office & Environmental research and Control Centre in Łódź, 1990: 67 and 1998: 104.

Notable in figure I-E.13 is also the amount of reused waste appearing in 1993, before this time all solid waste was stored. In the years 1993 and 1994 the amount of waste reduced almost equal the waste produced, but during the following years the amount of reused waste fell to a bit below half the produced amount.

As an exchange student I visited the city of Łódź in 1993. During an interview at this time, the director of the Department of Environmental Protection in the Region of Łódź stated the biggest environmental problem in Łódź as solid waste and the lack of a legal dump in the area, see also appendix II. I assume that the high level of reused waste in 1993 and 1994 illustrate this problem, while a dump has been established after 1994.

Reduction of Airborne Emission

The compounds in focus in the air-borne emission are the dust, sulphur dioxide, and the nitrogen dioxide emissions. Figure I-E.14 below lists the emissions of these substances in 1989, 1990 and 1997.

	All Power Stations in Łódź			Fourth power Station
	1989	1990	Difference	1997
Unit	Mg/year			µg/m ³
Dust	39.081	27.663	-29,2	13,3
Sulphur dioxide SO ₂	36.664	32.815	-10,5	15,2
Nitrogen dioxide NO ₂	18.915	10.780	-43,0	34

Figure I-E.14: Air pollution from the power stations within Łódź in 1989 and 1990, and the fourth power station in 1997. Sources: Łódź Voivodship Office & Environmental research and Control Centre in Łódź, 1990: 45 and 1998: 59.

Please note that the numbers from the early 1990s can not be compared directly with the numbers from 1997 due to the different units. The fall in emission between 1989 and 1990 relates to purchase of better quality coal with higher caloric value, and lower ash and sulphur content (Łódź Voivodship Office & Environmental research and Control Centre in Łódź, 1990: 45). In 1997, the firm does not surpass the emission limits on dust, sulphur and nitrogen (Łódź Voivodship Office & Environmental research and Control Centre in Łódź, 1998: 59).

The thermal power station was built with electrostatic precipitators, however, they needed modernization during the 1990s in order to keep the limits for dust emission. Half of the cost of this project was paid by the environmental fund.

Today, the firm is able to keep the emission limits for sulphur and nitrogen due to the high quality coal it uses. However, in 2006 the limits will be restricted from the present 2230/2350²⁷ mg/Nm³ to 1400mg/Nm³ for sulphur. Therefore, we might need to install equipment for cleaning for sulphur, which actually has been planned for several years. We have a long-term strategy for the environmental area, but we need financial support in order to install this equipment, and latest some of our project proposals have been turned down in the regional environmental fund.

The costs of collecting our environmental data have also increased. Earlier the environmental authorities did all the measurement, but today we have to do it ourselves. At all four thermal power stations approximately 30 persons work with environmental issues. Also the environmental costs have risen as the level of environmental taxes and penalties have increased. Today we have to pay these taxes, I do not know whether private firms pay, but we have to. In the communist days the environmental authorities were not so strict and also the level of environmental taxes is higher.

²⁷ The first number relate to the maximum yearly permissible concentration, which is not allowed to surpass, while the second number is the maximum daily permissible concentration, which is allowable to surpass two percent yearly.

Appendix II

Elections and Governments in Poland in the 1990s

Year	Month	Election and turnout	Government leader/ president	Party affiliation
1989	June	Semi-democratic parliament election (62,32%) ¹		
	July	President elected by parliament	Jaruzelski	Communist
	Aug.		Mazowiecki (PM) accepted in Sep.	Non-communist
1990	May	First democratic local elections (42%) ¹		Mainly Solidarity
	Oct.	President resigns		
	Nov. & Dec.	Two rounds of president elections	Leck Wałęsa	Post Solidarity
	Dec.	Prime minister resigns		
1991	Jan.		Jan Bielecki (PM)	Post Solidarity
	Oct.	Parliament election (43,20%) ¹		
	Dec.		Jan Olszewski (PM)	Right-wing coalition
1992	July		Hanna Suchocka (PM)	Broad coalition Post Solidarity
	Oct.	The "Small Constitution"		
1993	May	Suchocka government voted down		
	Sep.	Parliament election (52,06%) ¹		
	Oct.		Waldemar Pawlak (PM)	Post Communist
1994	June	Local election		
1995	March		Józef Oleksy (PM)	Post Communist
	Nov.	Two rounds of president elections.	Kwasniewski	

Year	Month	Election and turnout	Government leader/ president	Party affiliation
1996	March		Włodzimierz Cimoszewicz (PM)	Post Communist
1997	May	A referendum approves the new constitution		
	Sep.	Parliament election (47,93%) ¹		Participation lost votes 11,8%
	Oct.		Jerzy Buzek	SEA and FU Post-Solidarity

¹ Ágh, 1998

Parliament system

Bicameral parliament (460 and 100 seats), parliamentary system with direct, popular election of president, proportional electoral system for Sejm with 5% threshold, majoritarian electoral system for the Senate (Ágh, 1998).

Appendix III

Poland's Relation to the EU

The figure below sums up the main positions and events in four identified periods during the 1990s.

Perio	Opinion of the EU	Opinion of Poland	Events
1988-1989	Support reforms in Communist regimes	All economic aid is helpful	<ul style="list-style-type: none"> • Frame agreement between CMEA and the EU (1988) • Concluded between Poland and the EU in 1989 (1st generation) • Establishment of Phare
November 1989 Fall of the Berlin Wall – November 1989 Fall of the Berlin Wall			
1990-1993	The Period of irresolution	Frustration regarding the lack of open market access to the EU	<ul style="list-style-type: none"> • European agreement (1991) (2nd generation) objective free trade area • Phare and other international and national programmes begin operating
July 1993 The EU promise future membership of the Union			
1993-1997	The period of establishing procedures	Fear that the EU is drawing out of the question of membership	<ul style="list-style-type: none"> • European Agreement (3rd generation) objective preparation of membership • Procedures for accession established • Phare primarily economic restructuring as preparation for membership
July 1997 Agenda 2000 the first EU assessment of Candidate countries			
1997-2000	The period of assessment	Political support for the membership despite the cost	<ul style="list-style-type: none"> • Annual assessment of accession progress • Phare support guided by the assessment report.

Appendix IV

Polish Environmental Legislation —a brief overview

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Industrial Environmental Protection

Production firms pay environmental charges for water utilisation, air emission, sewage, and waste productions. The charges are connected to specific polluting substances, see the section on the levels of the environmental charges below. The firms produce a certain level before the environmental charges are achieved. Thus, the system mainly focus on middle-sized and big firms.

The firms have to stay below given emission limits, and staying below these limits the charges are paid depending on volume of the outlet or use. If the firms do not keep the emission levels they have to pay a non-compliance fine, which is paid once and include the cost of the visit of the inspectorate (Regional Environmental Inspectorate in Łódź, 1999).

The level of charges and fines is high and settled in relation between the national and lower governments. The job of the inspectorate is to control that the firms observe the emission limits. The inspectorate also measure the environmental state in surroundings of the firms and on this background the estimate show if the given emission limits are in accordance with the planned environmental state in the surroundings (Regional Environmental Inspectorate in Łódź, 1999).

Control System

The regional inspectorate are the controlling unit responsible for controlling the situation at the industrial firms. They make control visits at the firms controlling their environmental measuring documents, and the environmental state outside the firm. Beside the firm control visit, they are making annually report on the environmental state in the region. They are the unit reaction on public complains (Regional Environmental Inspectorate in Łódź, 1999).

Enforcement

Some writers estimate a low enforcement of the environmental protection in Poland (see e.g. Pavlínek and Pickles, 2000:209). The inspectorate stated that the governmental firms are more regular in their payments that the private firms (Regional Environmental Inspectorate in Łódź, 1999).

The Environmental Funds

The environmental charges and fines are collected in the national environmental funds and from there a share is distributed to the regional and local funds concerned (Regional Environmental Inspectorate in Łódź, 1999). In 1999, the funds on national, regional and local level amounted to approximately 40 million zloty in total. (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Support from the Funds

The funds are open for application to environmental projects from public organisation, industrial firms and individuals. The projects are assessed in relation to which projects have the greatest environmental impact and the economic capacity of the applicants (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Four ways of getting support from the funds exist:

- *Loans*, are given to industry to cover up to 50 per cent of the cost of environmental projects. It is possible to convert half of the debt into new environmental projects.
- *Grants/subsidies*, are only given to non-profit organisations as schools, hospitals, fire brigades etc.
- *Credit support*
- *Capital investments*

All applications have to be approved by the inspectorate before treated by the board of supervisors. The board of supervisors are composed of the head of the region (the Voivoda), a representative of the National Environmental Protection and Water Management Fund, a representative from the environmental movements whom must be accepted by the Voivoda, and different local people. It is also important that the applicants are able to pay back the loans. Until now the regional fund has been successful on this issue as only one firm has not been able to pay back the loans since the start of the regional fund in 1993. (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Distribution of Money

In 1998, the Environment Protection and Water Management Fund of Łódź Voivodship provided grants to approximately 100 projects and loans to 40. In general, the number of applications have been growing each year. In 1999, advertisements in the television have lead to many applications from households which want to replace their heating systems with district heating or gas. From 1999, every application needs to include an energy audit which might be a problem. Firstly, they are quite expensive, which to a large degree exclude the private households, and secondly, only one firm in the region are able to conduct an energy audit (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Łódź electricity and district heating plant has been a regular applicant in the regional fund and it has also received many loans as it is one of the great sources of air emission in the region. The regional fund have given money to a part of the electrical filter for cleaning for dust. They will probably pay half of the loan back while the rest will be converted into ecological projects at the firm (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Levels of Environmental Charges

The data in this section all come from the OECD tax base, i.e. OECD tax base (2001).

Tax	General tax-base	Specific tax-base	Tax rate – Euro	Units
Charge for bush and tree removals	Management of biodiversity and wildlife	Bush and tree removals		Between 2.8082 € and 388.1555 € per cm of tree trunk circumference.
	Management of land, soil and forest resources	Changes in usage of land - general		10% of expected yearly market value of crops or timber from the land being subjected to the changes. For permanent changes, the fee should be paid for period of ten years.
	Management of land, soil and forest resources	Changes in usage of forested land - protective forest		15% of expected yearly market value of timber, from the land subjected to the changes. For permanent changes, the fee should be paid for period of ten years.
	Management of land, soil and forest resources	Changes in usage of forested land		10% of expected yearly market value of timber, from the land subjected to the changes. For permanent changes, the fee should be paid for period of ten years.

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Charge for premature harvesting of forests	Management of land, soil and forest resources	Premature harvesting of forests		The charge equals the estimated difference between market value of timber from a forest reaching cutting age and market value of timber from forest in question.
Hunting permits and fishing permits	Management of biodiversity and wildlife	Hunting permits and fishing permits		Different rate for members of the Polish Hunting Union and for commercial services
Charge on industrial waste - Waste management - in general	Introduction of industrial waste into a landfill -- medium risk category		3.2989	€ per ton
	Introduction of industrial waste into a landfill -- high risk category		27.6728	€ per ton
	Storage of industrial waste in a landfill -- low risk category		0.0638	€ per ton per year
	Storage of industrial waste in a landfill -- medium risk category		0.099	€ per ton per year
	Storage of industrial waste in a landfill -- high risk category		0.8302	€ per ton per year
	Introduction of industrial waste into a landfill -- low risk category		2.1266	€ per ton

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Charge on air pollution	Measured or estimated NOx emissions	NOx - recalculated as NO2	0.0981	€ per kg.
	Other measured or estimated emissions to air	SO2	0.0001	€ per kg.
		Air pollution emitted from cars used for commercial purposes		From 3.1 € per 1000 kg of lead free petrol used in cars with catalyser up to 46.3894 € per 1000 kg of fuels used in professional machinery
		CO	0.0273	€ per kg.
		Aliphatic hydrocarbons	0.0273	€ per kg.
		Arsene	69.4928	€ per kg.
		Manganese	0.004	€ per kg.
		Molybdenum	0.0023	€ per kg.
		Tin	0.001	€ per kg.
		1,1,1 trichloroetane	0.0347	€ per kg.
		Lead	0.0079	€ per kg.
		Methane	0.0001	€ per ton.
		Mercury	0.0347	€ per kg
		Asbestos	69.4928	€ per kg
		Benzene	1.5895	€ per kg
		Chrome	9.9268	€ per kg
		Nickel	69.4928	€ per kg
		Zink	1.0442	€ per kg
		Dioxins and phurans	69.4928	€ per kg
		Cadmium	34.7451	€ per kg
Cobalt	9.9268	€ per kg.		
CO2	0.0518	€ per ton		
Ozone depleting substances	Halon 1211, 1301 and 2402	0.0347	€ per kg	

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Charge on water abstraction	Management of water resources	Surface water abstraction for energy and heat production -- Rest of the country	6.7723	€ per 1000 m3
		Surface water abstraction for other production purposes -- 86 municipalities in Silesia	101.5851	€ per 1000 m3
		Surface water abstraction for other production purposes -- Rest of Silesia, Lower Silesia, Malopolska, Opole and Swietokrzyskie	84.6543	€ per 1000 m3
		Surface water abstraction for other production purposes -- Rest of the country	33.8617	€ per 1000 m3
		Groundwater abstraction for industry, where the water is in direct contact with food or medicines -- 86 municipalities in Silesia		€ per 1000 m3.
		Groundwater abstraction for industry, where the water is in direct contact with food or medicines -- Rest of Silesia, Lower Silesia, Malopolska, Opole and Swietokrzyskie	85.4994	€ per 1000 m3
		Groundwater abstraction for industry, where the water is in direct contact with food or medicines -- Rest of the country	32.0623	€ per 1000 m3

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Charge on water abstraction	Management of water resources	Groundwater abstraction for industry, other production purposes -- 86 municipalities in Silesia	267.1857	€ per 1000 m3
		Groundwater abstraction for industry, other production purposes -- Rest of Silesia, Lower Silesia, Malopolska, Opole and Swietokrzyskie	267.1857	€ per 1000 m3
		Groundwater abstraction for industry, other production purposes -- Rest of the country	106.8743	€ per 1000 m3
		Water abstraction for supply of households, communal hygiene, agriculture, army as well as healthcare, social welfare and educational institutions	5.6709	€ per 1000 m3
		Surface water abstraction for energy and heat production -- 86 municipalities in Silesia	27.1003	€ per 1000 m3.
		Surface water abstraction for energy and heat production -- Rest of Silesia, Lower Silesia, Malopolska, Opole and Swietokrzyskie	16.9309	€ per 1000 m3

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units	
Excise tax on energy products	Diese fuels	Diesel fuels with sulphur content 0.005% - 0.05%	0.2729	€ per litre	
	Diesel	Diesel fuels with sulphur content 0.05% - 0,2%	0.2895	€ per litre	
		Diesel fules with sulphur content up to 0,005%	0.2713	€ per litre.	
		Diesel fiels	0.2934	€ per litre	
	Leaded petrol	Leaded petrol	0.4329	€ per litre	
	Light fuel oil	Fuel oils used for heating purposes	0.0354	€ per litre	
	Other energy products for transport purposes	LPG		0.0712	€ per litre
		Diesel oil with minimum 10% components from regeneration of waste oil		0.1761	€ per litre
		Diesel oils with minimum 10% share of components from regeneration of waste oil and with reduced sulphur content			0.1420 - 0.1723 € per litre
		Engine oils			20%
		Engine oil with a share of components from regeneration of waste oils			5%
		Excise tax relief for production petrol contating 4,5% - 5% of ethanol	0.0248		€ per litre
		Unleaded petrol	Unleaded petrol	0.3891	€ per litre
Excise tax on plastic	Waste manage-ment - individual products	Excise tax on plastic packaging made of PP or PE		10%	
		Excise tax on plastic packaging made of PC, PS and PET		20%	

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Water effluent charges	Measured or estimated effluents of oxydizeable matters (BOD, COD)	BOD 5 -- From chemical industry, energy / fuels production, steelworks and textiles industry.	2.2247	€ per kg
		BOD 5 -- From timber / paper industry	0.9461	€ per kg
		BOD 5 -- From food production	0.5562	€ per kg
		BOD 5 -- From communal and industrial sanitary sewage, health care and social care institutions, orphanages and prisons	0.2236	€ per kg
		COD – From chemical industry, energy / fuels production, steelworks and textiles industry	1.554	€ per kg
		COD – From timber / paper industry	0.5589	€ per kg
		COD – From food production	0.3735	€ per kg
		COD – From communal and industrial sanitary sewage, health care and social care institutions, orphanages and prisons	0.1254	€ per kg

Tax	General tax-base	Specific tax-base	Tax rate - Euro	Units
Water effluent charges	Other measured or estimated effluents to water	Volative phenol	4.1686	€ per kg
		Total chloride and sulphate ions	0	0.0079 - 0.0619 € per kg
		Heavy metals	11.1264	€ per kg
		Suspended solids	0.0954	€ per kg

Regional Restructuring

1st of January 1999, the regional system in Poland have been restructured. This has had great influence on the environmental administration. The region of Łódź changed from 17 local governments to approximately 93 local governments (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Both the inspectorate and the environmental fund have to join together with part of other regional inspectorates and funds, no one seemed to know what was going to happen in the beginning of 1999 (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999 & Regional Environmental Inspectorate in Łódź, 1999).

However, more than the new unclear administrative issue, especially, the inspectorate feared the new distribution of responsibilities in the regional reforms. Earlier the regional inspectorate was a division of the state inspectorate, but with the new reforms they are responsible to the regional mayor (the Voivoda) and therefore they might in a higher degree get influence on the economic policy in their work, e.g. in relation to fines and closedowns of factories. Another worry was whether the regional budget would limit the activities of the Inspectorate due to economic shortage (Regional Environmental Inspectorate in Łódź, 1999).

The regional fund also fear the administrative changes in relation to the reform, however more crucial was the lack of responsible between the regional mayor (the Voivoda) and the newly elected regional parliament (the Sjemik). In the new structure the regional parliament will be responsible for the environmental fund, while the regional mayor has the responsibility for the Inspectorate (The

Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

The newly elected regional parliament (the Sjemik) is a mess. 52 persons have been elected - so far they have locations, but no furniture, no administration, and no money, and furthermore, they are fighting with the regional mayor of which responsibilities to take over (The Environment Protection and Water Management Fund of Łódź Voivodship, 1999).

Appendix V

Fields of Interests and Research Themes

	Subject related research themes			Methodological related research themes		
	Central & Eastern Europe	Technology and Environment	Environment and Energy	Actors and Structure	General and Specific	Design
Concepts are embedded in historical and cultural understanding and experiences, and these understandings influence on people's behaviour exemplified by the development in Russia.	X				X	X
A possible theoretical framework to describe the relationship between behaviour and understanding could build on a combination of the SCOT approach and discourse analysis				X		X
Some kind of interesting relation exists between environmental consideration and technological development in Poland and possibly in all of Central and Eastern Europe	X	X				
Profitability is not the reason for the production firms to consider environmental issues		X		X		
The successful examples of energy savings in production firms have often come about by coincidence				X		
Energy might be a special issue or integrated in general environmental considerations for the firms			X			
"Successful" examples of energy savings might be an entrance to the initiating event and the motivation behind continuous energy savings				X		X
Following all the energy saving activities in one firm gives a good picture of the history of the energy saving operations in a firm and an entrance to the actual energy saving behaviour at the firm					X	X
The behaviour of a firm to a high degree depends on its comprehension of a policy, which also fixes roles of both firms and authorities				X		
A general policy design is always altered to fit into a specific context					X	

Appendix VI

Resumé af Ph.D. afhandling

Industrielle miljøpraksisser i polske virksomheder – et diskursivt perspektiv

Ph.D. afhandling af Trine Pippi Kræmer

Denne rapport undersøger, hvordan diskursive forløb i Polen spiller sammen med industrielle miljøpraksisser i fem produktionsvirksomheder. Analysen af de diskursive forløb dækker perioden fra første verdenskrigs afslutning til årtusindskiftet. Der er fokus på identitet, industri og miljøområderne. De fem casevirksomheder repræsenterer tre brancher, nemlig tekstil, energi og trykkeribrancherne. Endvidere er virksomhederne både private og statsejede, såvel som i gang med privatisering.

Kobling af diskursive forløb og industrielle miljøpraksisser

”Taget-for-givet” forståelser er identificeret blandt de fem virksomheders industrielle miljøpraksisser. Disse ”taget-for-givet” forståelser er implicit indlejret i en eller flere af virksomhedernes miljøpraksisser. ”Taget-for-givet” forståelserne reflekterer de samfundsmæssige diskursive forløb og bringes til virksomhederne gennem forskellige kanaler.

Lovgivning er en stærk kanal til at forbinde diskursive forløb og industrielle miljøpraksisser. Jeg har fundet tre ”taget-for-givet” forståelser relateret til forskellige lovgivningskanaler blandt casevirksomhederne. Den mest åbenbare knytter sig til det polske system med miljøafgifter på emissioner. I den forbindelse er ”taget-for-givet” forståelsen, at virksomhederne ikke er ansvarlige for at handle for en løsning af miljøproblemerne, det er miljømyndighedernes ansvar. Jeg kalder denne forståelse ”*Miljøproblemer ... ikke vores problem*”. Med miljøafgifterne følger uddeling af viden, ansvarsområder og roller, og på denne måde er afgifterne i høj grad med til at strukturere virksomhedernes miljøpraksisser. De diskursive forløb på miljøområdet er således institutionaliseret i lovgivning.

Lovgivningskanalen refererer ikke alene til nutidig lovgivning, to af "taget-for-givet" forståelserne knytter sig delvis til forudgående lovgivning, det er forståelserne "*Teknologi er løsningen*" og "*Vestlig teknologi er bedst*". Kanalerne for disse anskuelser forekommer diffus i dag, imidlertid knytter de sig delvis til politikinitiativer i 1970erne og 1980erne, hvor polske virksomheder fik økonomisk støtte til implementering af vestlig teknologi. Selv om denne politik er ændret, forbliver tråde af politikken i kerneforståelserne knyttet til specielt løsning af miljøproblemer via brug af vestlig teknologi.

Markedet virker også som kanal for sammenknytning af diskursive forløb og industrielle miljøpraksisser, skønt det er en mere svævende forbindelse end lovgivningskanalen. Markedskanalen fremskaffer bevidsthed om temaer med stigende priser. Ligeledes synes temaer, der indfinder sig på virksomhederne via forskellige kanaler, at opfattes som adskilte. Et eksempel her på er "taget-for-givet" forståelsen "*Energi er ikke del af miljøområdet*".

Den sidste type kanal, der er identificeret i denne afhandling, er offentlig debat kanalen. Den knytter sig til bestræbelser for at slå "taget-for-givet" forståelser i stykker – et ønske om forandring. De to eksempler på dette område er "*Virksomhederne behandles ikke lige*" og "*Polske leverandører er lige så gode som vestlige*". Disse forståelser kan miste deres "taget-for-givet" status, hvis der sættes spørgsmålstegn ved dem, specielt hvis kritikken udbredes til mange mennesker. De to temaer disse "taget-for-givet" forståelser sætter spørgsmål ved, er dels fordelingen af ansvarsområder, roller og viden gennem miljøafgifterne, og vestlig teknologi som løsning til miljøproblemer udbredt gennem de historiske begreber knyttet til tidligere lovgivninger.

Perspektiverne af de overstående konklusioner er, at politik ikke bare determinerer tilskyndelse til bestemte handlinger. I politikken er indlejret roller og ansvarsområder, for eksempel i forhold til viden for forskellige aktører. Et politisk design etablerer strukturer og i de strukturer er indlejret forståelser, og på denne måde struktureres mulighederne for fremtidig handlen. Det er derfor vigtigt at inkludere disse overvejelser i politik design diskussioner. Endvidere er kanalerne gennem hvilke politikken ankommer til virksomheden i nogen grad med til at bestemme hvilke emner der sammenkædes.

Diskursive forløb

I løbet af mellemkrigstiden handlede den polske identitets debat om at definere Polen og polakker som selvstyrende og uafhængige af den omkringliggende verden. Det ”andet” blev ignoreret, som det for eksempel skete med de mange ikke polske etniske grupper indenfor landets grænser. Det billede af Polen som selvstyrende og uafhængigt blev destabiliseret af anden verdenskrigs udbrud og den efterfølgende tyske og sovjetiske besættelse af Polen. Herigennem blev uafhængighed transformeret til en samfundsmæssig konsensus om, at stort set alt skulle gøres for at få Polen til at forblive uafhængigt. Denne hegemoniske konstellation af ”Forblive Polsk” dominerede identitetsområdet tror jeg gennem hele den efterfølgende kommunistiske periode. Kommunistregimets fald i 1989 destabiliserede denne hegemoniske konstellation og den blev langsomt erstattet af den nye hegemoniske konstellation ”Tilbagevende til Europa”, hvilket i Polen blev forstået som integration i Vesteuropa som en sikring af at forblive uafhængige også i fremtiden. Midlet til at opnå dette mål var EU medlemskab. På denne måde har uafhængighed forstået på forskellige måder været et centralt emne i polsk identitet fra mellemkrigstiden og til årtusindskiftet.

Efter den ødelæggende første verdenskrig søgte det landbrugsdominerede Polen at bygge en industrisektor, skønt den økonomiske krise i 1930'erne begrænsede anstrengelsernes succes. Målet var at modernisere industrien og skabe økonomisk vækst i et Europas dengang fattigste lande. Anden verdenskrig ødelagde en stor del af den polske industri. Den efterfølgende kommunistiske magtovertagelse afgjorde at den videre industrielle opbygning skulle følge Sovjets eksempel, dog forblev målet om at modernisere industrien og skabe økonomisk vækst uforandret. I 1970'erne løb den kommunistiske industrialiseringsmodel ind i store økonomiske vanskeligheder, og løsningen blev at importere ny vestlig teknologi, men målene forblev uændrede. Kommunistregimets fald ændrede ikke målene om økonomisk vækst og modernisering af industrien. Den største ændring var prisliberaliseringerne mens privatisering af industrien skred langsomt frem. Alt i alt synes de diskursive forløb på industriområdet at have været forholdsvis stabile til trods for de mange historiske brud.

I mellemkrigstiden var naturfredning et centralt emne på miljøområdet, skønt Polen også fik begyndende industriel miljøregulering i denne periode. I den tidlige kommunistiske periode

blev miljøspørgsmål stort set tilsidesat, opbygningen af den industrialiserede nation var det overordnede mål. I løbet af 1980'erne udgjorde industrielle miljøproblemer et sundhedsproblem i de mest forurenede dele af Polen. Miljøtemaet blev knyttet til "Reform" diskursen, således skulle modernisering af samfundet automatisk løse problemet med miljøet. Efter kommunisternes fald, gled miljøtemaet i baggrund i forhold til den politiske dagsorden, specielt på grund af den økonomiske recession og det dermed begrænsede økonomiske råderum. Imidlertid blev miljøtemaet igen centralt i Polen i midten af 1990'erne, primært på grund af pres fra EU. Således har afvejningen af miljøproblemer i forhold til økonomisk vækst været et centralt tema i Polen siden 1980'erne.

Appendix VII

Summary of PhD Thesis

Industrial Environmental Practices in Polish Firms – a Discursive Perspective

PhD thesis by Trine Pipi Kræmer

The study investigates how discursive developments in Poland interact with industrial environmental practices in five production firms. The analysis of the discursive development covers the period from the end of World War I to the turn of the century. The areas in focus are identity, industry, and environment. The five case firms all had a Communist past. The firms represent three different industrial sectors; i.e. textile, energy, and publishing and printing industries. Furthermore, the firms are both private and state owned as well as in the process of privatisation.

Connecting Discursive Developments and Industrial Environmental Practices

“Taken-for-granted” understandings have been revealed among the industrial environmental practices of the five firms. The “taken-for-granted” understandings are implicitly embedded in the industrial environmental practice in one or more firms. The “taken-for-granted” understandings relate to societal discursive development and are brought to the firms via different channels.

Legislation is a powerful channel to connect discursive development to the industrial environmental practices. I have found three “taken-for-granted” understandings related to different legislative channels among the case firms. The most evident relate to the Polish environmental taxes on emissions. The “taken-for-granted” understanding in this relation is that the firms are not accountable for taking action to solve environmental problems. They see that as the responsibilities of the environmental authorities. I call the understanding “*Environmental Problems ... Not Our Problem*”. Along with the environmental taxes follow a distribution of knowledge, responsibilities, and roles, thus, the taxes to a high degree structure the industrial environmental practices at the firms. In this way, the discursive development in the environmental area is

institutionalised in the legislation.

The legislative channel does not only relate to contemporary legislations, two of the “taken-for-granted” understandings concern previous legislation at least in parts; i.e. “*Technology Is the Solution*” and “*Western Technology Is Best*”. The channels of these views appear diffused today, however, in the 1970s and 1980s, policy initiatives existed providing financial aid for implementation of Western technology in Polish industry. The “taken-for-granted” understandings connect in some degree to these policies. Even though the policy changed, these core understandings remained as traces of old policies. The traces of previous policy guide especially solutions of environmental problems in a direction of Western technology.

The market also works as a channel to connect the discursive developments and industrial environmental practices, although it is more diffused than the legislative channel. The market channel provides awareness of issues with rising prices. At the same time, issues arriving to the firm via different channels appear separately, e.g. as the energy and environmental fields. The “taken-for-granted” understanding in this connection is “*Energy Is Not an Environmental Issue*”.

The last type of channel identified in this study is the public debate channel. It associates with efforts to break-up “taken-for-granted” understandings – a wish for change. The examples are the two “taken-for-granted” views of “*All Firms Are Not Equal*” and “*Polish Suppliers Are as Good as Westerners*”. These views could lose their “taken-for-granted” status by being questioned, especially if the questioning disperses to many actors. The issues questioned in these cases are the responsibilities, roles and knowledge distributed by the environmental taxes and western technical solutions to environmental problems, which are spread by the historical concepts related to previous legislation, respectively.

Perspectives of these findings are clearly that policies direct more than incentives for specific actions. In policies roles and responsibilities are embedded e.g. in relation to knowledge of the different actors. The policy design establishes structures embedding understandings, and thereby it frames the possible actions for the future. It is vital to include these considerations in policy design discussions. Furthermore, the channels through which the policies are sent to some degree determine which issues that are interlinked.

Discursive Developments

During the interwar period, the identity debate concentrated on defining Poles and Poland as autonomous and independent of the surrounding world. The “otherness” was ignored, e.g. the many non-Polish ethnical groups within the Polish border. The image of Polish identity as autonomous and independent was undermined by the outbreak of World War II and the following German and Soviet occupation of Poland. Thus, the independency issue was transformed into a societal consensus stating that almost anything could be done to keep Poland an independent country. This hegemonic constellation of “Remaining Polish” dominated the identity area for the whole Communist period. The fall of the communist regime in 1989 destabilised the hegemonic constellation of “Remaining Polish”, and slowly it was replaced by a new hegemonic constellation of “Return to Europe”, which in Poland was interpreted as integration into Western Europe as a way of remaining an independent country also in the future. A membership of the EU would fulfil the aspiration. In this way, independency understood in different ways has been the core of the identity issues in Poland from the interwar period to the turn of the century.

After the damaging World War I, the primarily agricultural Poland sought to industrialise, although the economic recession in the 1930s restricted the success of the efforts. The objective was to modernize and to create economic growth in one of the poorest countries in Europe at that time. World War II destroyed a great part of the Polish industry. The subsequent Communist takeover settled the industrial development to follow the Soviet ideal, however, the objectives remained to modernize industry and create economic growth. By the 1970s, the Communist development model had run into deep economic problems, and the solution seemed to be import of new western technology, but the overall objectives remained the same. The fall of the Communist regime did not change the objective of economic growth and modernisation of industry. The biggest change remained the liberalisation of prices, while privatisation of the industrial sector proceeded slowly. All in all the discursive developments in the industrial area has been comparatively stable despite the ruptures in history.

During the interwar period nature conservation was a major environmental issue. However, in this period Poland also experienced the introduction of industrial environmental legislation. In the early

period of Communism the environmental issue was more or less neglected, as the building up of an industrial nation was the overall goal. By the 1980s environmental problems due to industrialization constituted a health risk in the most polluted areas of Poland. The environmental issue became linked to the “Reform” discourse, thus modernisation of society would automatically solve the problem. After the fall of the Communist regime, the environmental issue moved down the political agenda, especially due to the hard economic situation and thereby limited economic resources. However, by the mid-90s, the environmental issue again became central in Poland mainly due to pressure from the EU. Since the 1980s the central environmental issue has been the importance of industrial environmental problems in relation to economic growth.