

The Roles of Voluntariness and Coercion in
Japanese Pollution Control Agreements
and Their Distinction from Voluntary Agreements

by

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A thesis submitted in partial fulfillment of the requirements
for the degree of

'Diplom Regionalwissenschaftler Ostasien (Japan)'

to the

Chair of Politics/East Asia
(Faculty of Social Sciences)

University of Duisburg-Essen

October 2011

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This paper was submitted as diploma thesis to Prof. Dr. Thomas Heberer and Dr. Kerstin Lukner of Duisburg-Essen University on October 28 2011. The version at hand includes minor corrections regarding typography and abbreviations. It is released under Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0).

Abstract

Pollution Control Agreements (PCA) are a particular feature of the Japanese environmental policy landscape. PCAs are being credited with having helped reduce Japan's post-war pollution problems substantially. They are often regarded as voluntary agreements (VA) without question. But are PCAs indeed VAs? To answer this question, local government and private industry interaction in the run-up to PCA conclusion is examined. The approach used to do this is Fritz Scharpf's Actor-Centered Institutionalism framework, a simplified type of game theory, that is tailored for policy research and is positioned on a medium level in terms of abstraction. A game-theoretical model showcasing typified government-industry interaction is constructed on the basis of academic literature and empirical data, e.g. interviews and surveys. With the help of this model, conclusions regarding the actors' motivations are drawn: What drives PCA formation is not the abstract threat of alternative regulation, which is routinely present in VAs. It is instead a threat of a more immediate nature, and is often related to administrative guidance, itself a somewhat unique feature of Japanese policy-making. An immediate threat of this kind is inconsistent with the definition of VAs. PCAs cannot therefore be classified as VAs. Instead, they should be viewed as an informal type of command and control regulation that is flexible and potentially very effective while at the same time lacking in terms of transparency and accountability.

Acknowledgments

The author owes thanks to his loved ones for their unwavering support, to his thesis advisors for their kind assistance, and to René Trappel for his invaluable and patient help all the way from conception to completion. Thanks are due to Julia Harter for proofreading and to Ulrich Zimmermann and Eva-Maria Kneis for more proofreading.

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Abbreviations

AC	Actor Constellation
ACI	Actor-Centered Institutionalism
AG	Administrative Guidance
C&C	Command and Control
EA	Environmental Agency ¹
EU	European Union
HD	Hierarchical Direction
METI	Ministry of Economy, Trade and Industry
MI	Mode of Interaction
MITI	Ministry of International Trade and Industry ²
NGO	Non-governmental Organization
NSH	Negotiations in the Shadow of Hierarchy
PCA	(Environmental) Pollution Control Agreement
US	United States
VA	Environmental Voluntary Agreement

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1. Japan's sub-cabinet level Environmental Agency was replaced by the Ministry of the Environment in 2001.
 2. In 2001, MITI was replaced by the newly created METI. For the sake of simplicity, it is referred to as MITI, even if both MITI and METI are meant.

1. Introduction

1.1 Research Question

The advent of industrialization has benefitted people in many countries tremendously. The amenities of mass production and ubiquitous power have not come without their price tags, however. One of the most shocking has been that carried by environmental pollution.

It is almost beyond dispute that the problem of pollution necessitates government intervention. There is not quite so much agreement on what form this intervention should take. Generally speaking, there are three main types of policy instruments that government can use to mitigate pollution. The traditional approaches are command and control (C&C) regulation and market mechanisms such as environmental taxes. Beside these two, a third and comparatively new policy instrument is that of voluntary approaches.

There are a variety of different types of voluntary environmental approaches, including both public and private sector efforts. They are all based on the idea, however, that under certain conditions firms can decide to commit themselves to improve environmental performance beyond the requirements of existing regulation.³ The type of voluntary approach that is of importance in this thesis is that of environmental voluntary agreements (VAs), which are jointly established by both businesses and government.

As diverse as they are, all voluntary approaches share one unifying feature that distinguishes them from standard regulation: Businesses are not motivated to participate by threats of fines or taxes backed by the hierarchical power of government. Often, VAs include positive incentives that make voluntary schemes attractive for businesses.⁴

One threat firms do have to anticipate is that of government changing its regulatory approach if voluntary means fail to provide the desired results. In fact, without this threat few voluntary approaches would gain traction or deliver significant results.⁵

But even as it is, the track record of voluntary approaches is modest at best.⁶

3. Croci 2005b:6; Paton 2002:37.

4. Segerson and Miceli 1999:105; Alberini and Segerson 2002:162.

5. Glachant 1994:47; Harrison 1998:59.

6. Börkey et al. 2000:89f gauge their environmental effectiveness as “rather modest.” Brouhle et al. 2005:122 assess evidence of it as “mixed” but note a lack of data. Braathen 2005:335 sees high costs and the distinct possibility of VAs lowering effectiveness of policy mixes. Organization for Economic Co-operation and Development 2003:14 regards voluntary

Critics fundamentally doubt their environmental effectiveness. Common objections are, that the goals are too unambitious to be significant or are not met, mainly due to the absence of effective enforcement. The main purpose of voluntary approaches, it is alleged, is not to produce meaningful results in pollution abatement. Instead they are often dismissed as a platform for both businesses and politicians to draw attention to their professed social and environmental conscientiousness or, even worse, suspected to be collusive arrangements between the two groups.⁷

In Japan, however, there is a type of policy instrument that, at first glance, seems to prove that voluntary approaches can indeed be environmentally effective. This approach is called *kōgai bōshi kyōtei* [pollution control agreements] (PCAs). Japanese PCAs are concluded mostly by local governments and single or few companies at a time, sometimes even at the level of single plants. In contrast, most of the more familiar VAs in Europe and the United States are concluded by (supra-)national authorities and business or industry associations.

There appears to be wide agreement on two points by both Japanese and Western scholars: First, PCAs are, on the whole, held to be environmentally effective.⁸ Second, there is the notion that PCAs are VAs.⁹ In consequence, it seems almost self-evident that “PCAs [...] may provide good examples of how and when voluntary schemes can be effective.”¹⁰

Concerning the first point, this thesis has neither means nor reason to doubt it. The effectiveness of PCAs is therefore taken as a given. Regarding the second point, this thesis will argue, that the conception of PCAs being VAs is not only a common notion but also a false one.

The reason for the misconception arises from two different sources. One is the common absence of a definition of what constitutes voluntariness in voluntary approaches. The other is that the specific conditions of PCA conclusion are often overlooked. Each of the issues have been dealt with on their own, to varying degrees. But, as far as can be ascertained, the intersection of the two has not yet been thoroughly examined.¹¹

As far as the concepts of voluntariness and coercion are concerned, there is a long

approaches' environmental effectiveness as questionable.

7. See e.g. Glachant 1994:48.

8. See e.g. Weidner 1996:274; Imura 2005b:349f.

9. See e.g. Tsutsumi 2001:146; Organization for Economic Co-operation and Development 2003.

10. Imura 2005a:172; also see e.g. Tsutsumi 2002:118.

11. Even Tsutsumi, while describing the agreements as C&C-type environmental policy tool, does not seem to consider that they may be something else than VAs. Tsutsumi 2001:146,151.

tradition of academic work. Chapter 2.1 will provide a brief summarization of the philosophical underpinnings. Chapter 2.2.4 will build on these concepts to establish a definition of the permissible degree of coercion in VAs, if there is any. Regarding the specifics of PCA conclusion, there are quite a few observers suggesting that government coerces firms into signing PCAs.¹² This is, authors surmise, achieved with often informal governmental directives, known as *gyōsei shidō* [administrative guidance] (AG). But precisely because of the informal nature of AG and the lack of written records, coercion through AG is seldom presented as more than an assumption.

The purpose of this thesis is to corroborate or disprove this supposition. At first glance, how to approach the issue may appear to be a vexing problem. The interaction cannot be observed directly and, what is more, many of the concepts rely on the political actors' internal processes that cannot be observed at all.

Fortunately, actor-centered institutionalism (ACI) is an analytical framework that is designed just for such a purpose. This approach draws conclusions about interactions between political actors by examining them and their interaction setting with game-theoretic methods.¹³

1.2 Hypothesis and Rationale

The primary hypothesis advanced in this thesis is: Japanese pollution control agreements are not voluntary agreements.

VAs are defined first and foremost by their voluntariness. Both C&C regulation and market-based instruments are backed by the immediate coercive threat of punishment. By definition, VAs on the other hand do not allow genuine and substantial threats, with one exception: The regulator can ex- or implicitly threaten to abandon the negotiations and to use a different policy instrument, e.g. C&C regulation, instead. The threat lies in the assumption that for businesses a higher cost is likely to be associated with this alternative policy tool than with the VA.¹⁴

There are some scholars who take issue even with this threat, regarding it as calling voluntariness into question.¹⁵ Formally, it may be true that there can be no such thing as purely voluntary agreements with government as an actor. In this thesis, however, a more pragmatic approach is adopted and the threat of

12. See e.g. Sugiyama and Imura 1999:131; Matsuno 2001:19.

13. Scharpf 1997:16.

14. Segerson and Miceli 1999:105; Scharpf 1997:214 note 3.

15. Börkey et al. 2000:6.

alternative regulation is defined as explicitly permitted in VAs.

But while PCAs are concluded under coercion, it is argued in this thesis, the threat in question is not that of alternative regulation. Instead, local governments are using the tools of AG, that is to say the wide discretionary powers vested in them, to coerce companies into signing the agreements. This is why, it is contended, PCAs are not VAs.

PCAs should be regarded not as VAs but as relatively conventional, albeit flexible, C&C instruments. This distinction is not merely superficial, since the inclusion of PCAs among voluntary instruments is distorting the track record of the different policy instrument categories: the conventional wisdom that PCAs are VAs falsely attributes the credit for the environmental advances of PCAs to voluntary approaches. Instead, this credit is due to the category of flexible C&C tools, that PCAs actually represent. Categorizing PCAs as C&C instrument also means that the agreements are, under the surface, a policy instrument that may not be as uniquely Japanese as it is sometimes suggested.¹⁶

But, it might be contended, are AG, and by extension PCAs, not part of a larger system of mutual considerations? Is not industry's obedience to bureaucratic direction, including AG or PCAs, rewarded with administrative goodwill? While this overlying system of give-and-take is not specifically examined here, its existence is fully consistent with this thesis's conclusions on a subordinate level, as will be shown in chapter 4.

1.3 Approach and Theoretical Framework

A formulated explanation of ACI is not given at this point, since the approach is described in detail in Chapter 2.4. Here, only a brief summary of the practical approach is provided.

To arrive at meaningful conclusions about the degree of voluntariness versus coerciveness in PCAs, it is necessary to take an in-depth look at the interaction between the two actors concerned, industry and government.

This is, in simple terms, what ACI is designed to do. Its aim is to construct models of political processes through a simplified game-theoretic approach. It focuses on the relevant actors' features, their strategies, and the results from their interplay. The components are regarded as being, in large part, determined by the institutional setting. In the context of ACI, institutions are broadly defined as written and unwritten rules.

16. Ballatore et al. 2005:65; see chapter 4.

The ACI framework is used to construct a model that exemplifies the interaction between local government and local industry prior to PCA conclusion. The model is constructed on the basis of simplified and aggregated institutional information, while avoiding the fallacy of revealed preferences. The information is derived from academic literature and empirical data. This includes interviews, surveys and general observations.

There is one important exception, however: that element of the model, which describes the intrinsic element of interaction. The selection of this element is tantamount to corroborating or discounting the primary hypothesis. Because of its significance, it is not established directly, but determined in a process of elimination. In this way, it is ensured that no wrong conclusions are drawn on the basis of insufficient data.

In terms of abstraction, ACI is positioned in-between specific case studies and highly theoretical economical models. The model constructed in the analytical part of this thesis is therefore not limited to describing a single case of a PCA proposition, but is on the other hand dependent on the predefined institutional parameters that are applicable to the majority of PCAs.

1.4 Preliminary Notes

To avoid misapprehensions regarding terms or concepts, a few points are explained here. To begin with, in the hope of creating clarity, not confusion, a difference will be made between *voluntary approaches* and *environmental voluntary agreements* (VAs). Definitions of these terms vary. Here, however, the definition of Croci is used: VAs are joint public-private agreements where the public side pursues the objective of environmental improvement.¹⁷ Voluntary approaches, on the other hand, are defined more broadly and also include schemes that do not involve government and can thus not be classified as policy instruments.¹⁸ Some unilateral commitments, for instance, are counted among voluntary approaches, but not VAs.¹⁹ This thesis's focus is on VAs, but since a large part of the literature deals with voluntary approaches in a more general way, this term cannot be omitted.

It should also be noted, that the term *agreement* is used loosely here. As some scholars note, the expression *voluntary agreement* is redundant since the word

17. Croci 2005b:8.

18. Börkey et al. 2000:9.

19. Croci 2005b:8f

agreement, too, implies voluntariness, e.g. in contract law.²⁰ For convenience's sake, PCAs are described as agreements in this thesis, even though it is argued that they are not concluded voluntarily. For the same reason, PCAs may implicitly be counted among VAs, if this expresses the conventional sentiment.

While this thesis is discussing questions related to coercion and voluntariness, moral deliberations, i.e. whether or when laws *should* curtail liberties, will not be covered. Terms like *threat* and *coercion* are used free from normative valuations. Since, however, the coerced entities in the context of this thesis are corporations, there can be no infringement on individuals' basic liberties.

The stage of the policy making process that is of interest here is implementation. The phase of setting the goals is largely blanked out. It is surmised, however, that governments in Japan are better able to surmount the problem of gauging the marginal abatement costs than is usually the case.²¹ This is thought to be due to the increased flow of information facilitated by *amakudari*, embedded autonomy, or what Schaede describes as "consultative capitalism."²²

Since this thesis is primarily concerned with the question of how PCAs are concluded, aspects such as monitoring and sanctions that are commonly regarded as important in voluntary agreements are given relatively little attention. It will even be argued, that these features are less important in the context of PCAs than in that of VAs.²³

The effectiveness of PCAs as a tool for pollution prevention is not specifically examined here, either. They are commonly credited with having played an important role in the past, and it is widely agreed that they still do.²⁴ However, the effectiveness of individual PCAs can be expected to vary greatly.

While it is not the primary goal of the thesis, some inferences can be drawn from this thesis's conclusions in regard to the conditions necessary for the success of PCAs. As will be discussed in chapter 4, it is less the presence of e.g. concrete sanctions in the written agreements, a factor that is seen as important in the context of VAs, but rather the institutional setting with AG, that is of importance.

The distribution of PCAs is uneven across Japan, varying greatly e.g. from prefecture to prefecture. As Matsuno shows, PCAs are preferred in some

20. Börkey et al. 2000:9; Schmelzer 1999 note 2.

21. One of the main problems of C&C regulation is that the regulator has to know both the cost of pollution to society and the cost of pollution abatement to firms to determine an economically optimal level of pollution (reduction). See Glachant 1994:48.

22. Schaede 1995:315; also see chapter 4.

23. See chapter 4.

24. See e.g. Börkey et al. 2000:50; Matsuno and Ueta 2002:83.

localities, while e.g. AG without PCAs is preferred in others. This may be due to differing legal conceptions or other factors dependent on locally varying parameters like the distribution of emission sources.²⁵ This study focuses on localities in which PCAs are a preferred policy tool.

Finally, there is, it is commonly held, another kind of voluntary approach in Japan beside PCAs.²⁶ These are unilateral commitments, the perhaps best known of which is the *Keidanren Voluntary Action Plan on the Environment*.²⁷ Not being policy instruments in a stricter sense, this type of voluntary approach is not elucidated here.²⁸

1.5 Structure of the Thesis

The structure of this thesis is divided into two main parts, theory and analysis. In the first part, the fundamental concepts and definitions, as well as the framework for the analysis are provided. The second part comprises the construction of the game theoretic model that is at the core of the analysis.

The theory section provides the necessary foundation for this thesis (chapter 2). It sets out with an introduction into the basic concepts of voluntariness, threats, and coercion. Here, a definition of coercive threats is developed and refined for practical use in political analysis (chapter 2.1).

In the following chapter (2.2), an overview of the role of voluntary approaches in general, and VAs in particular, in environmental policy is given (2.2.1). Different dimensions of VAs are discussed and Japanese PCAs are tentatively categorized (2.2.2). The potential drawbacks and benefits of voluntary approaches, compared with standard regulation, are discussed (2.2.3). Finally, the definition for coercive threats from chapter 2.1 is further qualified for use in the context of VAs (2.2.4).

The theoretical base of Japanese environmental policy instruments in general and PCAs and AG in particular is laid out next (chapter 2.3). First, a brief history of Japanese pollution reduction efforts and general features of Japanese regulation are considered and the importance of local governments is highlighted (2.3.1). An introduction into the role of PCAs and their most important features is provided. The scholarly agreement about their effectiveness and the disagreement about their voluntariness are pointed out (2.3.2). Finally, the role of AG in the context of environmental policy and its connections with PCAs, the Iron Triangle, and the

25. Matsuno 2005:222f.

26. Börkey et al. 2000:44.

27. Keidanren 1997.

28. Börkey et al. 2000:9.

practice of *amakudari* are elucidated (2.3.3).

The thesis's analytical framework, actor-centered institutionalism (ACI), is detailed in chapter 2.4. After an overview of ACI's scope and premises as well as a short summary of its practical application (2.4.1), ACI's main components, actors, actor constellation (AC) and mode of interaction (MI), are explained in chapters 2.4.2–2.4.4. An elucidation of the institutional context, ACI's main source of explanatory power, concludes the theory section (2.4.5).

The analysis section is structured alongside the construction of the ACI model. Preliminary remarks and basic information regarding the model's application are stated at the outset (chapter 3.1).

The first actor to be examined is *industry* (3.1.1). Its preferences in terms of interests and institutional rules are inspected (3.1.1.1), followed by considerations about possible conflicts between interests and norms and an analysis of the relative importance of the public interest for industry (3.1.1.2). Finally, the resources of the first actor are explored and possible means of influence are discussed (3.1.1.3).

The second actor, *government*, receives the greater part of the attention, since its action resources are what determines government's power vis-à-vis industry and the possibilities in terms of influence (3.1.2). Corresponding to the first actor, government's interests, including possible conflicts of interest, are investigated first (3.1.2.1). Subsequently, the actor's special characteristics in terms of identity and its interaction orientations are highlighted, the latter providing information about the importance that government attributes to industry's welfare (3.1.2.2). As mentioned above, government's capabilities receive special attention because of their importance in the determination of the interaction's details. They are subdivided into seven categories, mostly concerning aspects of the power that government can utilize through the use of informal AG (3.1.2.3.a–e) but also other factors like the traditional status of the Japanese bureaucracy and effects of the close ties between government and industry (3.1.2.3.f–g).

The information that has been gathered in the categories of single actors is now aggregated for the construction of the model. Orientations and Resources are translated into simplified game-theoretic terms. First, the actor's strategies are defined (3.1.3). Next, they are combined to form the game matrix (3.1.3). Here, the interaction orientations defined for each of the actors are of special importance. They specify the mode of transformation that translates the unweighted matrix (3.1.4.1) into the weighted, effective matrix (3.1.4.2). Concluding the analysis of the AC, the results that can be obtained from an

evaluation of outcomes and payoffs are assessed (3.1.5).

The final element that has to be added to the AC is the MI (chapter 3.2). After the field of possible MIs is narrowed down, the actual MI is assigned by first determining that the incentive provided in the course of the interaction is a threat, not an offer (3.2.1). This is complemented by an analysis of the substantial nature of the incentive, in which the possibility of a regulative threat is excluded (3.2.2). Effectively, this already allows the selection of the correct MI, but an apparent contradiction, concerning the presence of negotiations in the interaction, still has to be resolved (3.2.3). Concluding the analysis section is an evaluation of the results derived from the ACI model, as well as a number of factors qualifying said results (chapter 3.3).

The thesis is brought to a conclusion by an interpretation of the thesis's results and their integration with previous research, as well as the consideration of possible future avenues for research (chapter 4).

2. Theory: Concepts and Working Definitions

2.1 Voluntariness, Threats, and Coercion

This study is concerned with issues closely related to the concepts of *voluntariness*, *coercion*, *threats*, as well as the underlying concept of *liberty*. Therefore, it is necessary to establish a conceptual foundation for these ideas on which the particulars of the case in question will be discussed later on. The main questions regarding the issue at hand are: what makes actions voluntary and when is an influence coercive?

The definitions of the above mentioned concepts are derived in large part from J. P. Day's considerations in his 1977 paper *Threats, Offers, Law, Opinion and Liberty*. Here, Day examines the considerations of Locke, Hobbes, Hart, and Bentham, among others.²⁹

In Day's understanding, *liberty* (or *freedom*, terms that are used interchangeably) and the connected ideas are purely interpersonal concepts. Intrapersonal action limitations can only be caused by a lack of power or ability, not from a curtailment of liberty.³⁰

If an action is performed without any constraint on liberty, it can be said to be *voluntary*. This term originates from the Latin *voluntarius*, which translates to *willing* or *of free will*. The differing translations of this word illustrate the source of some confusion: The ideas of acting *willingly* (or *gladly*) and acting *voluntarily* (or *freely*) may seem similar, even identical at first. Under close scrutiny, however, they turn out to be quite different concepts.

Day demonstrates why both Locke and Hobbes are mistaken in equating *willing* and *voluntary*. In short, "desire (or will) is irrelevant to liberty"³¹ and therefore also to the question of whether an influence is coercive or not. To the point of this thesis this is to say, whether or not someone is willing to submit to an influence, e.g. a law, is irrelevant to the evaluation of the influence's coerciveness.

The opposite holds true as well: Coercion limits liberty but leaves the will unaffected.³² More precisely, liberty (or freedom) is curtailed when the number of alternative actions is temporarily³³ reduced by somebody else.³⁴ This can only

29. Day 1977:257ff.

30. Ibid.:270.

31. Ibid.:259.

32. Ibid.:258.

33. Being *able* to perform an action (i.e. in the absence of interpersonal influence) is a necessary condition to both being free and unfree to perform it. This is why permanent limitation of actions is not curtailing liberty, but power (or ability). See *ibid.*:260f for details.

34. Ibid.:264.

happen through coercive influence. Non-coercive influence does not restrict liberty.³⁵ While overall there is a variety of different coercive modes of influence, the only means of coercion that is relevant in a political context is coercion by threats.³⁶ These threats have to take a complex form in the pattern “if (not)... then”.³⁷ They are, in other words, always linked to a demand.

Restriction of liberty in a political context is usually thought to mean coercion by the threat of legal punishment,³⁸ but extralegal punishment can be just as coercive. Here, the term *punishment* implies that the sanctioning entity is regarded as an authority, in modern political circumstances this usually means government.³⁹ As opposed to threats, *offers* are a non-coercive mode of influence since they increase the range of available courses of action, instead of curtailing it.

A question that will arise later is whether a threat’s coerciveness is diminished when it is unsuccessful, i.e. when the threatened refuses to obey the demand. It is not. This is because a threat that forbids action X under punishment of Y does not restrict liberty by making the subjects of the law unfree to do action X, but rather by making them unfree to do action X *and simultaneously* escape punishment Y. This is, presuming that the threat is serious and the enforcement effective. A threat-backed law, as any other threat, therefore cannot prevent an action but only deter from it.⁴⁰

A threat can be an open or tacit (veiled). Societal threats are often of the latter kind. Sanctions that are only implied can be limited in their effectiveness, for instance when they are not interpreted correctly by the threatened. Potentially, both can be equally coercive, however.⁴¹

Not every threat holds the same amount of sway. Only genuine threats, those that can be empirically presumed to be executed, are considered coercive.⁴² This expectation depends on two factors, namely the perception that the threatener is both intending and able to execute the threat. Only if both conditions are met, it is appropriate to speak of a genuine threat.

A simple way to define coercive and voluntary could thus be: A threat that is both perceived to be intended and capable of being executed is a coercive threat. An action that is performed in the absence of a coercive threat is voluntary.

35. Day 1977:268.

36. Raz 1986:149.

37. Day 1977:266.

38. Hart 1963:21.

39. Day 1977:268.

40. Ibid.:259, 268.

41. Ibid.:267.

42. Ibid.:269.

For practical use, however, this strict definition of voluntariness is not useful, since it is defining *any* threat, that is perceived as genuine, as coercive, no matter how weak and implicit. In dealings between a government authority and private individuals or organizations it seems impossible, however, to completely eliminate the perception of coerciveness.⁴³ Between the individual and the state, the holder of the monopoly on violence, there must necessarily exist a power divide. And since even potential future actions of the state have to be accounted for, there must always remain a suspicion that the state might use its power coercively at some point.

It is pertinent, therefore, to further qualify the definition of coercion in the political arena. Here, a definition building on the above is formulated. It is following that of Raz and describes the necessary conditions for a coercive threat made by G (e.g. government) to F (e.g. a firm) in the political realm. The threat is that G will bring about consequence C if F performs action A.⁴⁴

- a) G convinces F that it is likely⁴⁵ that G will produce C if F does A.
- b) G wants to convince F that the goal of a) is to prevent F from doing A.
- c) The prevention of C is an important reason for F not to do A.
- d) F believes that doing A and having C come about will be worse for F than not doing A and preventing C.

This definition is very precise but still has the downside of relying on the beliefs and intentions of the actors, which are not readily observable features. In order to prove that a threat is meeting the conditions of a coercive threat by this definition one is forced to largely rely on assumptions. Another possible solution is the use of data from interviews. If it is presupposed that interviewees are speaking the truth, their testimony can be used as the closest form of representation of their thoughts that is likely obtainable.

The detailed definition above will not be used inside the ACI model, but to examine the results obtained from it. This will be done in chapter 3.3, mainly by relying on statements of the concerned.

In summary, it can be said that threats coerce and curtail liberty, while offers do not.⁴⁶ In the political realm, a threat is considered coercive when it is deliberate,

43. Weber 1947 cited in Scharpf 1997:172.

44. Based on Raz 1986:148f. Of course, action A can also consist of *not* doing something.

45. Here, *likely* is not used to imply a certain probability, but is dependent on the perception of the threatened and the severity of C.

46. Day 1977:259.

genuine and linked to substantial consequences (relative to the discouraged action). Mandatory policy instruments like laws, which form the bulk of environmental regulation, are ordinarily backed by genuine and substantial threats and are thus coercive. For other policy instruments the case is less clear-cut. Voluntariness and coercion in the case of voluntary agreements (VAs) are discussed in chapter 2.2.4.

2.2 Voluntary Environmental Agreements

2.2.1 Foundations of Environmental Policy and Voluntary Approaches

In economic theory, many interpersonal problems can be solved through market transactions, and do not require governmental intervention. But there are several types of policy problems that cannot be solved by either individual action or market-based social coordination mechanisms. The solution of such problems lies in the purview of public-policy processes. Categorized on the basis of interpersonal aspects, Scharpf names three categories of policy problems: problems of coordination, redistribution problems, and externality and collective-goods problems. Only the last are at issue here.⁴⁷

Externality problems⁴⁸ arise, when a self-interested individual's actions have negative effects on other individuals, and there is an absence of clear property rights and/or sanction mechanisms that allow the affected parties to seek recourse.⁴⁹

The classic externality problem is environmental pollution.⁵⁰ In situations concerning pollution, it is often not feasible to solve the externality problems by means of tort or contract laws, since the transaction costs⁵¹ rise exponentially with the number of affected parties.⁵²

This is one reason why the established theory in the tradition of environmental economics regards government intervention as a necessity to correct most pollution related externality problems.⁵³ A number of different ways to alleviate

47. Scharpf 1997:69ff.

48. A classic definition of externalities, influenced by Kenneth Arrow and James Meade, is "a situation in which the private economy lacks sufficient incentives to create a potential market in some good and the nonexistence of this market results in losses of Pareto efficiency." Heller and Starrett 1976:10 This also means that the "cost of production [of this good is] not incorporated into, or reflected in, the market price of goods." Leane 1991:363.

49. Scharpf 1997:70.

50. Helfand et al. 2003:253.

51. Transaction costs refer to the costs necessary for an (economic) exchange to take place, but that do not add any value to that exchange. These costs can be categorized into: search costs, bargaining and decision costs, and policing and enforcement costs. See Lawson 2009:8.

52. Scharpf 1997:70.

53. Carraro and Lévêque 1999:4.

the negative effects of pollution, in this case to reduce pollution, have been devised in the past.

The most traditional way is the use of C&C regulation. Commonly, this entails setting and enforcing uniform emission standards. The first part is normally done by passing threat-backed legislation. Enforcement is relatively costly, requiring, among other things, a system of monitoring.⁵⁴

A second possibility is the use of economic instruments to correct prices to account for externalities. This aim is traditionally pursued by means of taxation and/or subsidization. An alternative involves the creation of a market for pollution permits, where a limited amount can be allocated or auctioned off. Economic instruments tend to be more flexible than traditional regulation, but their area of application is limited.⁵⁵

The third type of policy tool is called voluntary approaches. These are relatively new instruments in which policymakers take steps to facilitate co-regulation with the concerned actors.⁵⁶ The goal is to induce behavioral change without direct regulatory intervention. Voluntary approaches are seen as having the potential of greater flexibility and lower transactional and administrative costs.⁵⁷ Generally, voluntary instruments are used either in support of regulation or as to advance into new policy areas.⁵⁸

Voluntary approaches are a very diverse type of instrument. They can include very different stipulations as far as quantified commitments, monitoring or enforcement mechanisms are concerned. In order to maximize their effectiveness, it is important to use an approach that is context specific to the institutional setting of particular countries and industries.⁵⁹

The category of voluntary approaches also includes instances of self-regulation without government involvement, e.g. unilateral commitments. In a strict sense, these cannot, however, be considered part of public policy.⁶⁰

2.2.2 Voluntary Agreements and Pollution Control Agreements

Voluntary approaches that involve both public and private parties, in which the public side seeks to improve the environment, are commonly known as *environmental voluntary agreements* (VAs). This is the type of voluntary

54. Brouhle et al. 2005:124f.

55. Croci 2005a:ix, 4; Muller and Mendelsohn 2009:1714; Schmelzer 1999:56, 73.

56. Lévêque 1996b:48.

57. Alberini and Segerson 2002:157; Scharpf 1997:70; Segerson and Miceli 1999:105.

58. Chittock and Hughey 2010:2.

59. Gunningham and Sinclair 2002:3.

60. Börkey et al. 2000:9.

approach that is at issue here. Below, an overview of ways in which VAs can be categorized is provided. Subsequently, Japanese pollution control agreements (PCAs) are classified according to the prevailing opinion.⁶¹

There are various diverging categorizations for voluntary instruments.⁶² A good overview of voluntary approaches in general and VAs in particular is provided by Croci.⁶³ The categories presented there primarily differentiate approaches by the party that is responsible for the scheme's initiation and design. Most often, this means either government, business, or both.

However, the only category of interest here is that of *negotiated agreements*. These are designed in a bargaining process between government and business, of which either can be the original initiator. Third parties, such as NGOs or citizen groups, can also participate in the negotiations. Negotiated agreements can be legally enforceable, but this tends to be the exception.⁶⁴

Another distinction can be made in regards to the systematic scope of the voluntary approach. Börkey et al. differentiate target-based from implementation-based approaches. Target-based approaches allow the environmental objective to be set by the parties involved in the voluntary approach, while in implementation-based approaches it is set via legislation. In this case, the voluntary approach is merely concerned with the selection and implementation of the measures necessary to achieve this target.⁶⁵

On yet another level, the spatial dimensions encompassed by a voluntary approach can vary greatly, ranging from local initiatives to international schemes.⁶⁶ Based on these dimensions, it is possible to characterize Japanese PCAs as follows: If they are VAs, they are best described as local, target-based negotiated agreements.⁶⁷

One distinction, perhaps the most important for the issues discussed here, has not yet been mentioned. Segerson and Miceli divide VAs into those relying on positive incentives, such as subsidies, and those that use negative incentives, more specifically the threat of alternative, mandatory regulation.⁶⁸

In contrast to the other dimensions, there is no consensus over what type of

61. Croci 2005b:8.

62. Börkey et al. 2000:4; Lévêque 1996b:44ff; Burrit et al. 2005:285.

63. Voluntary public schemes, negotiated agreements, unilateral commitments either with or without government recognition, third party initiatives, and private agreements. See Croci 2005b:7ff.

64. Ibid.:7; Carraro and Lévêque 1999:3.

65. Organization for Economic Co-operation and Development 2003:19.

66. Chittock and Hughey 2010:1.

67. Croci 2005b:7.

68. Segerson and Miceli 1999:105.

incentive is used to encourage firms to participate in PCAs. While some authors argue that businesses are, at least in part, attracted with positive incentives,⁶⁹ others suspect that they are coerced into signing the agreements.⁷⁰

The type of incentive used in VAs is what primarily determines their inherent degree of voluntariness. This is elucidated in chapter 2.2.4. This issue is also a crucial part of the analysis and will be scrutinized in chapter 3.2.1.

2.2.3 Voluntary Approaches versus Standard Regulation

Voluntary approaches for pollution reduction are not altogether new, having been in use for over fifty years in some countries, e.g. Japan and the UK.⁷¹ For a long time, they were only marginal practices. Since the beginning of the 1990s, however, their use has increased sharply, particularly in OECD countries.⁷² As of 1999, Börkey et al. put the number of approaches in the EU at 300. There were 43 at the US federal level and about 30,000 PCAs on the Japanese local level.⁷³

A number of reasons are given to explain the increasing popularity of voluntary approaches. Some are related to issues of traditional C&C regulation: These include rising administrative costs,⁷⁴ an increasingly time consuming legislative process, as well as political hurdles to the introduction of environmental taxes. Some of these problems of C&C regulation are attributed to new, complex environmental issues, for instance global climate change. Proponents of voluntary approaches see a demand for innovative policy instruments that combine more stringent targets with increased flexibility in how to reach them. They argue that the conventional regulatory system can even constitute a barrier for more comprehensive and integrative approaches. The strong support that voluntary approaches receive from industry interest groups doubtlessly helps their propagation, as well.⁷⁵

Critics of voluntary approaches argue that the commitments are often demanding too little and are non-binding in many instances.⁷⁶ Some feel that voluntary approaches do not focus on the worst polluters and do not force them to abate more. Thus, it is argued, they can not be relied upon to ensure environmental

69. Weidner 1996:272.

70. Matsuno 2005:225f; Tsutsumi 2002:112

71. Chittock and Hughey 2010:1.

72. Glachant 2005:49; Börkey et al. 2000:28.

73. Börkey et al. 2000:28.

74. Ibid.:90 dispute that the administrative cost of negotiated agreements are in fact lower than that of traditional regulation.

75. Zarker and Kerr 2008:684; Carraro and Lévêque 1999:3; Zarker and Kerr 2008:674.

76. Brouhle et al. 2005:121.

protection.⁷⁷ Apparent benefits of VAs, such as the claim of being more expeditious than legislation are not universally agreed upon, and sometimes even described as myths.⁷⁸

There are problems that VAs are more susceptible to than traditional regulation or market-based instruments. One issue in particular is the heightened risk of *regulatory capture*. This term describes the apprehension that the regulated industry could abuse the cooperative process to essentially take control of the regulation. In terms of VAs, this usually means that the target is set at the level of the business-as-usual scenario, e.g. through collusion with policy makers. This way the regulation is benefitting the particular interests of the industry it was supposed to regulate, instead of maximizing social welfare.⁷⁹

2.2.4 Voluntariness and Coercion in Voluntary Agreements

Before voluntariness is examined in the context of Japanese PCAs, it is necessary to define a general baseline of what the requirements regarding voluntariness are in VAs. In chapter 2.1 a definition of voluntariness and coercion in a general political context was developed. In this chapter, this definition is further qualified for the use in the context of VAs.

It should be kept in mind that only the voluntariness in preparation of the conclusion of an agreement is at issue here. Voluntarily agreed upon sanctioning mechanisms can not be regarded as problematic in this sense. This is to say, no matter how coercive possible sanctions in the agreement may be, if it was concluded without coercion, they can, by definition, not be regarded as problematic in terms of voluntariness.

There is no full consensus on what degree of coercion is permissible in a VA. On one end of the spectrum are the adherents of the free market. They view voluntary instruments as the antithesis of government intervention and reject all VAs involving any kind of threat. Any interaction with government authority, holder of the monopoly on violence, can be met with some suspicion of coercion. This even includes agreements based solely on positive incentives. Thus, VAs can hardly ever be completely clear of compulsion.⁸⁰

On the other end of the spectrum, there must be some limit to the coercion admissible in voluntary agreements. The definition of VAs versus mandatory

77. Alberini and Segerson 2002:158.

78. Volpi and Singer 2002:152.

79. Organization for Economic Co-operation and Development 2003:43; Lévêque 1996a:203; Glachant 1994:48.

80. Sinclair 1997:535.

policy instruments, such as laws and market-based instruments rests mainly on VAs being voluntarily concluded. Above a certain degree of coercion, VAs stop to be voluntary in everything but name.

Below, a short survey of the relevant literature provides a general view of what degree of coercion is and is not considered permissible in VAs.

Burrit et al. characterize VAs as non-mandatory without any involvement of government coercion. Government participation is allowed as far as initiation, facilitation or co-ordination of the agreement are concerned. Direct government intervention on the other hand is considered to be off limits. The incentives for businesses to improve their environmental performance are not based on sanctions but on mutual benefits.⁸¹ VAs are considered to rely mainly on education and persuasion. However, negative incentives can include the potential threat of mandated requirements.⁸²

Regarded as a part of responsive regulation, as defined by Ayres and Braithwaite, VAs are an instrument at the very soft end of the spectrum, and relying heavily on co-operation.⁸³ Responsive regulation uses coercive power only after all subtler methods have failed. Burrit et al. share the view that the ex- or implicit threat of escalation to more direct and intervening instruments can be accompanying VAs.⁸⁴

This view is also shared by an OECD study on environmental voluntary approaches. The study does not mention any negative incentive that can be used during negotiations besides the public authorities' threat of alternative regulation.⁸⁵ The authors regard this threat as quite serious even consider it to call the voluntariness of voluntary approaches into question.⁸⁶ But while this view of the OECD may seem cautious, it is regarded by Burrit as "enthusiastic for the government to wield the big stick of regulation."⁸⁷

Alberini and Segerson define VAs as incapable to impose unwanted costs on polluters. In this view, VAs are necessarily offer-backed while mandatory instruments are typically threat-backed.⁸⁸ At the same time, they explicitly regard it as both expedient and legitimate to use a threat, explicit or implicit, to impose a

81. Burrit et al. 2005:284.

82. Burrit 2002 cited in Burrit et al. 2005:284.

83. The term used by Burrit is *Voluntary Initiatives*.

84. Ayres and Braithwaite 1992 cited in Burrit 2002:368; Burrit et al. 2005:292.

85. Börkey et al. 2000:6.

86. *Ibid.*:9.

87. Burrit 2002:376.

88. Alberini and Segerson 2002:157.

regulation, tax, or similar policy.⁸⁹

The threat of new mandatory instruments, e.g. in form of stricter standards, is seen as a possible part of incentives for VAs by a number of authors besides those mentioned above.⁹⁰ Even those who criticize the lack of threats in VAs do not point out the need for threats other than the credible threat of alternative regulatory or fiscal measures.⁹¹ Some authors view the same issue from the opposite perspective. They suspect firms to use voluntary efforts to avoid more stringent regulations in the future.⁹²

In the model of Segerson and Miceli, firms have three incentives to participate in voluntary agreements. The positive incentives are market-based payoffs from positive consumer response and cost savings and the possibility of receiving subsidies from the regulator. The only negative incentive featured is the threat of higher costs incurred by alternative future regulation.⁹³

Often enough, the legislative threat is even seen as necessary for the success of VAs. Without it, it is surmised, VAs could hardly be effective at all. The need of a coercive government to make voluntary action possible has been dubbed the paradox of voluntary approaches.⁹⁴ The poor performance of the ACEA agreement is one example where the failure of an agreement is ascribed to the absence of a legislative threat from the negotiations.⁹⁵ And indeed it would appear implausible in most circumstances for industry to take costly steps without a significant legislative or other regulative threat.

As a side note, the constrictions in regard to the allowed types of threats are largely confined to the government. The situation is different, if there is a business association with individual firms as voluntary members that is acting as an intermediary. As long as the individual firms have an exit option, namely renouncing their membership, the association has license to use all the internal sanctions at its disposal. Penalties can include fines, withdrawal of benefits, and revocation of membership.⁹⁶ Thus, if a business association is sanctioning uncooperative firms, the range of sanctions that can be employed without

89. Alberini and Segerson 2002:163.

90. See e.g. Braathen 2005:340; Schmelzer 1999:56; Allars 1990 cited in Burrit 2002:369f; Glachant 1994:44.

91. Volpi and Singer 2002:153.

92. Brouhle et al. 2005:121.

93. Segerson and Miceli 1999; Paton 2002:42.

94. Glachant 1994:47; Harrison 1998:59.

95. A VA between the European Commission and the European Automobile Manufacturers Association that had the goal to lower carbon emissions from passenger cars. See Volpi and Singer 2002:152ff.

96. According to the Generic Canadian Pro Forma for Voluntary Initiatives. See Burrit 2002:372.

curtailing the liberty of the individual firms is greater.

The only type of genuine and substantial threat being used as negative incentive for VA conclusion is that of alternative regulation or taxation. As mentioned above, some authors are inclined to doubt whether even this threat can be allowed in “genuinely voluntary” VAs. Coercive threats beyond that of regulation appear to be absent from the discussion of VAs.

For the issues dealt with here, it is conceded that a legislative threat can also be coercive under a strict definition like that of J.P. Day outlined in chapter 2.1. In light of the near-consensus among the authors cited above, it is determined that the threat of alternative regulation is explicitly permitted.

The regulatory threat is essentially creating a space for voluntary action through the coercive power of government.⁹⁷ If there is no threat, the space is not created because firms are not encouraged to participate. If the coercive threat is a different one, it demands rigid, predefined behavior under threat of punishment and it is not possible to speak of voluntary action.

To sum up, in light of the issues of liberty and coercion, discussed in chapter 2.1, and the additional insights gained in this chapter, the following can be observed: C&C and market-based environmental policy instruments firmly belong in the category of threat-backed policy instruments. In the case of VAs, on the other hand, this status crucially depends on the type of incentive the agreements are backed by.⁹⁸ In case of a positive incentive, VAs are considered offer-backed instruments. In case of the threat of alternative regulation as a negative incentive, they are found to be threat-backed. If the agreements are backed by another threat that meets the requirements for coerciveness as defined in chapter 2.1, they cannot be said to be VAs. Instead they have to be defined as a different kind of policy tool. In short, VAs can not be backed by genuine and substantial coercive threats with the single exception of the threat of alternative regulation. This rationale in part sets the frame for the analysis of Japanese PCAs in chapter 3.2.

2.3 Japanese Environmental Policy and Pollution Control Agreements

2.3.1 History and Characteristics

Historically, there has been a focus on C&C regulation through legislation on the national level. Yet, in the light of the rapid industrial growth of the 1950s and the serious pollution issues that went with it, local communities found their

97. Glachant 1994:48.

98. Segerson and Miceli 1999:105.

environment insufficiently protected by national laws.⁹⁹

Initially, the national government showed a lack of response to the alarming problems caused by unrestrained pollution, most notably the four big pollution diseases.¹⁰⁰ People in many cities and municipalities did not choose to wait for the national government to act and took matters into their own hands. This is why local governments and their policy innovations played a crucial role in the curbing of Japan's massive pollution problems during its post war economic rise. One of these innovations were PCAs, which are elucidated in chapter 2.3.2.¹⁰¹

There is some dispute on whether the credit for bringing about this so-called Pollution Miracle should go to proactive local governments or to social movements. Quite possibly, it was both: officials becoming locally proactive under social pressure.¹⁰²

By the end of the 1960s Japan's government caught up and took unprecedented steps to reduce pollution. Legislative action began with the 1967 Basic Law Against Pollution and continued into the 1970s under the so-called Pollution Diet, which passed fourteen laws against pollution.¹⁰³ Businesses cooperated with MITI's guidance, and quickly achieved substantial pollution reductions.¹⁰⁴

At the time that Japan started to seriously address pollution on a national level, technology was seen as a panacea for pollution related problems.¹⁰⁵ For some time, this approach was highly successful. Japan not only caught up with other industrialized countries but became world leader in pollution control technology.¹⁰⁶ However, this approach also entailed that the focus of environmental policy making was for the most part on remedies ex post rather than anticipatory and precautionary measures ex ante.¹⁰⁷

It speaks volumes, that the concept of *kankyō* [environment] only began to become commonplace in the course of the rampant pollution of the post-war era.¹⁰⁸ Ecosystem degradation and other green issues were largely neglected for a long time, e.g. in the design of the Basic Law Against Pollution.¹⁰⁹ An

99. Chittock and Hughey 2010:2.

100. Mercury poisoning in Minamata and Niigata, asthma in Yokkaichi due to sulfur dioxide and nitrogen dioxide, and cadmium poisoning in Toyama-ken. The latter, known as the *itai-itai disease*, had been an issue for over 50 years, but even after the origin was discovered it took many years for government to react.

101. Matsuno 2005:215.

102. Broadbent 1998:114.

103. Broadbent 2005:112ff; Vinger 2008:8.

104. Broadbent 2005:126.

105. Vinger 2008:8.

106. *Ibid.*:6.

107. Barrett and Therivel 1991:75f.

108. Imura 2005c:78.

109. Barrett and Therivel 1991:75f.

environmental policy approach largely focusing on technological solutions may also help to explain what at times seems like cognitive dissonance: government authorities are keeping a sharp lookout for firms emitting too much of certain pollutants but at the same time they consent to the sealing of large stretches of soil with concrete.¹¹⁰

Today, there are signs that point to a growing emphasis on green issues. For example, an increasing number of environmental agreements are taking green issues such as biodiversity or habitat conservation into account. In some cases, they are specifically designed for conservation, e.g. by creating new nature reserves.¹¹¹

Public participation and informational freedom have been strictly controlled in the past, although this too has begun to change.¹¹² Inside predetermined boundaries, participation is nurtured and the government is providing structures for consensus building. Outside of this, the possibilities are very limited, with legal leverage being rather low for example.¹¹³ In some areas, e.g. public works, there are still particularly high barriers making participation difficult.¹¹⁴

Environmental policy implementation, the stage of the policy making process that is mainly at issue here, is characterized by discretionary cooperation: the Japanese bureaucracy enjoys wide discretion in setting environmental standards and cooperates closely with business to implement them.¹¹⁵

Important in this context is the principle of *jichi* [autonomy] of local governments. While being dependent on the central government in terms of budget, they enjoy freedom in terms of policy setting. This degree of decentralization has facilitated the development of new policy tools.¹¹⁶

This ties into another feature of the Japanese regulatory system. In many respects, the standards are relatively vague and lack specifics. Together with the high level of government discretion on local and municipal levels, this provides a great amount of administrative latitude to local officials.¹¹⁷

The preferences regarding environmental policy tools vary not only for certain applications, but also more generally between different localities. Local

110. The conspicuous role of the construction sector can also be explained, in large part, by its enmeshment with politicians, particularly the Liberal Democratic Party and the decision-making process for public works, among other things. See Imura 2005c:77f.

111. Tsutsumi 2001:146.

112. Barrett and Therivel 1991:75f.

113. see e.g. Leane 1991:376f; Broadbent 2005:118.

114. Imura 2005c:78.

115. Broadbent 2005:118, 127f, 131f.

116. Schreurs 2004:12; Broadbent 2005:118.

117. Broadbent 2005:118, 127f.

ordinances can be regarded as the most conventional policy tool on a municipal and prefectural level.¹¹⁸

Ordinances are used to set C&C standards on a local level. Prefectural and municipal ordinances may not infringe upon national laws or the Japanese constitution and are in this sense subordinate. Still, they are very influential, their effect being considered nearly equal to that of a national law.¹¹⁹ Ordinances are enacted by prefectures or municipalities and require approval from the respective assemblies. This can be a complex and protracted process. Many local governments regard the passing of ordinances as too time-consuming. They prefer to use more flexible tools in policy implementation if possible.¹²⁰

In addition, local governments have had concerns regarding the use of ordinances based upon possible conflicts with the preemption principle. Under this traditional legal theory, policy matters that are subject to national laws can not be further regulated by local ordinances. This, too has been a factor strengthening alternative forms of regulation like AG and PCAs.¹²¹ These two important features of Japanese environmental policy will be discussed in chapter 2.3.2 and 2.3.3.

In summary, local governments have played an important role in Japanese environmental policy in the last decades. In part, this has been due to a certain degree of autonomy from the national government they have been enjoying. In many localities, there has been a marked preference for policy instruments with little in the way of institutional obstacles. This preference is facilitated by the tendency of Japanese legislation to be indefinite, leaving a wide scope for decision making to the bureaucracy.

2.3.2 Pollution Control Agreements

As said in the previous chapter, pollution control agreements (PCAs) were developed by local governments in reaction to the rampant pollution in post-war Japan. Originally, PCAs were intended as a temporary emergency measure rather than a permanent feature. They have, however, turned into long-term tools for environmental policy. In some instances of local environmental problems, when other policy tools are not practical, PCAs are regarded as being without alternative.¹²²

In Japan, local governments are responsible for targeting environmental problems

118.Matsuno 2005:228ff.

119.Imura 1989:57f.

120.Weidner 1996:271f.

121.Yamanouchi and Otsubo 1989:228.

122.Tsutsumi 2002:118.

if the national ambient standards are not met in their area. PCAs have become an important tool helping them in accomplishing this goal.¹²³

Japan is regarded as one of the first countries to have adopted voluntary approaches for pollution prevention. First memos concerning pollution prevention were exchanged between Shimane Prefecture and local industry as early as 1952.¹²⁴ The one concluded in Yokohama-shi in 1964 is regarded as the first “modern” PCA.¹²⁵

Today, PCAs are very common and are playing a prominent role in Japan.¹²⁶ There are few estimates. The best put the number of PCAs in force in 1999 at around 31,000.¹²⁷ About 40,000 PCAs had been concluded in total.¹²⁸ Each year between 450 and 1,200 new agreements are concluded.¹²⁹

In 1999, about 50 percent of municipal governments and practically all prefectures as well as large cities with a population of over 300,000 had signed PCAs with businesses.¹³⁰ On average, municipalities had concluded 18.3 PCAs. A fifth of all local governments have only signed one PCA, while large cities often have 50 or more PCAs. The distribution roughly parallels that of polluting firms above a certain size.¹³¹ In the last decades, the data shows, there has been diffusion of PCAs from the level of prefectures and large cities to that of municipalities.¹³²

While PCAs are widely used by Japanese local governments, they are not equally important in all cities and prefectures. Some localities favor PCAs, while in others similar results are achieved with either ordinances or AG.¹³³ In terms of functionality the three policy instruments seem to be in close proximity to each other. In terms of rigidity, PCAs range between the two other available policy tools: On the one hand, as hinted above, PCAs have the benefit that they are subject to fewer institutional obstacles than (local) legislation.¹³⁴ On the other hand, at least in the past, because of the absence of governmental commitments, some governments have preferred to use AG instead of PCAs. Signing a written agreement, they argued, meant that standards could not be tightened later.¹³⁵ The

123.Matsuno 2005:215–217.

124.Takasaki 1998:24.

125.Matsuno and Ueta 2002:46.

126.Börkey et al. 2000:50.

127.Matsuno and Ueta 2002:44; Matsuno 2001:5.

128.Sugiyama and Imura 1999:129.

129.For the period from 1989 to 1999, see Figure 9.1 in Matsuno 2005:220.

130.Matsuno and Ueta 2002:83.

131.Ibid.:44f.

132.Ibid.:83.

133.Matsuno 2005:215.

134.Börkey et al. 2000:45.

135.Fujikura 2005:42.

inclusion of passages specifically allowing this possibility should have put these fears at rest, however.¹³⁶

PCAs are typically drawn up before new factories are built or expanded, although sometimes they are concluded for existing sites.¹³⁷ Other than the mode of conclusion, which is examined later, they mainly differ from regular VAs in their scope. PCAs are concluded on the local, or at most prefectural, level with one or more firms at a time. This reduces the bargaining power on the side of industry and eliminates the problem of free riding, which is common in agreements with business associations.

With growing numbers, PCAs have become more uniform. Today, they usually consist of a standardized public part with relatively vague commitments, e.g. to comply with AG, and a confidential annex containing specific reduction figures. One of government's reasons for this secrecy, which is criticized at times,¹³⁸ is to discourage businesses from comparing the standards they are subjected to with each other. The aim is to retain government discretion and to keep PCAs flexible, a strategy that appears to be successful.¹³⁹

A reason on industry's side is the desire to conceal the confidential data regarding e.g. technologies, materials, and facilities contained in the PCAs' annexes from competitors. Industry and administration officials have, therefore, a mutual interest for secrecy, which is, Rie argues, compounded by a tendency of "technocrats [...] not to involve local people in the environmental policy process."¹⁴⁰ Local residents, however, are still more likely to be allowed to read the detailed agreements than the general public.¹⁴¹ Local authorities were found to keep this shared information strictly confidential from researchers in interviews.¹⁴² This makes it hard to scientifically examine PCAs based on the contents of the written agreements, which is the usual approach with VAs.¹⁴³

Over time the scope of PCAs has grown wider. The first PCAs only targeted sulfur oxide. Now, a single PCA in Chiba-ken for instance typically deals with a multitude of different kinds of environmental pollution. Often included are the issues air pollution, water pollution, noise and malodorous smells. Emission

136.PCAs signed as early as 1972 regularly contained clauses in which businesses pledged to adopt new technologies as they would become available. Fujikura 2007:102.

137.Matsuno 2005:218.

138.Organization for Economic Co-operation and Development 2002:22, 40, 175.

139.Tsutsumi 2001:151; Matsuno 2005:223; Chiba Prefecture 1994 cited in Matsuno 2005:223.

140.Tsutsumi 2001:151; Tsutsumi 2001:151 note 14; Tsutsumi 2002:117.

141.Weidner 1996:267, 272.

142.Tsutsumi 2002:111.

143.See chapter 4 for a reasoning why this approach may not be the most promising in regard to PCAs.

standards, as well as stipulations regarding the methods of measuring and reporting of pollutant levels, are also defined in the confidential annexes accompanying the primary PCAs.¹⁴⁴

Like the overall orientation of Japanese environmental policy, the character of PCAs has also begun to change. Traditionally, PCAs were called *kōgai bōshi kyōtei* [pollution control/prevention agreements]. Today, however, a growing number of agreements is called *kankyō hozen kyōtei* [environmental conservation agreement].¹⁴⁵ While the differences are not always clear-cut, on the whole the latter are thought to have a stronger focus on green issues.¹⁴⁶

PCAs are almost without exception stricter, and often far stricter, than requirements of the law, both national and local.¹⁴⁷ Their environmental effectivity is high, by most accounts.¹⁴⁸ This is made possible mainly by an effective local environmental administration and the low rate of corruption in government, both lowering transaction costs. Adding to this is a public that is simultaneously demanding government action and trusting in officials' competency and bona fides.¹⁴⁹

The decentralized nature of PCAs proved to be very cost efficient in regard to inspection and monitoring. Advances, such as the automatization of monitoring, allowed the oversight of environmental policy implementation to be managed with relatively little manpower, thus reducing administrative costs.¹⁵⁰

Economic efficiency of PCAs is somewhat diminished, however, by the criteria with which local governments select firms for the agreements, and by which the desired strictness of regulation is determined. In the name of "fairness," leniency is shown particularly in the case of small, but also medium-sized companies, with regard to their more limited funds. While the approach is designed to protect the existence of companies and to keep the social peace, it forgoes overall economic savings by not aiming to reduce emissions efficiently.¹⁵¹ Similarly, cost-saving adjustment processes in and between firms are constrained by mandatory environmental requirements covering specific emission sources inside a single firm.¹⁵²

144. Matsuno 2005:222.

145. Tsutsumi 2001:146.

146. Sometimes both names are combined to *kōgai bōshi kankyō hozen kyōtei* [pollution prevention environmental conservation agreements]. See Ibid.

147. Weidner 1996:272, 275; Imura 2005a:172.

148. Weidner 1996:274.

149. Imura 2005b:348; Broadbent 2005:118, 131.

150. Imura 2005b:349.

151. Tsutsumi 2002:117.

152. Weidner 1996:277.

To sum up, PCAs are local non-legislative instruments for pollution reduction with widely varying scopes and commitments. They are a common feature in Japanese local environmental policy. There is wide agreement that PCAs have been an effective tool in curbing pollution. The environmental standards, while usually confidential are thought to be comparatively strict.

It is widely agreed upon that the tools and resources available to governments in the context of AG are used to enforce PCAs.¹⁵³ There is disagreement, however, on whether the same instruments are used to effect PCA conclusion. While many scholars surmise that this is the case,¹⁵⁴ there are also differing opinions that emphasize voluntary conclusion.¹⁵⁵ This is the main issue in question here and will be examined with the help of the ACI framework in the analysis part (chapter 3).

2.3.3 Administrative Guidance

Gyōsei shidō [administrative guidance] (AG)¹⁵⁶ is “a perfectly logical extension of the capitalist developmental state, with its emphasis on effectiveness rather than legality.”¹⁵⁷ It has been both lauded as a vital tool in Japan’s economic rise and criticized as ambiguous, non-transparent, unfair, and illegitimate.¹⁵⁸

Pollution control policies in general and PCAs in particular are heavily reliant on AG.¹⁵⁹ Whether this is only for the enforcement of existing agreements or also for the conclusion of new PCAs will be scrutinized in the analysis section.

AG can be defined as an extralegal regulatory technique with the aim of conforming the behavior of the regulatee to administrative goals without *legal* coercion, since it is based on nominal voluntariness and is not enforceable in a court of law.¹⁶⁰ AG’s decisional flexibility and latitude are founded in large part on the vagueness of laws. Decisions under AG are usually unaccountable and sometimes perceived as arbitrary by recipients.¹⁶¹

MITI’s use of AG to steer Japanese post-war industrial policy is probably what the practice is best known for.¹⁶² During this time, the ministry consistently used guidance in issuing directives to the various industries to control cartels, fix prices

153. See e.g. Börkey et al. 2000:5; Organization for Economic Co-operation and Development 2009:30.

154. See e.g. Tsutsumi 2002:112; Matsuno 2005:225.

155. Organization for Economic Co-operation and Development 2009:30.

156. Throughout this thesis AG is used to describe both the practice as a whole and the informal exercise of power that is associated with the instrument.

157. Johnson 1982:273.

158. Fujikura 2007:90f; Weidner 1996:393; also see Muneyuki 1992.

159. Barrett and Therivel 1991:81; Weidner 1996:391.

160. Young 1984:926; Weidner 1996:393.

161. Weidner 1996:390ff.

162. Fujikura 2007:90.

and regulate production.¹⁶³

This high degree of ministry control on the economy was what led to Japan being called a *developmental state*. While the state of things has changed, Japan has not turned into a pure market-economy either. One reason for this is that Japanese ministries, first of all MITI, have been reluctant to relinquish control.¹⁶⁴

Less well-known than its use by MITI is AG's role in the efforts on municipal and prefectural levels to alleviate the serious pollution problems in the 1960s and '70s.¹⁶⁵ Two notable early examples are Ōsaka-shi and Kitakyūshū-shi. The AG in the city of Kitakyūshū was issued in the context of PCAs between municipal government and local industry. In Ōsaka-shi, AG was used without PCA. In both cases, rampant pollution was successfully reined in, despite the absence of explicit, written sanctions to punish non-compliance.¹⁶⁶ This, however, does not rule out unwritten threats or bargains. Given businesses' usual stance, both would seem more consistent than the claim that scientific data convinced industry of the necessity to curb pollution.¹⁶⁷

As can be seen from the historic examples, AG can be both addressed at industrial associations or sectors or be directed at individual companies. AG can involve both cooperative and coercive elements. It exerts control on businesses by complementing law based regulation and financial assistance, but also by tying license approvals to industry behavior.¹⁶⁸

Today, the use of AG is extremely widespread in Japan. Unofficial estimates of AG as a proportion of all regulation range from 50 to 90 percent.¹⁶⁹ AG can include both more formal guidance that is issued publicly and/or in writing, and directives that are not made public and are often only conferred by word of mouth. It is used by all levels of government.¹⁷⁰ Unwritten AG can be given in person, e.g. during inspections or in meetings with business or business association representatives. It used to be conveyed by telephone, but this practice was prohibited, at least formally, by a 1997 law.¹⁷¹ After a traditional absence of any legal basis for AG, this and similar laws have professedly aimed at a juridification of AG. They have only dealt with procedural aspects, however, leaving the

163.Carpenter 2008:53.

164.Ibid.:46; Johnson 1982:17ff.

165.See chapter 2.3.1.

166.Fujikura 2007:90f.

167.Ibid.:107.

168.Schreurs 2004:76; Barrett and Therivel 1991:81.

169.Schaede 1995:301; Weidner 1996:388.

170.Matsuno 2005:228f; Fujikura 2007:90f, 110; Weidner 1996:390.

171.Carpenter 2008:75; Fujikura 2007:110.

underlying power structures intact.¹⁷² On the other hand, courts have even been seen to reinforce the position of AG versus positive legal provisions.¹⁷³

An important source for the policy contents of AG is draft legislation, e.g. from legislation that fails to pass in assembly. An example for this is the environmental impact assessment bill. After it was defeated in 1983, many of its principles were adopted in form of national or local AG.¹⁷⁴ While in this case, the approach may seem laudable, it does raise questions about its consistency with basic democratic values.¹⁷⁵

As hinted above, a frequent point of criticism is AG's lack of transparency. Highly non-transparent policy instruments carry a high risk of corruption. Issues of partiality, regulatory capture,¹⁷⁶ or the government masking illegal cartels, are not at all unheard of. Due to AG's informality it is often difficult for aggrieved parties to seek restitution.¹⁷⁷ Such aberrations must be regarded to be the exception, however, since the system as a whole could not be functioning without a sufficiently high degree of bureaucratic ethics.¹⁷⁸

Another criticism is that of Barrett et al. who describe AG as seeming like a "bargaining process through which both sides can reach a mutual face-saving agreement rather than the most environmentally sound solution."¹⁷⁹ This view is not consistent with that of the majority of researchers who assert that the environmental performance gains achieved under AG are substantial.¹⁸⁰ In this thesis, the high environmental effectiveness of PCAs, and by extension AG, is treated as a premise, which is why here the latter perspective is given preference.

It is true, however, that AG is part of another, larger type of arrangement. The role that AG is playing in it and another significant and related feature of this arrangement are outlined below.

AG has not developed on its own but can be regarded as part of what is commonly known as the *Iron Triangle*.¹⁸¹ This complex, non-monolithic web of mutual consideration is pervading the relationship of politicians, bureaucrats and corporations. It came into existence during the Meiji Restoration and, although not unchanged, continues to be a dominant feature of the governing system. It is

172. Johnson 1982:265; Schaefer 1995:301.

173. Weidner 1996:394.

174. Barrett and Therivel 1991:94, 107; Hashimoto 1989:256.

175. Fujikura 2007:90f.

176. See chapter 2.2.3.

177. Johnson 1982:267.

178. Broadbent 2005:131.

179. Barrett and Therivel 1991:157.

180. See e.g. Bianchi et al. 2005:116; Fujikura 2005:32; Imura 2005a:183.

181. Sakakibara 2003:xi.

characterized by a rigid socio-political hierarchy with a powerful bureaucratic apparatus that is not subject to legal sanctions.¹⁸²

Commonly, AG is regarded as part of this system in that corporations, among other things can often take considerable influence on policy decisions, but in turn agree to generally accept the leadership of bureaucrats in the implementation.¹⁸³

This system, it has to be remembered, does not operate on an individual *quid pro quo* level. While cooperation is expected from all companies, their degree of influence on policy decisions must vary significantly.¹⁸⁴

There is persistent support for the bureaucracy's policies by politicians and by networks of former and present civil servants. They form the connecting link between bureaucracy and businesses.¹⁸⁵

Amakudari [lit.: descent from heaven] usually refers to the employment of a former bureaucrat by a company. Often these are industries the officials had been tasked with regulating. Originally, bureaucrats were required to be senior or elite officers, but over time lower tiers of civil servants were allowed to participate in the system as well. Retiring from office relatively early, often at less than 60 years of age, the new employment in the private sector complements the bureaucrats' comparatively modest government pension.¹⁸⁶ After leaving their government position, these so-called *Old Boys* stay in contact with their former colleagues, often fellow university graduates,¹⁸⁷ bonded together by long collaboration or even friendship.¹⁸⁸

By having former colleagues in high level positions in businesses under its administrative jurisdiction, ministry officials gain a certain amount of control over the firms.¹⁸⁹ The *amakudari* system is of importance for the exercise of AG since it can simplify and expedite its use as well as accurately gauge mutual expectations. The close relationship between the former and the present bureaucrats serves to facilitate relations between government and businesses.

The practice of *amakudari* is at times, especially by the US and Europe, criticized as excessive government intervention in industry, and a remnant of the economic system of the Japanese wartime.¹⁹⁰ Indeed, foreign companies that lack the

182.Carpenter 2008:31f; Broadbent 2005:108.

183.Broadbent 2005:108.

184.This is elucidated in chapter 4.

185.Carpenter 2008:31f; Broadbent 2005:108.

186.Carpenter 2008:70.

187.This bonding spirit is called *dōkō no ishiki* [alumni's sense of fellowship].

188.Schaede 1995:295f.

189.Carpenter 2008:70; Schaede 1995:302.

190.Imura 2005c:77.

personal contacts with government are often at a disadvantage.¹⁹¹

In summary, AG is an ubiquitous administrative instrument that is of high importance to environmental regulation. This includes the context of PCAs. Its extralegal nature makes it a powerful yet flexible tool that is time- and cost-efficient with low institutional barriers, but is at the same time questionable in terms of accountability, legitimacy, and fairness.¹⁹² Issues that further detail the importance of AG in the context of PCAs are included in the ACI model and are not repeated here. See chapter 3.1.2.3.

2.4 Actor-Centered Institutionalism

2.4.1 Policy Research and Actor-Centered Institutionalism

The actor-centered institutionalism (ACI) approach aims to describe and analyze various types of actors and their interactions. ACI introduces a system of game-theoretic models into empirical policy research. Its purpose is to explain past policy decisions. The framework offers a descriptive language facilitating the comparison of hypotheses and conclusions across various cases.¹⁹³ ACI links substantive policy analysis and interaction-oriented policy research through the representation of the underlying societal problem by the constellation of actors in the political process. In terms of abstraction the ACI approach is located on a meso level in-between case studies and highly theoretic economic models. Accordingly, mapping societal interests onto the AC's action orientations is a necessary step. This means it has to be shown to what extent the particular political actors choose to include social interests in their own action orientations.¹⁹⁴

Because of the unrealistic presumptions, game theorists are usually wary to claim explanatory validity. ACI claims that it can surmount these limitations merely by applying the principles of interdependent strategic thinking and equilibrium outcomes but without assuming omniscient actors.¹⁹⁵ Like rational-choice based theories, however, actors are thought to act calculatedly selecting the best strategies available, depending on their perceptions and preferences.¹⁹⁶

While the actors in question are represented by individuals, ACI does not focus on personal self-interest and thus does not share the deep distrust of public authority,

191.Schaede 1995:317.

192.Weidner 1996:390ff.

193.Scharpf 1997:30f.

194.Ibid.:72.

195.Ibid.:6.

196.Ibid.:31.

that e.g. public-choice theory has. Instead, the individual actors' institutional roles are highlighted, while individual interest is allowed for, too.¹⁹⁷

ACI operates on a number of assumptions: The strategic interactions of actors are what creates social phenomena and policy choices. This process and the outcome of these strategic interactions are predominantly influenced by the institutional context. In the ACI framework, conclusions about interactions between political actors and insights about the outcomes are therefore reached in large part by examining the institutionalized rules governing actors and their interaction.¹⁹⁸

The basic game-theoretic components of an ACI model are games, players, strategies and payoffs. A game requires the outcome of the interaction to be dependent on the decisions of all participating actors, i.e. they have to be interdependent. A player is an actor who chooses between alternative actions in a goal-oriented way. The strategies represent the alternative courses of action available to the players in the interaction. The payoffs rank the possible outcomes in the respective preference of each player.¹⁹⁹

Practical issues are mainly discussed in the context of their application in the analysis section. The construction of an ACI model is briefly explained, however. Simply put, at a practical level, the steps of the approach have the following order: The political process, that is often treated as a "black box," is disassembled into its component parts. For this purpose, ACI provides a multitude of different types of collective and corporate actors, their orientations and resources, and types of interaction linking them together. After accounting for all of the parts, they are re-assembled into the model. This is done in two steps. First, a static matrix, called AC, is created. It represents the actor's diverging interest and thus the field of conflict. Second, this matrix is furnished with a *mode of interaction* (MI), that determines by which principles the interaction occurs by examining institutional constraints and available structure.²⁰⁰ The process of creating an ACI model is shown in a simplified way in figure 1.

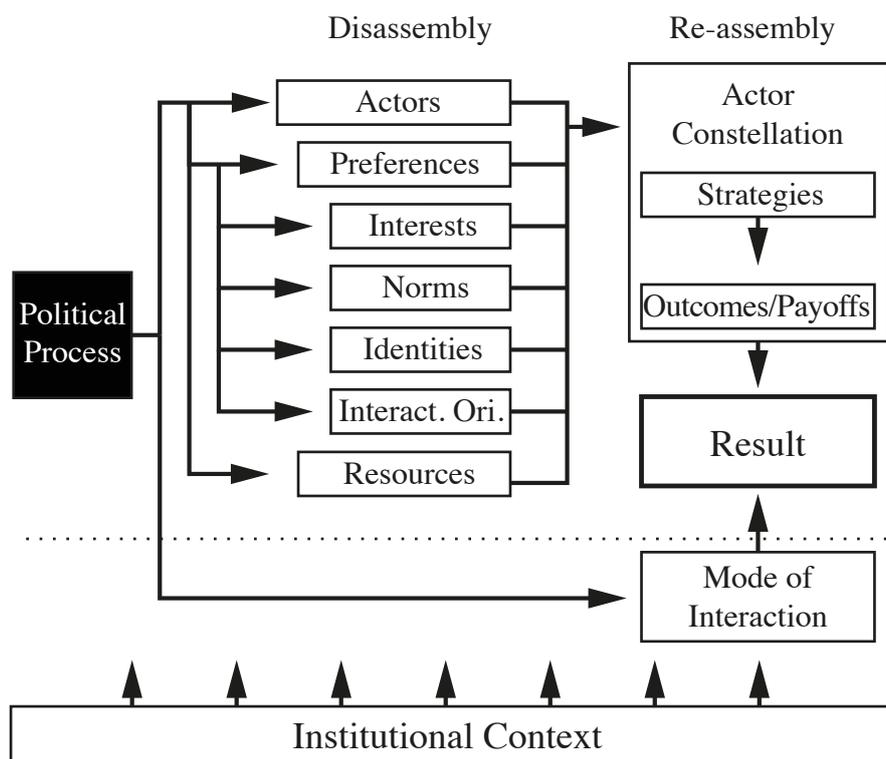
197.Scharpf 1997:180.

198.Ibid.:16.

199.Ibid.:8.

200.Ibid.:72.

Figure 1: Simplified schematic of the ACI model (Source: author)



2.4.2 Actors

Actors are characterized by their capabilities, perceptions and preferences. In the context of policy research, the relevant capabilities are outcome-related *action resources* that are created e.g. by institutional rules. The sum of an actor's capabilities determines which strategies are at their disposal. The perceptions and preferences of actors are subsumed under the term *action orientations*.²⁰¹

In the context that is investigated here, the focus is on preferences rather than on perceptions. This is because due to both the great number of single games represented by the model and the high informational permeability that is thought to be the case here, learning-effects can be assumed to correct perceptual issues.²⁰²

The actor orientations mainly feature simplified, institution-based assumptions, that are disaggregated into components. They are assumed to be role specific and based on normative expectations. The actor preferences are disaggregated into *interests, norms, identities, and interaction orientations*.²⁰³

While action orientations are subdivided into various categories, action resources

201.Scharpf 1997:43, 72.

202.See chapter 3.1.2.3.g.

203.Ibid.:61ff.

are only defined quite broadly by ACI. They can include a multitude of different assets, and are regarded as being specific to the situation. As a loose guideline the Lasswellian values, e.g. power and respect, are suggested.²⁰⁴

Games that describe political problems, it is worthwhile to note, are played by specialized political actors, not by the affected parties themselves. While they are normally supposed to represent the affected parties' interests, representatives' strategy choices can also be influenced by other deliberations.²⁰⁵ Although political actors can never represent the groups perfectly, the degree in which the societal and the political perception of a problem diverge can be illuminating.²⁰⁶

In the context of policy research, these actors tend to be larger units like branches of government or companies rather than individuals. The actions of such actors are constrained by their institutional context. Their goals, resources, and shared orientation are, for instance, defined by their institutional norms, among other things.²⁰⁷ These larger units, made up of multiple individuals but sharing a single purpose, are called composite actors. They can be generally considered to be capable of strategic action in the areas in which they operate.²⁰⁸

Composite actors are separated into two different categories, corporate and collective actors, that mark opposite ends of a spectrum.²⁰⁹ Collective actors are made up of smaller units and include e.g. social movements and business associations. The important type of actor in the issue here are corporate actors.

Corporate actors are identified by their hierarchical, top-down structure and their high efficiency. They are not dependent on the preferences of the individuals they are composed of, since individual preferences are neutralized by their relationship and compensation as employees. Ideally, corporate actors' "identities, purposes and capabilities [...] are autonomous from the interests and preferences of the populations they affect and are supposed to serve."²¹⁰

2.4.3 Actor Constellation

After substantive policy analysis has identified solutions for a political problem, these solutions have to be implemented by specific political actors. The set of actors concerned with the implementation of a specific solution is what is called

204. The Lasswellian values, named after Harold D. Lasswell, are subdivided into *deference values* (power, respect, rectitude, and affection) and *welfare values* (well-being, wealth, skill, and enlightenment). See Scharpf 1997:51.

205. *Ibid.*:45.

206. *Ibid.*:46.

207. *Ibid.*:12.

208. *Ibid.*:57, 59.

209. *Ibid.*:58.

210. *Ibid.*:57.

the actor constellation (AC). The actors' decisions are interdependent and the outcome therefore generally depends not on a single actor but on their interaction.²¹¹

The AC describes a given set of actors, their strategy options with associated outcomes and their preferences regarding these outcomes.²¹² In a simplified model, like it is used here, the AC describes the relationship of two actors, each having the choice between two strategies. In a constellation like this, there are four outcomes, created by the actor's coinciding strategies. When analyzing past policy decisions, alternative strategies have to be conceived to match those chosen in reality. Assumptions about possible alternative strategies must be physically and institutionally feasible. In the problem at hand, the alternative strategies are determined by strategies chosen in outliers.

A game's level of conflict can be gauged from the comparison of possible outcomes and related preferences in the specific AC alone. Still, without information about the MI, this remains a static picture and it is not possible to come to conclusions about the dynamics or outcome of the interaction.²¹³

In some cases it can be useful to examine ACs for (*strategic*) *dominance*. This term describes strategies that always provide superior (or at least equal) payoffs to the actor, irrespective of the other actor's choices. An actor can therefore select a strategy based on the knowledge of their own payoffs alone.²¹⁴

In this thesis, two different ways are employed to illustrate the AC:

The first is the matrix form that displays one actor's strategies in rows and the other's in columns. Each of the cells in the matrix represents an outcome. The payoffs of the *rows* actor are specified in each lower lefthand corner, those of the *columns* actor in each upper righthand corner.²¹⁵ By convention the outcomes are written as A/B with A being the chosen strategy of the rows actor and B that of the columns actor. In a simple game as it is used here, the strategies can be cooperation (C) or non-cooperation (N). Outcomes with payoffs are displayed as x/y with x being defined as the payoff for the *rows* and y that of the *columns* actor. See figure 2 for an example of a simple game with strategies and outcomes. For an example with payoffs see figure 3 in chapter 3.1.4.1.

211.Scharpf 1997:69.

212.Ibid.:12, 44.

213.Ibid.:72.

214.Ibid.:103.

215.Ibid.:7.

Figure 2: ACI matrix with strategies and outcomes (Source: author)

		Actor 2	
		C_2	N_2
Actor 1	C_1	Outcome C_1/C_2	Outcome C_1/N_2
	N_1	Outcome N_1/C_2	Outcome N_1/N_2

The second way to picture the outcomes of the AC is the negotiation diagram. A coordinate system is used to give an overview of the actors' payoffs in relation to each other and to the status quo and/or non-agreement point (NA). Each axis is assigned to the welfare of one of the actors and each outcome x,y is designated as a point in the negotiation diagram. This diagram is particularly useful when the welfare boundary, as determined by the Coase Theorem,²¹⁶ or modifications of the NA are to be pictured.²¹⁷ In this coordinate system, outcomes in the upper right hand quadrant signify a welfare improvement for both actors, while those in the lower lefthand quadrant denote a deterioration for both. Outcomes in the other quadrants are positive for one actor and negative for the other.

2.4.4 Modes of Interaction

Beside the distinctive features of ACI, there are two basic game-theoretic concepts that offer a high degree of explanatory potential, by providing information about the way a game plays out. The first concept is *strategic interaction*. Players attempt to anticipate each other's moves and adjust their own decisions accordingly. At the same time, they are aware that the other players are doing the same. The second concept is *equilibrium outcomes*. When in an equilibrium state, the game is locked in an outcome, where no player can improve

216.The Coase Theorem states that negotiations between actors will lead to voluntary agreements realizing the maximum welfare gain. The preconditions are rational and fully informed actors, negligible transaction costs, and the possibility of e.g. side-payments. See *ibid.*:116; Coase 1960 cited in Scharpf 1997:116.

217.Scharpf 1997:119f.

his payoff by changing his strategy alone.²¹⁸

The mode of interaction (MI) basically describes a certain way an interaction can take place, determining the outcome of a game together with the AC. Like other elements of ACI, the possible MIs are determined by the institutional setting. There are four distinct types of MI in ACI. The first two types can also be found in basic game-theoretic concepts. Here, they are called the *cooperative* and the *non-cooperative* type. The cooperative game allows binding agreements ex ante, whereas the non-cooperative game does not. In a cooperative game, the selection of strategies can therefore be the subject of negotiations and contracts. In the non-cooperative type, meanwhile, negotiations etc. can never be more than “cheap talk.”²¹⁹ In ACI the non-cooperative MI is called *unilateral action*, while the cooperative type is designated as *negotiations*.²²⁰

In addition to these basic types there are two more complex MIs that are distinct to ACI. The first is *majority decision*, where the strategies are chosen through a voting process. The second, is hierarchical direction (HD). Here, one player can unilaterally determine the strategies of the other by providing substantial positive or negative incentives.²²¹

In addition to the basic set of MIs, there is a special subtype of HD that will be of importance in the analysis of PCAs. This type of MI is called *negotiations in the shadow of hierarchy* (NSH). The term describes negotiations that are taking place “in the shadow” of a threat. At the game theory level this threat consists in the actor being forced to adopt a strategy if the negotiations fail.²²² At a more substantive level, the threat is that of alternative regulation.

As hinted above, some MIs are only possible under certain institutional conditions. In the case of HD and NSH this is the structural setting of hierarchical organizations or the state.²²³ As will be explained in chapter 3.2, these conditions are met here. The four MIs will be mentioned in greater detail in the construction of the model in chapter 3.2.

218.Scharpf 1997:10.

219.Ibid.:8.

220.Ibid.:45.

221.Ibid.:12, 45; Simon 1957 and March and Simon 1958 cited in Scharpf 1997:172.

222.Scharpf 1997:47.

223.Ibid.:46f.

2.4.5 Institutional Context

In ACI, institutions are systems that structure what actors can or cannot do. This includes written, e.g. legal, and unwritten, e.g. societal or extralegal, rules. These are generally obeyed rules linked to legal or social sanctions for violation.²²⁴

Institutions and the institutional context in which an interaction is happening are the most important explanatory element in ACI. The written and unwritten rules that shape the interactions have to be common knowledge to all the participating actors, and as such should be accessible to the researcher with relative ease.

The explanatory power of institutions is high, because sanctioned rules define the spectrum of available behavior by demanding, prohibiting or permitting certain actions. What is more, institutions specify the perceptions, goals and preferences, and in consequence the behavior of players. In other words, institutions shape both possible and actual behavior.²²⁵ While institutions do not influence outcomes in a deterministic way, they can still be said to define games in policy processes to a large extent.²²⁶

More specifically institutional rules are expressed in several aspects of the ACI model. They can make up a considerable part of the action resources of each actor, that are also, in a sense, an assessment of what an actor can or cannot do. As a result, institutions also determine the strategies and, implicitly, the selection of the MIs.

The AC has to be constructed on the basis of empirical information. In light of vast quantities of information, reducing the game's complexity to a manageable level becomes a necessity. While there are different strategies to accomplish this, the one important, though obvious, strategy here is called *decoupling*. All non-essential interdependencies for the specific policy interaction are treated as environmental factors or are discounted. Abstraction is required particularly in the game-theoretic aspects of the framework. The payoffs being by definition uniform is one example. This is to say, payoffs of the same value of either actor are being treated as equal in quasi-absolute terms. This, of course, is a simplification. For the sake of simplicity and comparability these drawbacks are considered justified.

224.Scharpf 1997:38.

225.Ibid.:39f.

226.Ibid.:40, 42.

3. Analysis

In the analysis section, the game theory-based actor-centered institutionalism (ACI) framework is utilized to construct a model of the interaction between industry and government prior to the conclusion of pollution control agreements (PCAs) in Japan. The insights gained with the model, particularly the mode of interaction (MI), allow inferences on the possible occurrence of coercion, as defined in chapter 2.2.4, in the interaction. In this way the hypothesis's validity is tested in chapter 3.2.

The two main components that make up the ACI model are the actor constellation (AC) and the MI. The AC forms a picture of what is known about the actors, their resources and available strategies, as well as their perceptions and assessments in regard to the potential outcomes. What is also apparent from the AC is the level of conflict inherent in the actors' preferential outcomes. Absent from the static picture represented by the AC, is information about procedural aspects. This missing element is provided by the MI.²²⁷

The predefined or known variables determining the ACI model are the actors, industry and government, their strategies, cooperation and non-cooperation, and the factual outcome: mutual cooperation, i.e. PCA conclusion. The purpose of the analysis is to establish the interaction that leads to this outcome. This is why the MI is treated as the unknown factor in the equation. It is not directly inferred from the literature or from empirical data, but defined in a process of elimination.

The model is intended to provide high applicability inside the contextual limits. This requires a certain degree of abstraction: by and large, individual examples are set aside in favor of aggregated information and generalized assumptions. The goal is to offer insights into how the conclusion of a PCA is achieved in a typical case. Due to the variability of PCAs, a universal applicability cannot be expected. The ACI model is constructed as follows: First, each of the individual actors' characteristics, action orientations and action resources, are compiled. Then, the AC, representing the area of conflict, is assembled. The individual characteristics described in the action orientations and resources are aggregated into a simplified structure. This is done by first outlining the strategies, and then combining them to form an interlocking matrix showing their outcomes and payoffs. Finally, the MI best explaining the interaction is determined. First, potential MIs that are not

227.Scharpf 1997:72f.

borne by the institutional structure are eliminated. Then, the remaining MIs are compared and tested for plausibility. All that remains then is to determine the nature of the underlying incentive to establish whether PCAs are based on coercion or voluntariness.

3.1 Actor Constellation

To reduce the complexity, ACI limits the AC to those actors that are essentially and directly participating in the political decision making process.²²⁸ In this model, the interest groups that are interacting in the creation process of PCAs are represented as two actors, industry and government. Interest groups that wield influence but do not usually partake in the process directly are taken into account separately.

Due to the confidential nature of the process, other groups, e.g. citizens, are not often involved in the conclusion of PCAs. If they are allowed to participate, it is usually as observers rather than negotiators.²²⁹ NGOs, which might be considered another potential actor, do not seem to often participate in PCAs either, even though environmental groups are held to be more influential on a local than on a national level. Although it seems to be slowly growing, NGOs have played a relatively minor role in the arena of Japanese environmental politics in the last decades.²³⁰ This and the local nature of PCAs, limiting participation from outside, are the likely reasons for the absence of NGOs from PCAs. Pressure exerted by the public on both government and industry is taken into consideration in a general way inside the primary actors' action-orientations.

Both primary actors, industry and government, are regarded as hierarchically structured and highly organized corporate actors. Both are therefore considered capable of strategic decision making. Also, both are considered to be rational actors that will attempt to maximize their utility. The issue that the actors are dealing with is a relatively typical problem that their decision making structures should be equipped to deal with.²³¹

Between the two actors, the AC's focus is primarily on government and its action resources. This is because, as will become evident, it is these resources that determine what is achievable in the context of the MI.

It is implicit in the model that government has made the decision to propose a

228.Scharpf 1997:71, 93 note 2.

229.Tsutsumi 2001:151; Börkey et al. 2000:77.

230.Schreurs 2004:72f; Börkey et al. 2000:45.

231.Scharpf 1997:59f; Croci 2005b:12.

PCA to industry. This decision process is not part of this examination. The preferences regarding political instruments are varying in different localities, however.²³² It is also assumed that there has been some form of relationship between the actors before the proposition of a PCA and that government has been treating industry either cooperatively or non-cooperatively.

Finally, it is worth noting one point in regard to the link between underlying societal problem and the games played in the political process. As mentioned earlier in chapter 2.4, the political actors are usually representing, not identical with, the societal groups confronted with the problem.²³³ In the case of industry, representatives are in direct employment of industry, with performance-related remuneration canceling out the principal-agent problem. On the side of government, things are less clear-cut, since its interests include both the populations and industry's welfare. This is dealt with by examining the interests of industry that are influencing government separately in chapter 3.1.2.2.

3.1.1 Actor: Industry

The local industry at issue here are private corporations, rather than e.g. public utilities. There are instances where multiple municipalities propose a PCA with a single firm or one municipality proposing a PCA to several private firms at once. These groups can be regarded as aggregated or collective actors, depending on their internal interactions.²³⁴ Their internal problems are not examined here. Since the interests of multiple firms or governments are likely to be largely aligned, they can be expected to be relatively simple distributive issues that could be incorporated into a more complex model.²³⁵

3.1.1.1 Action Orientations: Interests and Norms

Under standard economic assumptions, industry is seen as being primarily motivated by profit maximization. This essentially entails the internalization of profits and the externalization of costs.²³⁶ Environmental pollution is an example of the latter. The profit motive is not only an interest but is often a mandatory rule: depending on its legal status, a firm may be obligated to maximize profits e.g. in the interest of its shareholders. It is in industry's interest to pollute if it is cheaper

232.Matsuno 2005:215.

233.Scharpf 1997:70f.

234.The internal organizational structure can range from nonexistent to complex, with various subtypes depending on individual or shared purposes and/or resources. For further reading see *ibid.*:51ff.

235.An examination of the interaction between government and multiple firms can be found in Glachant 1994:43ff.

236.Schmelzer 1999:56.

than taking steps to abate, which is usually the case in the absence of government action. Other factors are considered important mainly if they have the potential to endanger profits or the existence of the company.

There are anecdotal examples of industry being convinced by scientific data to “better its ways” and reduce environmental pollution. But in the light of overwhelming evidence to the contrary, this has to be regarded as the exception rather than the rule.²³⁷

It is generally in businesses’ interest to appease the (local) population, potential workers and customers, provided it can be done cheaply, if only to avoid resistance against e.g. new projects. In Japan, this interest in public opinion is somewhat more pronounced than elsewhere. This is because of the relatively low degree of separation of managers and employees from local communities, which is making it harder for them to ignore public pressure.²³⁸ Overall, this interest in the public’s welfare results in some degree of solidarity, compared to the profit motive it has to be regarded as minor, however. This is examined further in chapter 3.1.1.2. The public’s main influence on industry is exercised via government, as detailed in chapter 3.1.2.1.

Concluding PCAs, it is often said, is “in the interest” of industry. Doing so is regarded as “necessary” for industry to enjoy “good” or “smooth” relations with government.²³⁹ But perhaps it would be more precise still to say that rejecting a proposed PCA worsens the relations with government. This is because companies that are not prompted to sign PCAs can still enjoy good relations with government.

These “good relations,” it is sometimes suggested, extricate the participating firms from lawful obligations ordinary citizens are subjected to, at least to an extent.²⁴⁰ But considering a reported compliance rate of close to 100 percent,²⁴¹ the outcome would again be a relatively level playing field, with the possible exception of foreign companies lacking the personal relations with regulators.²⁴² In this regard, having good relations with the government does not single out firms for preferential treatment but rather seems to be the normal condition. Having good relations is not much of a comparative advantage versus other companies. However, not having good relations is a clear disadvantage.

237. Fujikura 2007:108.

238. Weidner 1996:273; Ballatore et al. 2005:55.

239. Chiba Prefecture 1994 cited in Matsuno 2005:223.

240. Weidner 1996:273.

241. Also see chapter 3.1.2.3.

242. Schaede 1995:317.

For industry, it is indubitably true that having “good relations” with officials, described as government’s strategy of *cooperation* in the model, is preferable to having “bad relations”, described here as governmental *non-cooperation*.²⁴³ The interest is expressed in the actor constellation, as will be shown in chapter 3.1.4. But it is gained or lost through the interaction with government. For this reason, this examination, like that of industry’s compliance with administrative guidance (AG), can be found in the chapter on the MI. Both are part of the interaction and are not expressed in the actor constellation. The point of industry compliance with AG is elaborated in chapter 3.1.2.3.

Sometimes, there are additional positive incentives, that make it the interest of industry to comply with AG. While it amounts to grudgingly obeyed orders at times, in other cases the guidance can also include support, particularly when the companies are lacking know-how in a certain area.²⁴⁴ Another potential benefit of both PCAs and AG consists in greater flexibility. In case of problems linked to the conformance with obligations, it may be easier for firms to arrange changes with government later on.²⁴⁵ It is questionable how much companies stand to gain from these benefits in a monetary sense. They can perhaps lower the cost of abatement measures, but it seems unlikely that the savings could be considerable.

One often repeated claim is that the conclusion of PCAs benefits firms by improving their reputation as environmentally conscious businesses.²⁴⁶ Some authors even go as far as to regard the cultivation of a firm’s image as a sufficient incentive for its conclusion of a PCA.²⁴⁷ This assertion is hard to maintain, however, since “the public is not usually aware of which companies have concluded agreements, or that the standards in those [PCAs] are stricter than national laws.”²⁴⁸ An important implication of the public indifference regarding PCAs is that the government-created negative publicity that is sometimes used in Japan in the context of mandatory regulation, is apparently not playing an important role in the case of PCAs.²⁴⁹ Therefore, while it can be said that businesses are concerned about public opinion and want to ensure a good relationship with the public,²⁵⁰ it is not an issue that makes it imperative to conclude PCAs.

243. Tsutsumi 2001:151; Matsuno 2005:225.

244. Schreurs 2004:72.

245. Weidner 1996:273.

246. See e.g. *ibid.*:272, 274.

247. Ballatore et al. 2005:55.

248. Tsutsumi 2001:151.

249. Burrit et al. 2005:292.

250. Iwabuchi 1998:12.

As outlined in chapter 2.2.4, the prevention of alternative regulation is often the main interest that is motivating industry to enter into voluntary agreements (VAs).²⁵¹ This, it is determined in this thesis, is not the case in the context of Japanese PCAs. This point is discussed in detail in chapter 3.2.2.

3.1.1.2 Identities and Interaction Orientations

As far as *identities* are concerned, there is not much to be said in the case of industry. This is mainly because its interests are fairly pronounced and the rules that are governing the behavior of firms are aligned with their interests.

There are always some companies that choose to be more proactive in environmental protection than others. For these companies, strict environmental demands tend to be welcome since they already have a comparative advantage versus their competitors. Despite a growing interest in corporate social responsibility, companies that are truly committed to this strategy would appear to remain the exception.

It may be worth pointing out that environmentally ambitious firms may comply willingly with government's demands but not more voluntarily than their unwilling competitors. Confusion on this point may arise from the fact that if complying with coercion *willingly* one may well cease to *feel* unfree.²⁵²

The *interaction orientation* here expresses the worth industry attributes to the payoffs that government, and in extension the public, stand to gain through PCAs. In economic theory, single-minded profit maximization is often assumed as the sole motivator for firms. And while Japanese firms do have the reputation to be socially responsible, in relation to the profit motive such tendencies of solidarity must remain minor.

On balance, the value that corporations place on the payoffs of the public is regarded not as zero, but still as very low. This low solidarity has to be assigned a numerical value from 0 to 1, 0 being total indifference and 1 being absolute solidarity, i.e. valuing the other actor's payoffs as much as one's own. Industry's low solidarity is assigned 0.1. This value is used to factor government's payoffs into those of industry in chapter 3.1.4.2.

251. Glachant 1994:47; Harrison 1998:59.

252. Day 1977:260. Also see chapter 2.1.

3.1.1.3 Action Resources

Like other forms of regulation, PCAs are not safe from regulatory capture. Potentially, big firms could use token agreements to stifle local opposition to their projects.²⁵³ This does not seem to be a common problem in Japan, which is usually attributed to the high status that government officials and authority in general enjoy in Japan.²⁵⁴

One power that firms have in many countries arises from the option to choose between locations and to play them off against each other. This often leads to competition between different localities, either on a national or international level, aiming to attract businesses with low taxes or weak regulations.

In Japan, at least on the domestic level, there does not seem to be a pronounced tendency of companies looking to locate their factories in places with particularly weak environmental standards. The only exception that is seen sometimes are firms in the high-tech sector. The main reason preventing such a race to the bottom seems to be the exchange of information between different municipalities and prefectures.²⁵⁵ Japanese companies thus usually do not have this exit option, which might be considered a resource, and have to come to terms with local conditions.

Industry's capacities and incapacities are closely intertwined with those of government. To avoid redundancy, the implications on industry's action resources that can be gleaned from this interdependency will not be discussed separately at this point. See chapter 3.1.2.3.

3.1.2 Actor: Government

In the last decades, local government has been playing an important role in Japan's environmental governance.²⁵⁶ The term includes varying sizes of administrative unit, ranging from small villages to the city of Tōkyō. Prefectural governments have also concluded PCAs, but due to the differences, e.g. in size, conditions may differ from those on the level of municipalities. The explanatory for prefectural governments may be limited, therefore.²⁵⁷

As an actor in the context of the ACI model constructed here, it is mainly municipal bureaucrats that are playing an important role but leading politicians at times also play a public role in AG and the conclusion. The distribution of the

253. Tsutsumi 2002:117. Also see chapter 2.2.3.

254. Broadbent 2005:118, 132. Also see 3.1.2.3.f.

255. Weidner 1996:263.

256. Yong 2005:294f.

257. Matsuno 2005:215f.

roles inside government is not explored more closely in this thesis, however.²⁵⁸

3.1.2.1 Action Orientations: Interests and Norms

In this model the regulator is assumed to pursue welfare maximization. Based on the claims regarding the Japanese bureaucracy's acknowledgedly high competence and low corruption, this assumption is quite plausible. While in office, individual Japanese bureaucrats seem to faithfully act in the institutional interest.²⁵⁹ Issues of corruption and the corresponding principal-agent problem are therefore regarded as negligible for the examination.

It appears that, on an institutional level, Japanese local governments are usually attempting to carry out the will of the populace bona fide as should be expected in a democracy. At least, the avoidance of public pressure and civil disturbance seems to be a major concern. A certain lack of pro-activeness can be observed in PCAs, which tend not to work without public pressure, as government usually does not take action unless there is public demand. It also means that environmental problems causing long-term rather than immediate problems are often ignored.²⁶⁰ Public pressure particularly develops in anticipation of new pollution problems, e.g. through the construction of new factories. Gaining public acceptance for projects is an important function of PCAs therefore.²⁶¹ From the perspective of citizen groups, it is a sound strategy to put pressure on local authorities since it is much more promising than trying to influence the national government.²⁶² Like PCAs, the use of AG is often dependent on public pressure. In fact, it is not unusual for AG to be issued as a direct reaction to citizen complaints about noise or similar disturbances.²⁶³

PCAs are mainly used therefore when dealing with issues of limited scope, particularly highly visible conventional pollution problems. They would probably be less effective in global environmental problems that have little if any locally consequences.²⁶⁴ On the other hand, if an issue were to gain sufficient public attention, e.g. through the work of NGOs, and would generate a corresponding amount of pressure, the case may well be altered, regardless of immediate local

258. Yamanouchi and Otsubo 1989:230.

259. In Transparency International's 2010 Corruption Perceptions Index, Japan ranked 17th with a score of 7.8, tied with Barbados and in-between the UK (7.6) and Germany (7.9). Transparency International 2010; Imura 2005b:348; Schreurs 2004:12; Broadbent 2005:131f; Weidner 1996:389.

260. Broadbent 2005:117.

261. Weidner 1996:273.

262. Young 1984:131.

263. Fujikura 2007:105f.

264. Imura 2005a:172.

consequences. This is why some authors do not regard the use of PCA-type instruments for mixed pollution problems like climate change as problematic.²⁶⁵

In many localities, authorities have internalized the championing of pollution prevention, perhaps in anticipation of public pressure. This and the availability of at least ostensible avenues of participation sanctioned by government are seen as having taken the wind out of the sails of the budding environmental movement of the 1960s and '70s.²⁶⁶

Hints of government's interest to keep industry in check can be gleaned from an approach mentioned earlier.²⁶⁷ The coordination of regulation levels between different local governments is preventing competition for low standards. This cooperation can be taken to show that local officials are not favoring the accommodation of business and short-term economic development over environmental regulations.

In the past, environmental protection and pollution reduction have had a priority of equal or higher ranking than other administrative tasks in many municipal administrations.²⁶⁸ The importance attached to environmental protection certainly varies from one municipality to the next, however. This depends on historical factors, existing problems, and individual convictions. By and large, progressive governments tend to put a higher value to sound environmental policies than those of conservative affiliation.²⁶⁹

Pressure from higher-ranking government bodies is another factor influencing local governments' preferences. When using PCAs, local governments are following guidelines set out by Japanese ministry officials. MITI, Environmental Agency and the former Ministry of Health and Welfare have been found to support PCA proliferation, even though they usually try to create the outward impression of neutrality.²⁷⁰ It can be supposed that local authorities' adherence of advice from higher up potentially enhances ministerial goodwill.

A suggestion to establish ordinances that stipulate the creation of PCAs as a necessary precondition for e.g. opening up new plants, can be traced back to a publication targeted at local government officials. The proposal has been implemented in some municipalities, but not comprehensively. However, it does call ministry (e.g. MITI, EA) claims that PCAs are concluded without their

265.Matsuno 2005:234f.

266.Schreurs 2004:89.

267.See chapter 3.1.1.3.

268.Weidner 1996:392.

269.Broadbent 2005:117.

270.Matsuno 2005:224f.

encouragement or involvement, into question.²⁷¹

The government is also positively interested in industry's welfare, for a variety of legitimate reasons. For one, the population expects government to foster economical stability and growth. For another, firms' roles as taxpayers and employers make government open to their wishes. Lastly, government's interest in industry's economic well-being is also fueled by industry lobbyism.

There are limits to government's sympathy for business, however. The Japanese bureaucracy seems to take the goal of bringing down pollution seriously, although not always in the most efficient way. One example is the distribution of pollution abatement based more on subjective "fairness" criteria than on economic efficiency.²⁷² The authors of the 1999 OECD study compared Japanese PCAs with negotiated agreements in other countries. They concluded that Japanese PCAs were tightly linked to national regulatory obligations. Thus, they argued, PCAs did not offer grounds for suspicion of environmental targets being set too low.²⁷³

In the ACI model, government's vicarious interest in industry's economic welfare is factored in separately. It is discussed in more detail in chapter 3.1.2.2. For the application in the ACI model see chapter 3.1.4.2.

The Japanese executive system is characterized by the primacy of problem solving over the principled execution of laws: if faced with the choice of efficiency versus legality Japanese officials usually prefer the former.²⁷⁴ This shows markedly in the type of policies used in Japan to govern the relations between administration and corporations. What is making this approach possible is a special framework of rules best described as a "combination of uniform and strict legislation and wide administrative discretion."²⁷⁵ This resembles what used to be the French approach, at least before the adoption of EU regulations. These conditions particularly allow the conclusion of negotiated settlements, like PCAs in Japan, to individually respond to local requirements.²⁷⁶

Although the absence of specific legislative authority is by no means extraordinary for voluntary programs, the extralegal nature of Japanese PCAs and AG is specifically highlighted in the literature.²⁷⁷ Today, the general position of Japanese government officials appears to be that defining PCA's exact legal status

271. Katayama 1970b:14 and Katayama 1970a:8, cited in Matsuno 2005:224.

272. Ibid.:232.

273. Börkey et al. 2000:69-71.

274. Weidner 1996:392.

275. Scharpf 1997:203.

276. Schmidt 1990; Schmidt 1996 cited in Scharpf 1997:203.

277. Fiorino 2006:123; Fujikura 2007:92.

is unnecessary since the agreements are effective without doing so.²⁷⁸

While AG is not always obeyed gladly (or willingly), not to mention voluntarily, in the individual case, it is still true that the Japanese bureaucracy's qualifications and authority are rarely questioned.²⁷⁹ This is important, because it is the cooperation of the law's subjects that is creating authority and making it possible for the coercive power of law and government to be established.²⁸⁰

The last two factors examined here, that are of interest to government, are environmental effectiveness and economic efficiency. While the former is assumed to be high for PCAs in this study, it is examined for AG at this point. Since the examination is limited to the stage after PCA proposition, it is not relevant at this point how PCAs or AG fare against other policy instruments. The decision at hand is whether or not to use AG in PCA conclusion and/or enforcement. As will be discussed in chapter 3.1.2.3, AG is an instrument closely linked to PCAs. But generally, and particularly outside of Japan, AG does not play a role in the context of VAs. It is worth considering what if there are economical or environmental benefits of using AG from government's perspective.

The environmental effectiveness of AG is claimed to be high, at least on the local level.²⁸¹ There are also examples regarding the historic use of AG that are claimed to show that the AG issued in Ōsaka and Kitakyūshū was environmentally effective. Fujikura writes that, based on scientific analysis, the environmental quality standard “[would have been] *impossible* to attain [...] within the period specified by the national government [without the AG, that was issued by the local governments in both cities].”²⁸² The AG, he argues therefore, was not merely supplemental, but a necessary measure in achieving the environmental target.²⁸³

Regarding economic efficiency, AGs record seems to be more ambiguous. In Fujikura's evaluation of administrative costs, those dedicated to pollution control appear to be high, which is attributed to AG. But since the AG was issued in the course of routine inspections, prescribed by laws and/or ordinances, it remains unclear how the AG could have added significantly to the administrative cost of the regulation already in place.²⁸⁴

278. Matsuno 2000:78ff.

279. Schreurs 2004:72.

280. Hart 1961:201.

281. Weidner 1996:390.

282. Fujikura 2007:109; Fujikura's italics.

283. Ibid.

284. Ibid.:110; Weidner 1996:392.

In terms of overall economic efficiency, AG is lauded by some as being economical, minimizing transaction costs and allocating resources efficiently.²⁸⁵ This is not a universal opinion, however. In the cases studied by both the OECD and Fujikura, marginal abatement costs were not equalized between businesses. Here, the allotment of pollution reduction quotas had the primary goal of distributing costs evenly between firms diminishing overall economic efficiency. Also, public pressure demanded that the best available technologies be used, while cost-benefit considerations were of subordinate importance.²⁸⁶

The cost of pollution control incurred at the factory level on the other hand seems to have been increased by AG in the 1970s. Considering that the AG required factories to take additional measures beyond those specified by national laws, the additional cost seems self-evident.²⁸⁷

In summary, with the limited information available, it can not be demonstrated that the benefits outlined above are among the main reasons for government's use of AG. Due to the non-uniform manner that characterizes AG, both necessarily have to depend on the individual circumstances and on the other interests of the government's in question. What can be noted, however, is that the use of AG *can* be environmentally effective and, at least according to some researchers, also economically efficient.

3.1.2.2 Identities and Interaction Orientations

There is somewhat of a gap between formal legal requirements and government's actual behavior. This gap can be explained with the use of AG instead of strict adherence to laws, which often enough leave a lot of latitude as it is.²⁸⁸ It appears that, when faced with a choice between legal specificity and a course that is promising effective results, Japanese authorities frequently choose the latter.²⁸⁹

The use of AG is characteristic for Japanese authorities, particularly prefectural and municipal governments, something they are often criticized for, because it is sometimes perceived as administrative overreach. Public officials prefer this practice, partly in order to quickly accomplish their administrative goals, saving themselves the time-consuming process of passing legislation, e.g. local ordinances, in the assembly.²⁹⁰

285. Leane 1991:373.

286. Imura and Watanabe 2003:21; Fujikura 2007:110.

287. Fujikura 2007:110.

288. Barrett and Therivel 1991:81 Broadbent 2005:118, 127f.

289. Weidner 1996:392.

290. Imura 1989:58.

A similar choice of measures can be observed in regard to sanctions. When faced with firms counteracting their directions, authorities have a number of different options at their disposal. In cases of breach of PCA, municipalities often enforce the agreements with AG before resorting to sanctions included in the written PCA. This practice adds to the flexibility of AG, but at the same time it detracts from the significance of the agreements' written terms. The expectation that AG is used for enforcement can also diminish the importance of having sanctions in the written agreement at all.

There is no consensus on whether sanctions included in writing improve firms' compliance with agreement requirements. It seems, however, that AG guidelines are followed with or without explicit, written penalties.²⁹¹ This adds to the impression that unwritten rules and penalties play a very important role.

The methods used to apply pressure on firms in enforcement appear to be similar to those used before the conclusion of the agreements.²⁹² Sanctions that were individually and voluntarily agreed upon can not be regarded as coercive in the sense used here, since they resemble a contract with voluntarily agreed upon sanctions. In terms of voluntariness, the use of AG in enforcement is thus not necessarily problematic.

As already suggested in chapter 3.1.2.1, punishing polluting companies is not something that is, in itself, in government's interest. All things being equal, having companies under its jurisdiction operate more profitably is preferable. This makes it attractive to government to make industry change its behavior in other ways than by actually resorting to punishment.²⁹³ The closeness of business, politics, and bureaucracy in Japan may mean that there is less indifference and more responsibility on the part of bureaucrats than elsewhere.

One possible way to do that is to use threats with ambiguous sanctions. This may be more effective than e.g. predefined fines, since it does not allow would-be offenders to easily calculate whether taking the risk is profitable or not.

This reluctance to use formal legal sanctions is sometimes criticized by environmentalists and researchers, since forgoing legal punishment is equated with giving businesses a free pass.²⁹⁴ The impression may be correct some of the time but it focuses very much on formal sanctions, while ignoring that informal means can also be coercive.

291. Tsutsumi 2002:111f; Tsutsumi 2001:150.

292. Weidner 1996:269f; Börkey et al. 2000:5. In the OECD study it is implied that this pressure is applied in enforcement only.

293. Terao 2007:19f.

294. Barrett and Therivel 1991:89 note 37; Broadbent 2005:81.

In summary, while generally striving for environmentally effective measures, government does not want to cause undue hardships to businesses. What is considered “undue” necessarily depends on the individual local circumstances, including e.g. the closeness between industry and government and the relative importance of economical and ecological goals to the government officials involved.

Government has fairly strong solidarity with the interests of industry. Expressed as numerical terms, this value is determined to be 0.5. The outcome distribution stays the same, however, for all values below 1.0, i.e. absolute solidarity. Even above this value, the game’s basic dynamic would not change, since the dominant strategies remain the same. Solidarity reaching such a level seems improbable, however, since it would imply government preferring industry’s one-sided defection to its own. For more details see chapter 3.1.4 and especially 3.1.4.2.

3.1.2.3 Action Resources

In this chapter, AG and its limitations are examined in various aspects that allow inferences on its inherent potential: First, the relationship between AG and PCAs is investigated. Second, business compliance with AG and PCA is analyzed. Third, the “subtle pressures” that are typically used by government are scrutinized. Fourth, firms’ possibilities regarding recourse and the legal backing of government by the judiciary are inspected. Fifth, issues surrounding legitimacy and voluntariness of AG and PCAs and ramifications for their efficacy are examined. Sixth, the respect that the Japanese bureaucracy traditionally commands is considered. The final aspect taken into consideration is that of informational asymmetry between the actors.

By definition, the government has hierarchical power. But, depending on the circumstances, this power can be limited by laws or, in the case of natural persons, by basic rights. These limitations are set very broadly for AG, which emerges to be an important tool at government’s disposal and an important factor in the conclusion of PCAs.

As will be argued below, the power that local governments derive from their action resources, AG first and foremost, would give them sufficient power to coerce industry into concluding PCAs. That government is in fact doing so is regarded as a supposition. Coercion through AG is but one possible mode of operation of government. In the following chapters, it is attempted to answer the question whether this is indeed what is happening.

As noted earlier, an appraisal of government’s capabilities necessarily contains

information about what both government and industry can and cannot do. In parts, this chapter complements the corresponding chapter for industry.

a. The Relationship of Pollution Control Agreements and Administrative Guidance

Bureaucrats at MITI have in the past defined PCAs as a “form of administrative guidance.”²⁹⁵ The majority of Japanese academics, however, either regard PCAs as an instrument supported by AG or a tool that is putting AG in writing and thereby reinforcing it.²⁹⁶ In this thesis, it is contended that these should not be regarded as mutually exclusive but rather as complementing notions.

Examples that affirm the linkage between AG and PCAs can already be found in early agreements. PCAs concluded between the Kitakyūshū government and fifty-two factories in 1972 contained a clause by which the businesses agreed to comply with AG.²⁹⁷ While the exact definition of their relationship may vary, it is beyond dispute that AG and PCAs are closely interconnected policy tools.

In the opinion of some authors, PCAs are regarded as playing a merely superficial role, today. Fujikura, for instance, argues that what actually achieves results is AG in conjunction with local or national regulations, not PCAs. The latter, he argues, have little use except to publicize the city’s environmental management efforts and to gain popular support for projects.²⁹⁸ This line of thought would explain why the official negotiations that are usually thought to be part of PCAs do not seem to actually contain bargaining but appear to be limited to the government presenting its plans most of the time. This is further detailed in chapter 3.2.3. In some areas PCAs are forgone altogether and preference is given to AG. This likely depends on local requirements or path dependency.²⁹⁹ However, local governments that disregard PCAs are not considered in this examination.

b. Compliance

Yōkō [guidelines], more formally known as *shidō yōkō* [outline guidance],³⁰⁰ a common kind of AG, do not have the same legal backing as ordinances for instance. But their influence, e.g. in regard to compliance, is almost as strong. With local ordinances being ranked as comparable to national legislation in their

295. Matsuno 2005:225.

296. Tsutsumi 2002:111; Tsutsumi 2001:150f.

297. Fujikura 2007:101.

298. *Ibid.*:105, 112f.

299. *Ibid.*:92f.

300. Young 1984:931.

effectiveness, AG has to be regarded as a powerful policy instrument.³⁰¹ When it is coupled with the (albeit often implicit) threat of punishment for non-compliance, this can give the administration the appearance of the near-absolute power of a ship's captain.³⁰² In this context, the ecological effectiveness mentioned earlier can be taken as further evidence for AG's efficacy.³⁰³

On the national level the compliance with AG issued by MITI has not been universal in the past, meeting with scattered resistance particularly when it was not based on a broad consensus.³⁰⁴ On the local and prefectural levels, however, the compliance rate with AG has been very high by all accounts.³⁰⁵ Consequently, disputes that have to be decided in court must necessarily be rare as well.

In the case of PCAs, the available statistical data is supporting this claim. According to a survey by Matsuno and Ueta, of the local governments that had proposed one or more PCAs before only 3.3 percent answered that they had ever had a firm refuse such a proposition.³⁰⁶ Since most local governments have put forward more than one PCA, the cooperation rate in relation to the total number of PCAs is likely to be even beyond 97 percent.

This number can also be regarded as evidence for Japanese businesses' very high compliance rate with government's AG.³⁰⁷ Matsuno, however, goes on to relativize its significance: "the fact that some businesses did reject governments' proposals is positive evidence for voluntary conclusions."³⁰⁸ This is a logical fallacy. As shown in chapter 2.1, the goal of coercion through law etc. can never be prevention but only deterrence in a political context. Consequently, imperfect compliance is no evidence of voluntariness.

While the high degree of compliance with AG and PCA propositions could be a sign of coercion, it is by no means proof by itself. While AG can be coercive, this certainly is not always the case. This point will, however, be of importance during the subsequent construction of the ACI model.

301.Imura 1989:57f.

302.Johnson 1982:273; Carpenter 2008:31.

303.See chapter 3.1.2.1.

304.Murakami and Rohlen 1992:92; Negishi 1985:280; cited in Weidner 1996:393.

305.See e.g. Weidner 1996:270; Ballatore et al. 2005:64; Fujikura 2007:92f.

306.Matsuno and Ueta 2002:89; Matsuno 2001:17f.

307.Also see Weidner 1996:270

308.Matsuno 2001:17f

c. “Subtle” Pressures

Prefectures and municipalities have extensive tools at their disposal that can be used to apply “subtle” but systematic pressure in order to enforce the conclusion of PCAs.³⁰⁹ Contextually related to AG, these tools are extra- and sometimes strictly speaking illegal. In any case they threaten specified or unspecified negative consequences for non-cooperation.³¹⁰

Examples for common threats are the withholding of necessary construction permits, public utility services, or in certain cases industrial licenses.³¹¹ In large-scale construction projects the respective legislative assembly solicits so-called advisory opinions of high-ranking administration officials, before approval is given. Here, too, the officials can make their consent dependent on the conclusion of a PCA.³¹² The wide administrative leeway granted to local governments can be used to great effect. An example are laws that regulate the size of vehicles allowed on public roads and leave the interpretation to local officials. This can be used to make it impossible to bring large equipment to building sites, effectively stopping construction.³¹³

Another instance where administrative goodwill is linked to the conclusion of PCAs is during the sale or lease of land, a practice known as the *Yokohama method*. The land in question is usually municipal or prefectural property, particularly *umetatechi* [reclamation ground], i.e. land that has been created by draining or filling in stretches of coastal waters. Companies that refuse to conclude PCAs are denied permission to buy or rent the land.³¹⁴

As shown above, the possibilities to inconvenience (or punish as the case may be) the firms are not confined to the environmental field, but can extend to unrelated fields as well.³¹⁵ This is called collateral enforcement. It can be defined as the use of some kind of reprisal in one context, sometimes at a later date, to achieve regulatory objectives in another. These possibilities provided by AG, significantly extend the government’s powers and compensate for what is perceived by some as limited capacities under the legal regime.³¹⁶

309.Carpenter 2008:31f.

310.Schaede 1995:301.

311.Tsutsumi 2001:151; Young 1984:932; Börkey et al. 2000:46f.

312.Yamanouchi and Otsubo 1989:230.

313.Young 1984:932; Yamanouchi and Otsubo 1989:230.

314.Fujikura 2005:33; Imura 1999:20; Weidner 1996:272.

315.Weidner 1996:272f.

316.Young 1984:923, 935; Leane 1991:370; Murakami and Rohlen 1992:92.

d. Possibility of Recourse and Legal Backing

Government's possibilities, as outlined above, may seem rather overwhelming. But corporations do have some possibilities of recourse, at least in theory. An anecdotal example for such a case is the dispute between a construction company and the city of Musashino, Tōkyō. The city had issued AG that compelled contractors to seek neighbors' consent before constructing new apartment buildings and to contribute land or money to the construction of schools. The contractor in question ignored the AG. The city penalized him by stalling the permits he had applied for, and the contractor sued. In an act of public retribution for this disobedience, the mayor plugged the housing project's water main with cement.³¹⁷ The contractor sued again, insisting that the city had the duty to provide water to him, whether or not he complied with the AG, and won.³¹⁸

Miwa and Ramseyer list a number of similar lawsuits, with permits being stalled or withheld from developers in various circumstances and the developers prevailed in court.³¹⁹ However, there is strong evidence suggesting that these cases really are not the rule but only "scattered examples of noncompliance."³²⁰ For all practical purposes, there is no legal recourse to AG.³²¹

There are two questions that are not answered by the cases outlined above. One is, how likely it is for firms to choose not to comply with AG in the first place. The other is how likely firms are to offer resistance against sanctions used under AG. The first question was raised above. Evidently, there is a widely held consensus that companies scarcely ever reject guidance.³²² In regard to the second question, it appears that on the part of businesses in conflicts with local government generally there is strong reluctance to filing lawsuits.³²³ Firms are thought to shy away from bringing their grievances to court because they fear that the governmental non-cooperation will mean losses during factory operation.³²⁴ This could also happen through collateral enforcement. It is worth mentioning here that the fact that some firms choose not to comply with AG, and even successfully defend themselves against subsequent sanctions, does not mean that those that simply comply do so voluntarily.³²⁵

317. Yamanouchi 1977:47–49 cited in Johnson 1982:266.

318. Miwa and Ramseyer 2004:10.

319. *Ibid.*:11f.

320. Murakami and Rohlen 1992:92; For a rebuttal of Miwa and Ramseyer see Puchniak 2007.

321. Schaede 1995:301; Weidner 1996:394.

322. Carpenter 2008:75.

323. Matsuno 2005:225.

324. Sugiyama and Imura 1999:131.

325. For the underlying reasoning see chapter 2.1.

It does not seem to happen very often that government officials are beaten in court for overreaching their limits. This is partly due to the tendency of Japanese laws to be framed rather terse and ambiguous. The interpretation of these vague laws in the implementation phase is left to the bureaucrats.³²⁶ Lawmakers keep laws and regulations vague in regard to funding or enforcement. This is not an oversight. By doing so, they strengthen the wide discretionary powers of the executive.³²⁷ Also, while it is true that AG cannot violate the law, there are also areas in which there are no general laws to govern economic activity, giving the government a lot of leeway to do as it sees fit.³²⁸

Generally, courts seem to side with the authorities, at least when they have judicial leeway to do so. The courts “judge bureaucratic actions according to societal consensus rather than formal procedure, thus trying to protect the flexibility which is central to the bureaucracy’s use of administrative guidance.”³²⁹

In regard to the formal status of PCAs, the majority opinion seems to be that they do constitute legal contracts. Based on this, there are authors who question the validity of PCAs, remarking that PCAs often seem to be concluded under force.³³⁰

This should, in theory, invalidate the contract under Japanese civil law like under most other legal systems. But, as noted above, businesses are unlikely to contest the validity of agreements for fear of repercussions. Suing would be difficult, since public negotiations do not take place and communication with the government is often verbal and/or of an informal nature. Finally, given the wide discretionary powers vested in the local administration, it may well be impossible to legally prove that the administrative decisions are indeed used punitively and the practice may thus be judicially unassailable.³³¹

Interestingly, AG is followed regardless of whether or not the authorities issuing it did have the formal right to do so. During the early pollution prevention measures in Ōsaka, compliance with AG was very high even before the legal gap was closed. Only a few years later, after the municipal successes in pollution reduction became apparent, the prefectural government rendered the enforcement and monitoring authority to the local government, that had acted without it until then.³³²

326.Johnson 1982:273.

327.Broadbent 2005:128.

328.Johnson 1982:265, 273.

329.Leane 1991:372.

330.See e.g. Matsuno 2005:225.

331.Sugiyama and Imura 1999:131; Matsuno 2005:225; Johnson 1982:267.

332.Fujikura 2007:92f.

e. Voluntariness in Administrative Guidance and Pollution Control Agreements

Imura points out ambiguities regarding the voluntariness of PCAs, because local governments are involved in their establishment.³³³ Other authors go further than that, explicitly describing PCAs as signed under what they perceive as coercion. Testimonies include PCAs “[not being] easily refuse[d],”³³⁴ or “a necessary condition [...] to start [a] project,”³³⁵ and firms that “seem to have often been forced,”³³⁶ or even “require[d]”³³⁷ to conclude PCAs. Indeed in about 20 percent of municipalities ordinances stipulate PCAs as necessary for the commissioning of new plants, although it is unclear how compelling they are.³³⁸

Firms themselves also often claim that they are forced to sign PCAs and that the agreements’ conditions were economically infeasible. In interviews many doubted or denied the fairness of PCAs. But given that there is usually no practicable way to circumvent PCAs when government proposes them, the firms indicated that they made the best of the situation and used PCAs to emphasize their social and environmental responsibility.³³⁹

Sometimes AG’s mode of operation is described as *persuasion* as opposed to *coercion*, based on the fact that not many polluters are punished with lawful sanctions.³⁴⁰ This implies that sometimes *coercion* is understood exclusively as *legal coercion*. This terminology should not be confused with the way the term *coercion* is used in this thesis.³⁴¹ It does not appear to take the possibility of informal means of punishment into account, which are understood to be potentially as coercive as legal means. It should also be noted that the frequency of punishment does not provide tangible evidence regarding the degree of coercion involved.

The statements above seem to imply a relatively high degree of certainty in regard to the coerciveness of AG and PCAs. For the moment, however, they have to be regarded as no more than conjectures about how AG and PCAs are used in practice. In the subsequent chapters the complete ACI model will be used to test these assumptions.

333.Imura 2005a:172; Imura 2005b:349.

334.Matsuno 2005:226.

335.Tsutsumi 2002:112.

336.Matsuno 2005:225.

337.Organization for Economic Co-operation and Development 1977 cited in Tsutsumi 2001:149.

338.Katayama 1970b:14 and Katayama 1970a:8 cited in Matsuno 2005:224; Matsuno and Ueta 2002:148; also see chapter 3.1.1.1.

339.Weidner 1996:279; Matsuno 2005:225.

340.Vinger 2008:8.

341.Authors that describe AG as technically “voluntary” (while putting the word in quotation marks) presumably follow the same reasoning. Young 1984:934; Schaede 1995:301 Also see chapter 2.1.

f. Traditional Status

In addition to the more practical aspects of different policy instruments, Japanese governments also have resources to draw from that are less tangible. Traditionally, bureaucrats have enjoyed a high status in Japanese society. Graduates of prestigious universities have become bureaucrats rather than joining businesses. The eminence of government officials is often ascribed, somewhat simplistically, to respect for authority being “a strong cultural trait in Japan.”³⁴² As a result, the business culture is characterized by both abject obedience towards bureaucrats and genuine trust in their expertise and integrity, although it is sometimes hard to draw the line between the two.³⁴³

Government officials not only command much respect, but also wield a great deal of power.³⁴⁴ To accomplish their objectives, Japanese officials do not appear to shy away from using this power.³⁴⁵ At least in prewar Japan, the high status of government officials was based as much on fear as on respect with abuse of power rampant. This hierarchical dominance is embodied in the traditional aphorism *kanson minpi* [bureaucrats revered, citizens despised].³⁴⁶

But the power that bureaucrats derive from their high status has very positive aspects, too. A practice facilitated by officials’ elevated status is that described by Evans as *embedded autonomy*.³⁴⁷ The concept is characterized by the administration maintaining a very close relationship with industry, while at the same time retaining the independence to pursue policies for the good of society. Business leaders on their part are seen to trust in the advice of ministry officials. They appear to do so out of respect for the bureaucrats’ professional competence and dedication.³⁴⁸

g. Information Asymmetry

Informational deficits, as described by Hayek, make C&C regulation more expensive and VAs comparatively cheap and thus attractive. This is because usually government, ignorant of the marginal abatement cost, could take unnecessarily costly steps. By concluding VAs, industry is eliminating this risk.³⁴⁹ In Japan, however, wide administrative discretion in the policy implementation

342. Leane 1991:367. Also see Carpenter 2008:31f.

343. Broadbent 2005:118, 132; Imura 2005b:349.

344. Leane 1991:372f.

345. Tsutsumi 2001:151.

346. Koh 1989:15f; Broadbent 2005:134 note 7.

347. Evans 1995 cited in Broadbent 2005:134.

348. *Ibid.*:119, 134; Carpenter 2008:31.

349. Scharpf 1997:214 note 3.

phase, like it is available with AG, allow government to react to local anomalies and to mitigate the problems of the above mentioned information deficits.³⁵⁰

It can be assumed that in Japan there is less of an informational gap between the actors than there would be elsewhere. This is due to government and industry being intermeshed in general and on specific features like *amakudari* and *embedded autonomy* in particular. For this reason, it is surmised that Japanese local governments suffer less from informational asymmetry than would normally be the case. In consequence, the factor is discounted and omitted from the model.

3.1.3 Strategies

In the ACI model the strategies that are available to each of the two actors are represented in simplified form by the choices between *cooperation* and *non-cooperation*. Dependent on the two actors' facilities the two options do not have the identical meaning.

In the case of industry, *cooperation* (C_i) stands for conforming with government's request and accepting the proposed PCA and engaging in pollution prevention. *Non-cooperation* by industry (N_i) represents the rejection of the agreement and the continuation on a business-as-usual trajectory.

In the case of government, *cooperation* (C_g) represents generally benevolent treatment of industry, referring to what is usually described as good relations. As the case may be, it may also include forsaking stricter legislation. Depending on interpretation, the good relations can be normal or amount to a special benefit. *Non-cooperation* (N_g) on the other hand can range from simply not providing industry with said good relations to deliberate obstruction, pursuing to pass legislation with costly consequences for industry. This again depends on interpretation. What C_g and N_g connote exactly in regard to the type of incentive important for the interaction can only be defined after the MI is determined.³⁵¹

As suggested above, the interaction stage examined with the ACI model in this thesis is that following the proposition of a PCA. Thus, unlike in other game-theoretic models of agreement conclusions, e.g. Segerson and Miceli's, the possibility of the government not offering an agreement is omitted.³⁵² Instead, the consequences of industry's decision, accepting or rejecting the proposal, are what the focus is on. In the aforesaid model a rejection by industry necessarily leads to legislation with a certain probability. What is in question here, is the behavior of

350.Scharpf 1997:203.

351.See chapter 3.2.

352.Segerson and Miceli 1999.

government which has to make a choice of strategy following the acceptance or rejection of the proposed PCA by industry.

Although the ACI model constructed here is essentially sequential, the specific meaning of government's choice is dependent upon its previous treatment of industry, i.e. before the interaction in question is taking place. While e.g. government's first strategy option is defined as *cooperation*, it is left open to be determined if this is to be understood to mean *start to cooperate* (implying that previously it was not) or *continue to cooperate* (implying it was). The importance of this initial behavior is highlighted in chapter 3.2.1.

For industry on the other hand it is assumed that it is not cooperating, i.e. it is polluting, before the PCA is proposed. This assumption is made on the grounds that the industry's pollution is the main reasoning behind the proposition of a PCA and that as explained earlier industry's preference for polluting is at the core of environmental policy in general. The assumptions about the actors' previous behavior are determinant of the location of the status quo.

3.1.4 Outcomes

3.1.4.1 The ACI Matrix

By definition, a two-by-two matrix with two actors and two strategies has four possible outcomes, one for each combination of strategies. Here, the strategies are defined as cooperation (C) and non-cooperation (N). Each outcome has a payoff (p) for each of the respective actors. To both strategies and payoffs an index g for government or i for industry is added to identify the actor. Thus, the four outcomes are C_g/C_i , C_g/N_i , N_g/C_i , and N_g/N_i , each having the payoffs p_g and p_i . Below, the distribution of the payoffs is determined for each of the actors and their preferences in regard to the outcomes are established. For an illustration of the ACI matrix with strategies, outcomes and payoffs see figure 3.

Government has to take two diverging interests into account. On the one hand, there is public pressure from the populace demanding safety from pollution and a lifestyle unimpaired by environmental degradation. In addition, at least some government officials are pursuing the same goals out of conviction. On the other hand, government is interested in industry's prosperity. However, since this is taken into account separately in the subchapters on interaction orientation, for now government's payoffs are determined without taking industry's interests into account.

Figure 3: ACI matrix with strategies, outcomes, and payoffs (Source: author)

		Actor: Industry	
		C_i	N_i
Actor: Government	C_g	$p_i(C_g/C_i)$ $p_g(C_g/C_i)$	$p_i(C_g/N_i)$ $p_g(C_g/N_i)$
	N_g	$p_i(N_g/C_i)$ $p_g(N_g/C_i)$	$p_i(N_g/N_i)$ $p_g(N_g/N_i)$

- C_i – Cooperative strategy (industry)
- N_i – Non-cooperative strategy (industry)
- C_g – Cooperative strategy (government)
- N_g – Non-cooperative strategy (government)

Although positive incentives, e.g. in form of subsidies could arguably pose a cost to government, this possibility is dismissed here. Since substantial pecuniary subsidies do not play a role in the context of PCAs it is assumed here that the administrative costs of both collaboration or obstruction are negligible. Thus, government's disposition towards industry does not impact its own payoffs, which can be expressed as $p_g(C_g/C_i) = p_g(N_g/C_i)$ and $p_g(C_g/N_i) = p_g(N_g/N_i)$.

With government decidedly preferring industry to cooperate, i.e. not to pollute, it can be concluded that government's payoffs are: $p_g(C_g/C_i) = p_g(N_g/C_i) > p_g(C_g/N_i) = p_g(N_g/N_i)$. The values for the highest and lowest payoffs are assigned 4 and 1 by definition. Therefore $p_g(C_g/C_i) = p_g(N_g/C_i) = 4$ and $p_g(C_g/N_i) = p_g(N_g/N_i) = 1$.

Industry, as has been explained, is guided predominantly by its monetary profit motive. It has also been shown that industry's endogenous preference for pollution, i.e. externalizing costs while internalizing profits, lies at the heart of the problem of environmental pollution. Put together with the self-evident assumption that a cooperative government is more conducive for industry profits than a non-cooperative one, the position of both the best and worst payoffs becomes evident: $p_i(C_g/N_i) = 4$ and $p_i(N_g/C_i) = 1$.

This leaves industry's remaining payoffs for C_g/C_i and N_g/N_i to be determined.

Based on the action resources, government clearly has enough resources available to threaten industry if it chooses to. The government's close relationship with industry e.g. through *amakudari* provides it with ample knowledge about industry's inner workings to correctly estimate the cost industry will incur for choosing C_i instead of N_i . Together with government's ample action resources it is clearly able to use positive and/or negative incentives to ensure that $p_i(C_g/C_i) > p_i(N_g/N_i)$. Since this incentivization is congruent with government's intentions it can be concluded that $p_i(C_g/C_i) = 3$ and $p_i(N_g/N_i) = 2$. Thus, the values for all of industry's payoffs are known and they can be ordered $p_i(C_g/N_i) > p_i(C_g/C_i) > p_i(N_g/N_i) > p_i(N_g/C_i)$.

With both government's and industry's payoffs determined, the ACI model's matrix, so far without the actors' interaction orientations accounted for, can be constructed. See figure 4.

Figure 4: ACI matrix for PCA conclusion without interaction orientations (Source: author)

		Actor: Industry	
		C_i	N_i
Actor: Government	C_g	3 4	4 1
	N_g	1 4	2 1

3.1.4.2 The Effective Matrix

This having been established, the interaction orientations of both government and industry have to be taken into account. It has been determined that there is mutual solidarity, i.e. each actor's payoffs are positively factored into the other's. However, the solidarity between the actors is neither expected to be unrestricted, nor equally balanced. While government can be assumed to take a fairly strong interest in industry's payoffs, industry is only marginally concerned with

government's.

Expressed in numerical values the solidarity factor s was determined to be $s = 0.5$ on the part of government and $s = 0.1$ on that of industry, absolute solidarity being defined as 1, total indifference as 0. The adjusted payoffs p_g' and p_i' for each outcome are thus calculated $p_g' = p_g + (0.5 p_i)$ and $p_i' = p_i + (0.1 p_g)$.³⁵³

The *effective matrix*, i.e. the matrix incorporating the actors' interaction orientations, is shown in figure 5.

Figure 5: Effective ACI matrix for PCA conclusion with interaction orientations (Source: author)

		Actor: Industry	
		C_i	N_i
Actor: Government	C_g	3.4	4.1
	N_g	1.4	2.1
		4.5	2.0

In summary, the *effective* preferences of both government and industry can be described as follows:

From the perspective of government, the best of the four outcomes is mutual cooperation C_g/C_i (4/3). Industry is not polluting and government is cooperating with industry. For government, its own one-sided defection N_g/C_i (3/1), would be better than the reversed case. Industry polluting while it is treated cooperatively C_g/N_i (2/4). The worst outcome would be mutual non-cooperation N_g/N_i (1/2) with Industry polluting and government acting non-cooperatively. Government's preferences are thus $C_g/C_i > N_g/C_i > C_g/N_i > N_g/N_i$.

The Industry would favor an outcome in which they can pollute unrestrainedly and are at the same time treated cooperatively by government (one-sided defection

353. The preferential sequence of the adjusted government payoffs p_g' remains the same for $0 < s < 1$, i.e. anything between indifference and absolute solidarity, while that of the adjusted industry payoffs p_i' remains identical for $0 < s < 1/3$.

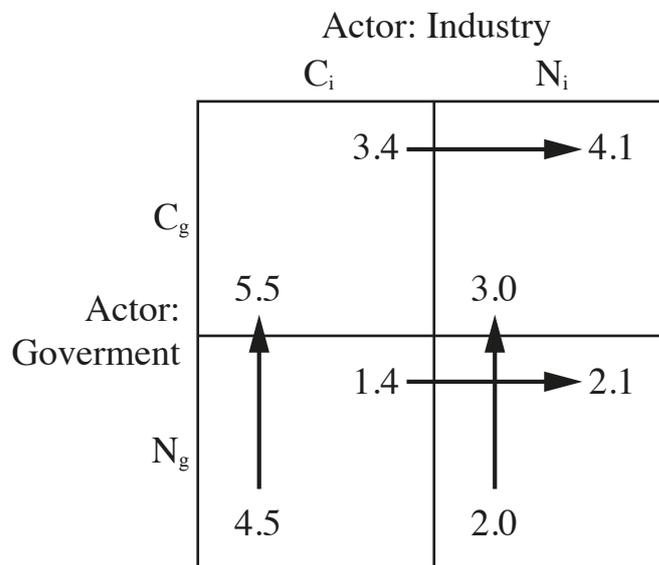
by industry) C_g/N_i (2/4). Mutual cooperativeness C_g/C_i (4/3) would still be preferable to polluting and being treated unfavorably by government N_g/N_i (1/2). The worst possible outcome for Industry is to both refrain from polluting and being treated uncooperatively by government at the same time N_g/C_i (3/1). Industry's preferential order is therefore $C_g/N_i > C_g/C_i > N_g/N_i > N_g/C_i$.

3.1.5 Actor Constellation Findings

Having determined the actors' payoffs and their preferences regarding the outcomes, it is now possible to make a number of reflections about the actor constellation. It should be kept in mind, however, that without the selection of a MI the actor constellation appears as a non-cooperative game. Comments made about links in the actor constellation therefore do not necessarily correlate to relationships in real life.

The strategic dominance in the model can be determined for both government and industry: Industry's dominant strategy is N_i , Government's is C_g (see figure 6).³⁵⁴ From the distribution of the outcomes it becomes apparent that even without any information about the other actor's strategies or outcomes, each actor is able to identify their preferred strategy.

Figure 6: Effective ACI matrix for PCA conclusion with strategic dominance (Source: author)



354. See chapter 2.4.3.

Whether industry is polluting or not, it is always in the interest of government to cooperate, *ceteris paribus*. Its preferred strategy is to have industry change its behavior without having to resort to use punishment.³⁵⁵ On the other hand, independent from the behavior of government it is not in the interest of industry to cooperate with government, i.e. to conclude a PCA.

An *equilibrium outcome* (C_g/N_i) can be determined for all games in which dominant strategies can be established for all actors. That is also true in this case. Since neither of the actors can improve their payoffs by a unilateral change in strategy, the outcome C_g/N_i is a Nash equilibrium. This means that in a world limited to unilateral action without negotiations, threats or offers, i.e. without a proactive regulator, this would be the stable state. This corresponds to what is perhaps the most obvious observation, namely that the outcome which is observed in actuality, i.e. the conclusion of PCAs (C_g/C_i), is not the outcome that is reached automatically. From this it can be inferred that not all MIs are eligible to explain the interaction.

Diagonally opposite the *equilibrium outcome* is the converse state. In case of the unstable outcome N_g/C_i it would be desirable for both actors to change their strategy if possible.

The *Kaldor-Hicks efficient outcome* C_g/C_i is not identical with the Nash-equilibrium. Here, the combined payoffs of both actors reach the highest value, implying optimal economic efficiency.³⁵⁶ From a welfare optimizing perspective, e.g. that of a benevolent regulator, this has to be regarded as the game's preferable outcome.

3.2 Mode of Interaction

As explained in the chapter on ACI there are four modes of interaction (MIs) all but two of which can, however, be quickly excluded.

Unilateral action can be eliminated simply because it does not explain the models factual outcome. In a non-cooperative game, the outcome would necessarily have to be identical to the Nash equilibrium (C_g/N_i), corresponding to industry rejecting the PCA. In fact, however, firms do overwhelmingly accept the proposed PCAs.

Majority decision can be eliminated as a MI due to the available institutional information as based on the fact that voting systems or processes are entirely

355. Terao 2007:19f.

356. Beside the assumption of both actors' payoffs being uniform, compensation has to be feasible, if not necessarily occurring. This can safely be said to be the case here. Arguably, the payoffs used to measure objective economic efficiency should be those not adjusted for interaction orientation. The result remains the same in either case.

absent from the institutional setting found in the discussed case.

Negotiation on the other hand could theoretically explain the outcome and could be supported by the institutional setting. Additionally, negotiations between industry and government are commonly assumed to be an integral part of the establishment of a VA. Government being one of the actors means, however, that all negotiations are embedded in the hierarchical structure of the state and its legal subordinates, something that is not represented by *negotiations* alone.

Negotiations in the shadow of hierarchy (NSH), a variety of hierarchical direction (HD), is the term Scharpf uses to describe this embeddedness. Here, negotiations are taking place with HD acting as a fallback. In lieu of direct exercise of hierarchical power the state negotiates with the subjects of the law as long as this produces a satisfactory outcome. Scharpf explicitly names VAs as an example for this type of interaction.³⁵⁷ Thus, if PCAs were indeed VAs, as the prevailing opinion would suggest, the MI would have to be NSH.

Hierarchical direction (HD), is the fourth and last of the MIs anticipated by ACI. Here, some of the decision premises of one actor are altered by the other in such a manner that the strategy choices of the former are determined by the latter.³⁵⁸ The capability to change another actor's decision premises with positive or negative incentives can derive from legitimate hierarchical authority, based mainly on contracts or democratic accountability, but also from power alone.³⁵⁹ If it is government that is providing the incentives they can be expected to manifest as policy instruments. This can include C&C instruments like laws, ordinances or administrative directives and economic instruments like taxes.

The institutional setting in the case of PCAs is the complex web of both formal and informal relationships between the representatives of local government and businesses. The workings of government, businesses and the interplay between them are organized in complex, hierarchical structures. The structural setting therefore facilitates all MIs.

The deviation of the factual outcome from the actor constellation's equilibrium state can be tentatively explained by two MIs, NSH and HD. It has yet to be determined, however, which of the two MIs is best suited to describe the interaction between government and industry in Japanese PCAs.

From the above it is evident that determining the MI in the model is tantamount to

357. The example given is the "principle of cooperation" in German environmental policy Hartkopf and Bohne 1983 cited in Scharpf 1997:202.

358. Simon 1957, March and Simon 1958 cited in Scharpf 1997:172.

359. Weber 1947 cited in Scharpf 1997:172.

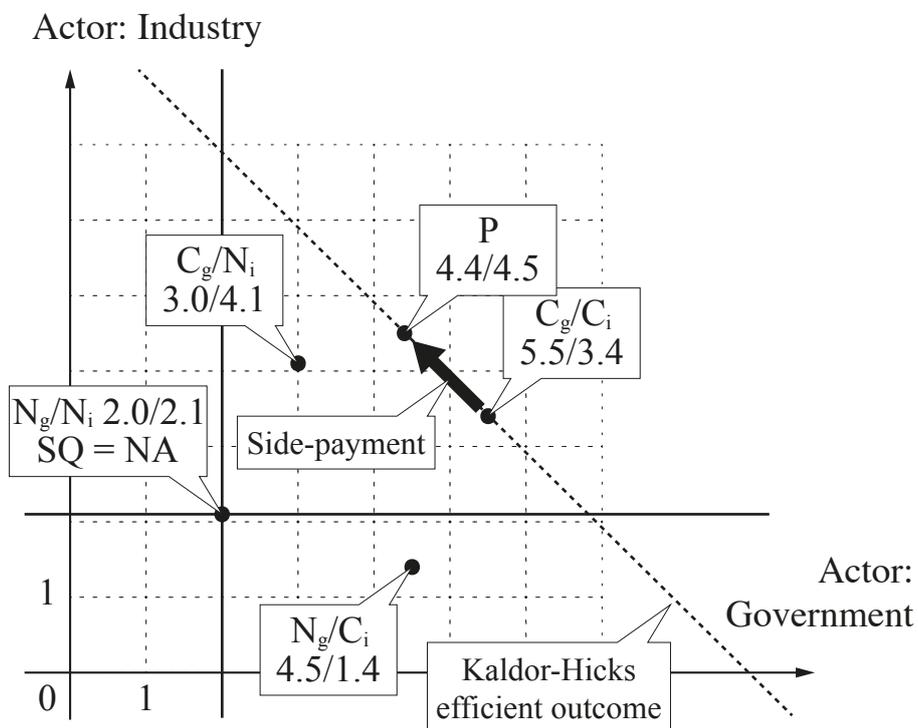
an assertion as to whether PCAs are indeed VAs or not. In other words, supporting or disproving the primary hypothesis hinges on the accurate identification of the correct MI.

3.2.1 Type of Incentive

Continuing the process of elimination begun above, it is first determined which kind of incentives, positive or negative, is predominantly influencing industry's behavior. After this is established, the type of incentive is pinned down more precisely with information from the institutional setting (see chapter 3.2).

For the first step, the negotiation diagram is an effective tool to visualize and compare the outcomes of two different scenarios. They can be thought of as simplified models of two ends of a spectrum. At the core of these scenarios is the type of the incentive motivating industry, expressed in the position of the status quo (SQ). The location of SQ is dependent on the assumptions about government's strategy before the proposition of the PCA.

Figure 7: ACI negotiation diagram for PCA conclusion – Offer scenario (Source: author)



In the first scenario (shown in figure 7), government has not been cooperating with industry before it proposed the PCA. Government's proposition of a PCA is linked to an *offer* to industry: If industry agrees to change its strategy to C_i ,

government will change its to C_g . The status quo is located at N_g/N_i and is identical to NA .³⁶⁰

It should be noted that, as of yet, this implies nothing about government's behavior in absolute terms. In relative terms, however, C_g would be an improvement for industry compared to the previous state (N_g). This scenario corresponds with the supposition that PCAs are backed by positive incentives in the form of special relations with government.

The point of agreement (A) would likely not be at C_g/C_i in this scenario. It has to be positioned on a northwest-southeast diagonal through C_g/C_i , however. This is because it is assumed in ACI that according to the Coase Theorem the outcome of a negotiation is always located on the diagonal representing the Kaldor-Hicks efficient outcome, i.e. that with the highest combined welfare.³⁶¹

The exact location of A would depend on the individual case, e.g. on the actors' negotiation skills, potential informational deficits etc., i.e. factors that are not in the scope of this model. An approximation can be made on the basis of algorithms developed by the analytical theory of cooperative games. In summary, these rules amount to the actors *splitting the difference*, resulting in A being located between P and C_g/C_i , presumably near P which marks the point of "fair" distribution of the welfare gain based on SQ.³⁶² The shift from C_g/C_i to A reflects a redistribution of the payoffs in form of a side-payment from government to industry. Only if p_i after side-payments is greater than $p_i(C_g/N_i)$ can industry's cooperation be taken for granted. Otherwise it could always gamble on government's unilateral cooperation.

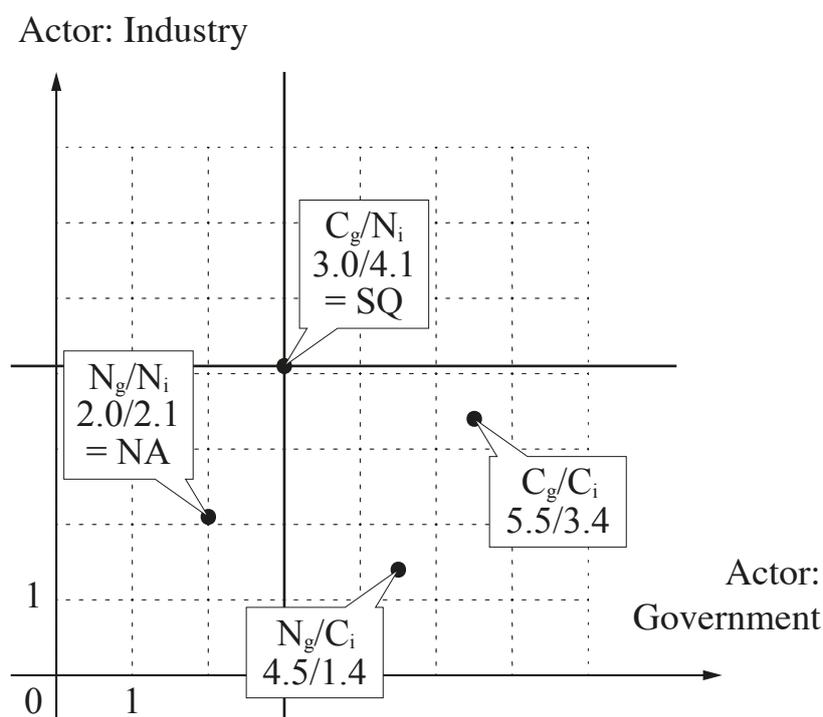
As discussed above, side-payments in form of subsidies are not mentioned in the surveyed PCA literature. And only two forms of non-pecuniary payment are mentioned either: Know-how transfers and what is sometimes described as a special relationship between businesses and government. The latter is, however, already represented by the difference between C_g and N_g .

360. This is acceptable, since external options like alternative deals with other actors are not possible and since an offer implicitly forbids the shift of NA . Ibid.:147 note 4.

361. The application of the Coase Theorem is acceptable here for simplicity's sake, since its preconditions are met, by and large: there are only two actors that are defined as rational; informational exchange between government and industry is high (see chapter 3.1.2.3.g); side-payments are possible. See *ibid.*:118; *ibid.*:147 note 6.

362. Nash 1950, Nash 1953, Kalai and Smorodinsky 1975, Osborne and Rubinstein 1990 cited in Scharpf 1997:121f.

Figure 8: ACI negotiation diagram for PCA conclusion – Threat scenario (Source: author)



In the second scenario (shown in figure 8) it is a threat rather than an offer that is motivating industry to cooperate. While the absolute position of the outcomes is the same, their relative positions to SQ differ. This is because here government is assumed to have been cooperating with industry all along. Only in case of industry choosing N_i , government is threatening to change its strategy to N_g . This explains why NA is at the same position in both scenarios. In consequence, while being a deterioration for industry in comparison to SQ, C_g/C_i is still preferable to the threatened NA. Side-payments can occur in this case as well, but they are not necessary to motivate industry or to explain the observed outcome of the interaction.

In theory, both of the above scenarios can explain the divergence of the outcome observed in reality from that identified as the equilibrium outcome. The second scenario has to be regarded as the credible one for the following reason.

Since cooperation with industry is generally in government's best interest and within its means, there is nothing that would be motivating it to not cooperate with industry before a PCA is proposed. It could perhaps be theorized that government might withhold the option of cooperation, and accept the resulting disadvantages, for strategic reasons. But there is no apparent benefit in choosing this strategy

versus the second scenario, i.e. cooperating as long as industry does not reject a proposal.

It would be even more counterproductive if this were to be done in the case of companies that are exempted from PCAs on the basis that they are spared undue hardships. It is from the treatment of uninvolved companies that a baseline of what constitutes normality can be established. It can hardly be argued that cooperation is used to reward companies if government cooperates with uninvolved companies, too.

From a game-theoretic vantage point, it has to be supposed therefore that government, as a self-interested and rational actor, would always choose the threat scenario over the offer scenario, if either was in its means. Since SQ solely depends on government's previous strategy choice this is the case here. If anything, acting cooperatively towards industry would, *ceteris paribus*, be the strategy with fewer negative repercussions at any time before PCA proposition. In the absence of contrary information, the second scenario thus has to be assumed to be the factual one.

As mentioned at the outset of this chapter, the two models represent simplified cases. The selection of the second scenario should not be interpreted as ruling out any kind of "carrot," therefore. Instead it should be understood to signify that the "stick" predominates.

In summary, PCAs are established on the basis of threats rather than offers, similar to both mandatory regulation and the majority of successful VAs. What has yet to be determined, however, is the precise nature of the negative incentives, or threats, that are used by government to motivate industry.

3.2.2 Type of Threat

In the beginning of chapter 3.1.3, it was pointed out that the specific meaning of C_g and N_g could not yet be defined except in general, relative terms. Now it can be stated that the benevolence indicated by C_g has to be considered the norm, while N_g amounts to threats rather than indifference. What has to be determined is the particular nature of these threats.

As Segerson and Miceli show, in a negotiated agreement based on negative incentives the pollution abatement level that is reached "is related directly to the magnitude of the threat."³⁶³ The abatement levels specified in Japanese PCAs are very strict by all accounts, often more so than the existing legislation, which is

363.Segerson and Miceli 1999:114.

already held to be stringent. It follows that the threat has to be correspondingly severe.

Based on the preconception that PCAs are VAs, as they are defined in 2.2.4, the assumption would have to be that any significant threat could only be that of alternative legislation. As discussed in chapter 3.2.2, however, this threat is not what is motivating industry in Japan to conclude PCAs.

PCAs are, on the contrary, often regarded as precursors of stricter laws. They are viewed as catalysts that are inducing a change in industry behavior that, once achieved, is then firmly established in the form of stricter regulations.³⁶⁴ It has also been found through interviews that many firms would favor consistent environmental regulation over individual environmental agreements, if they had a choice.³⁶⁵ Presumably, the stability and planning security of laws or ordinances would be preferable to the high degree of uncertainty introduced by the arbitrary nature of AG that is used in conjunction with PCAs.³⁶⁶

Since the interactions in the preparation of the conclusion of a PCA usually take place on the local level, the threat of national legislation is not in within the domain of the responsible administration. On an individual level, the conclusion of local PCAs could be linked only to developments in local legislation, if that.

But the threat of local ordinances can hardly serve as a means to put pressure on firms either. In addition to the time-consuming nature of passing an ordinance in the local assembly, there is always the danger of central government interventions due to conflicts with national legislation or the constitution. When using ordinances government is much more tightly bound to issues of legality. Consequently, ordinances are also more easily assailed by businesses on legal terms. This is an important reason why governments prefer AG, and presumably PCAs, to ordinances.³⁶⁷ PCAs tend to be used by government as a complimentary instrument not in place of but in conjunction with municipal ordinances.³⁶⁸ This suggests that ordinances are not considered adequate replacements for PCAs by local governments.

It has been contended that the conclusion of a PCA exempted industry from additional future measures for pollution prevention. These arguments have been all but disproved by instances in which modifications to the agreement were made later on. Indeed, most agreements include provisions for a tightening of standards,

364. Broadbent 2005:117; Schreurs 2004:12; Imura and Watanabe 2003:26.

365. Weidner 1996:279.

366. Schaeede 1995:301; Weidner 1996:394.

367. Imura 1989:57f; Young 1984:930f.

368. Organization for Economic Co-operation and Development 2003:34.

e.g. according to technical development.³⁶⁹ And “in such cases entrepreneurs cannot but accept the new proposals.”³⁷⁰ This means that concluding PCAs is not a practical approach for firms to prevent stricter rules in the future.

In short, the legislative threat, that is regarded by many as the foundation of working VAs, can not be considered as an incentive for industry to conclude PCAs.

This insight has significant consequences for the choice of the MI. By both the definition that was adopted in chapter 2.2.4 and Scharpf’s conceptualization of NSH, the threat of switching to an alternative policy tool is the only significant threat that can be used in a VA.³⁷¹ If no agreement is reached, the government can try to regulate the matter at hand in other ways, but other sanctions are, by definition, absent at this stage.

It has thus been shown that there is a significant threat that is coercing industry into compliance. At the same time it has been ruled out that it is that of alternative legislation. Other applicable threats, i.e. the informal sanctions under AG, would explain the shift of NA but do not fit into the pattern of NSH. They do bear similarity with the kind of punitive measures used in conjunction with C&C regulation, in that they directly punish deviant behavior. In the absence of other explanations it must be assumed that the informal sanctions under AG are the main reason for industry to conclude PCAs with the local government. It follows from this that the MI has to be HD.

3.2.3 No Negotiations?

One question that still has to be resolved in the discussion of NSH versus HD is that of negotiations. According to the conceptions of ACI, negotiations between government and industry are taking place in NSH but not in HD.

Since negotiations are said to take place in the conclusion of PCAs, this might appear to rule out HD on the surface. But a closer look at the available data shows a different picture.

In Tōkyō for instance, the negotiations generally only begin after the prefecture has developed a detailed framework for the agreement.³⁷² And this approach does not appear to be exceptional. The empirical data strongly suggests that government dominates the PCA creation process: In a large-scale survey, 63

369. Fujikura 2007:102.

370. Yamanouchi and Otsubo 1989:227.

371. Scharpf 1997:202f.

372. Weidner 1996:266.

percent of local governments that had concluded PCAs with industry stated they had never made concessions in the process. An additional 18 percent answered that there had not been negotiations with businesses at all. Only 19 percent replied that they had ever made concessions. The *percentage of PCAs* concluded by government without concessions or negotiations could even be well over 81 percent, provided that governments that did make concessions in some PCAs did not do so in all of them.³⁷³

This strongly suggests that local governments are in a negotiating position of such superiority as to call into question whether the negotiations can be regarded as such at all. It also appears that negotiations are not compulsory for the conclusion of PCAs. If Matsuno and Ueta's numbers are correct – and there is no indication that they are not – it has to be concluded that the so-called negotiations are held mostly pro forma, if they are not skipped altogether.

It may be contended that, given the usually close relationship between government and industry in Japan, informal talks may be taking place in addition to, or instead of, formal ones. The figures cited above should perhaps be regarded as pertaining to official negotiations only.³⁷⁴ It could well be the outcomes of these informal talks that form the basis for PCAs rather than plans designed by government alone. Survey results show that industry's interests seem to be considered in the final agreements, in spite of the frequent lack of meaningful formal negotiations.³⁷⁵

But while this contention may have merit, it does not invalidate the argument made above. Informal talks taking place before any official negotiations during the conception of PCAs would be directly comparable with consultations that are a common feature in mandatory C&C regulation.³⁷⁶

Mechanisms like embedded autonomy allow public officials to negotiate with businesses in order to maximize the effectiveness of regulation, while maintaining their independence.³⁷⁷ They make it possible to effectively use wide implementational leeway in conjunction with otherwise fairly standard C&C regulation.³⁷⁸ Informal negotiations, therefore, do not have to be axiomatically absent under HD.

373. Matsuno and Ueta 2002:44; author's calculations based on *ibid.*:72; Matsuno 2001:18; answers *wakaranai* [unknown] or *mukaiitō* [n/a] omitted.

374. Imura and Watanabe 2003:26.

375. Chiba Prefecture 1994:105 cited in Matsuno 2005:225f.

376. Glachant 1994:48.

377. See chapter 3.1.2.3.f.

378. Broadbent 2005:131.

In summary, the presence of meaningful, formal negotiations would be a compelling argument for NSH and against HD. In this case, however, the negotiations are mostly pro forma, if not omitted altogether. NSH is not supported by the evidence. The possible occurrence of informal negotiations on the other hand does not challenge HD as MI since similar processes can be present in C&C regulation, particularly in its more flexible forms.

The following points have been established: It is substantial negative incentives, i.e. threats, that are motivating industry to conclude PCAs with government. The threat of alternative regulation does not play a significant role as an incentive, which all but rules out NSH as MI. The results of formal negotiations, if they do take place at all, are mostly predetermined. Their presence can thus not be seen to support NSH as MI either.

On the basis of these insights it must be concluded that, at least in the vast majority of cases, the MI that is governing the interaction between government and industry in the conclusion of PCAs in Japan is HD.

3.3 Evaluation of Results

It has been established that government coerces industry into signing PCAs with a significant threat. But what this threat consists in cannot be directly deduced from the ACI model. For two reasons, however, it can be assumed with reasonable certainty that the threat in question is AG, or rather the punitive measures that are associated with the instrument. First, many accounts in the literature are unequivocally pointing to AG as a coercive influence used for this purpose, as was detailed in chapter 3.1.2.3. Second, there is no evidence of another, distinct type of threat used in the circumstances.

One thing that remains to be done, is to test whether AG-related threats meet the requirements of the definition of coerciveness laid down in chapter 2.1. Without digressing too far, it can be confirmed that they do:

First, industry is convinced that government will take AG related punitive measures if it does not cooperate, i.e. sign a proposed PCA, a conviction that is induced by government. This is confirmed by company representatives' testimonies.³⁷⁹

Second, government wants to convince industry that the goal of the threat is to obtain a PCA. This at least is clearly what businesses believe.³⁸⁰ Considering the well established information exchange between government and industry it

379. Weidner 1996:279.

380. Matsuno 2001:19.

appears implausible that there could be a misinterpretation of government's intentions.

Third, the prevention of informal punishment used in the context of AG is an important reason for industry to sign a PCA. And finally, industry assesses the overall cost of a hostile relationship with government to be higher than that of pollution reduction under a PCA. These assertions, too, are confirmed by business owners' sentiments.³⁸¹

Before drawing the conclusions from the gathered results, it is necessary to establish certain limits regarding their implications and significance. These are limits mainly to the general applicability of this thesis's results, but do not call the results themselves into question.

As stated in chapter 2.3.1, the preferences regarding political instruments vary in different prefectures and municipalities. The ACI model is not applicable where local government lacks the will to conclude PCAs.

What is required from businesses in terms of sacrifices, relies solely on the will of local government. The political will in turn is highly dependent on the short- and/or long term pressure of the local constituency.³⁸² In the individual case, this means that PCAs' results depend on economic conditions and distinct local power relations and priorities. Deviations from the model are expected to be the exception.

This estimation is based on the premise of the high environmental effectiveness of PCAs that was treated as a given in this thesis. While, as previously explained, there appears to be wide agreement on this point, PCAs' effectiveness is not necessarily proven beyond doubt. Without providing specific sources, or explaining how he arrives at this solution, Broadbent for instance claims that only a minority of PCAs, mainly agreements dealing with large polluters, were effective. The author specifically limits this assertion to local pollution reduction effects, however.³⁸³

In line with the standard approach in ACI, the information used for the construction of the model has been simplified and aggregated. The information describes a great number of individual agreements as a whole. By implication, this also means that for individual cases, the explanatory power of the ACI framework is limited. There is a certain level of inherent abstraction. The insights gained through an institutionalist framework are not readily valid outside of the specific

381.Matsuno 2005:225.

382.Broadbent 2005:117.

383.Ibid.

institutional setting.³⁸⁴

On a similar note, the available statistical data is limited and was gathered several years ago. Some components of the ACI model and its results are based on the only major survey involving a significant number of PCAs, that of Matsuno and Ueta.³⁸⁵ Some parts of this survey are vindicated by research done by the EA.³⁸⁶ But the detailed questionnaire survey asking local governments about their experiences with business reaction to PCA stands on its own.

384.Scharpf 1997:42.

385.Matsuno and Ueta 2002.

386.See e.g. Environment Agency 1990 cited in Matsuno 2007:1f.

4. Conclusions

In the application of the actor-centered institutionalism (ACI) framework, it has been found that the interaction between government and industry during the conclusion of pollution control agreements (PCAs) is characterized by hierarchical direction (HD). The main finding that is supporting this argument is that the motivation of industry is a significant coercive threat, which is not the threat of alternative regulation. A second argument is the absence of meaningful negotiations in the overwhelming number of cases. Each of these factors on its own provides strong evidence that PCAs are not voluntary agreements (VAs). In their combination this evidence approaches proof. Thus, the findings corroborate the hypothesis.

But how can PCAs be best defined if they are not VAs? The result of HD as mode of interaction (MI) suggests that PCAs are a policy tool that is immediately reliant upon the coercive hierarchical power of the state, just like mandatory command and control (C&C) regulation. The threats used in connection with PCAs are on a par with those of C&C instruments in terms of deterrence, in that they directly and substantially punish deviant behavior. This is not altered by the fact that this power is exercised in an informal, non-transparent, and often extralegal manner.

Based on this rationale, it is consistent to classify PCAs as belonging to the category of C&C instruments, rather than – as is commonly assumed – to that of voluntary approaches. They mirror what Glachant describes as a process that appears to be one of agreement, but is in fact based on the unilateral setting of an environmental objective.³⁸⁷

The findings also clearly vindicate Tsutsumi's claim that "[PCAs] are used as a command and control environmental policy tool, closely related to the local authorities' 'administrative guidance' approach."³⁸⁸

PCAs are a flexible and effective C&C policy tool. They are agreements in name only, because the hierarchical power of the state is not used to create a space for voluntary action but to enforce an objective.³⁸⁹

At their core, PCAs are not unique, basically resembling direct regulation in their mode of operation. In this incarnation, it differs from standard regulation, however, by its informality and its highly flexible, discretionary implementation

387.Glachant 1994:48.

388.Tsutsumi 2001:151.

389.Glachant 1994:48.

style. PCAs resemble VAs that have been turned into C&C instruments due to the threat of alternative legislation being replaced by a different substantive threat:

They characterise a classical way of public decision making: unilateral decision making with the consultation of interested parties. In developed countries, when new regulations are being devised, consultation with firms to be regulated usually takes place.³⁹⁰

As implied at the outset, what category of policy instruments PCAs are assigned to, is not merely a question of terminology. By categorizing PCAs as C&C regulation, the credit that is commonly assigned to PCAs for their role in reining in Japan's post-war pollution also goes to this category of policy instrument. With PCAs, proponents of voluntary approaches lose what is commonly considered a non-standard type of VA with an acknowledgedly high environmental efficiency. In regard to a different aspect, namely the question whether government's exchange of goodwill for compliance can be described as a voluntary trade, a cogent theory is put forward by Murakami and Rohlen. Their argument concerns the relationship between government and industry in Japan, particularly in regard to business compliance with administrative guidance (AG) – and PCAs could be added to this list, too. The relationship, they argue, is best characterized “by a theory of implicit give-and-take operating in a long-term framework in which government and private firms get what they want.”³⁹¹

This arrangement is not dissimilar to the workings of a governmental system where government is legitimized by general elections, but can, on the level of individual policy issues, impose decisions without the consent of the citizens.³⁹² Here, too, citizens presumably get what they want in the long run. But this does not change the fact that, at least in the short term, “[all] hierarchical authority must be experienced, and probably resented, by [its subjects] as an exercise of unilateral power that reduces or eliminates [the subjects'] freedom of choice.”³⁹³

The existence of an implicit long-term *quid pro quo* arrangement does not mean, therefore, that the coercion exercised by the authorities is any less coercive in the short term. It may mean, however, that industry's compliance is more willing than it would be in its absence. In other words, Murakami and Rohlen's theory is consistent with the findings of this thesis.

Put in simple terms, it can thus be said that Japanese businesses could not be

390. Glachant 1994:48

391. Murakami and Rohlen 1992:91.

392. Scharpf 1997:171.

393. *Ibid.*:172.

individually coerced by government, if they did not collectively agree to submit to government's rule. This collective agreement, however, does not eliminate individual coercion in the short term.

What is described by this theory is not unlike what Schaefer calls the system of *consultative capitalism*, where market mechanisms are complemented by cooperative efforts between government and businesses. In its implementation it parallels what Broadbent describes as discretionary cooperative regulation.

³⁹⁴Antagonism between their interests is reduced, and political impasses are avoided, as is the cost of litigation, which can be enormous in confrontational systems like in the United States.³⁹⁵

The theory that PCAs are based on coercion, which is proposed here, neatly explains not only the extremely low rate of rejection but also the high rate of compliance. It can also account for their high stability, i.e. that it is apparently unheard of for businesses to cancel agreements.

PCAs being informal C&C regulation explain the conundrum of how it is possible that "Japanese voluntary agreements are nothing more than "gentlemen's agreements" but function as if they were legally binding."³⁹⁶ Coercion also explains why PCAs are successful, in the sense that they commonly reach their predefined goals. The environmental effectiveness, however, is a different matter. Coercion in the implementation phase can explain why there is no regulatory capture. The interaction between government and industry alone does not sufficiently explain why Japanese government officials tend to assign a high importance to pollution prevention. While in this thesis this was explained by public pressure and the goal of government to maximize welfare, additional research might provide more detailed insights into the matter.

Considering the apparent reliance of Japanese governments on public pressure, it might provide further insights if the relationship between government and the public was examined more closely. While citizen groups and other forms of public pressure were part of the subject matter, they were only featured as an influencing factor. A possibility to utilize ACI, that might provide further insights, would be to extend the model constructed here. While the possibility was not mentioned in the introduction to ACI, the framework does offer the option of connected games, that allow a detailed, simultaneous analysis of the interactions of both primary and

394. Broadbent 2005:118.

395. Schaefer 1995:315ff.

396. Vinger 2008:9.

secondary actors.³⁹⁷

At the same time, there are ramifications for the study of PCAs: The standard approach in evaluating VAs generally involves sampling the written agreements and analyzing them in regard to monitoring requirements or sanctions. In case of Japanese PCAs, this approach would not be as fruitful as it may be in actual VAs. While in those the written details contain the essence of the agreement, in Japan, this is not the case. In a system that works under the primacy of efficaciousness over legality fine print does not, perhaps, carry as much weight as it does in other countries.³⁹⁸

PCAs certainly reflect government's expectations, particularly the figures in the usually confidential annexes, so the agreements cannot be said to have no purpose, as some scholars might suggest.³⁹⁹ On the other hand, the absence of sanctions from a PCA can not be equated with the same in the case of VAs, for instance.

From a Western perspective, sacrificing the rule of law for the sake of efficiency must probably be regarded as offensive as a point of principle.⁴⁰⁰ On the other hand, if the premise that PCAs and AG are legitimized by popular support is accepted, doing so might be considered a sign of cultural ignorance.

Something that may be even more troubling is the lack of transparency. The support of non-transparent approaches is based largely on trust in the administration and running counter to modern expectations of good governance. This lack of transparency is exacerbated by the lack of objective measurement of PCAs effectivity, vis-à-vis other policy instruments like ordinances.

One possible avenue for research in this direction may be the differing local preferences mentioned earlier. A systematic time series comparison of localities preferring one or the other and the regional development of ambient standards might provide more objective insights into PCAs relative environmental effectiveness.

As suggested above, the effectiveness of PCAs, while generally acknowledged, is not proven beyond dispute. More solid and independent data is a necessary requirement to determine how much credit, if any, pollution control agreements – and their policy tool category – actually deserve.

397.Scharpf 1997:71, 93 note 2.

398.Weidner 1996:392.

399.Fujikura 2007:105, 112f.

400.Broadbent 2005:131.

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