

JAPANESE VOLUNTARY ENVIRONMENTAL AGREEMENTS: POLITICAL-  
ECONOMIC STABILITY AS CONTRIBUTOR TO EFFECTIVENESS

by

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## **ABSTRACT**

Empirical and theoretical literature on voluntary environmental agreements (VEAs) has identified numerous conditions for effectiveness. Such works are, however, primarily based on European and North American studies. Yet the Japanese experience with VEAs poses interesting challenges and opportunities for researchers. Overall, Japan's utilization of VEAs has been greater in breadth and depth than virtually any other state. Yet both this statement and understandings of environmental voluntarism depend upon careful attention to definitions. In particular, attention to the role of coercion is important to understandings of voluntarism. Ultimately, this thesis argues that the appropriate test of voluntarism is legal – any agreement not required in content or creation by law is therefore voluntary. Following this, the thesis utilizes the Japanese experience in dealing with sulfur dioxide and carbon dioxide to identify major features of the two most common types of VEAs in Japan, negotiated agreements and unilateral commitments. Japan's experience with environmental voluntarism is generally regarded as highly successful despite the absence of numerous conditions specified in the existing literature for VEA effectiveness. This challenges the completeness of extant theory and contributes a negative finding for the development of future research. This thesis argues that one overlooked variable is the stability of the state's political economy. As such, the following chapter specifies the role of stability as identified by scholars of VEAs and political economy. The examination indicates that political economic stability, as a contributor to VEA effectiveness, has thus far been underappreciated by scholars of environmental voluntarism. Particular attention is paid to the role of stability in encouraging investment and making credible commitments. The following chapter addresses the stability of Japan's political economy to identify possible sources, characteristics and effects. The results and observations provided pertain primarily to large firms but share numerous commonalities with most firms in Japan. Particular emphasis is placed on four types of stability: political, policy, individual, and firm. The thesis concludes by arguing that current instability-generating trends in Japan's political economy are likely to reduce VEA effectiveness and focuses primarily on Keidanren's Voluntary Action Plan for carbon dioxide emissions reduction.

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## **List of Acronyms**

BOJ	–	Bank of Japan
C&C	–	Command and Control
CO <sub>2</sub>	–	Carbon Dioxide
CP	–	Clean Production
EP	–	End-of-Pipe
EPA	–	Economic Planning Agency (integrated into Cabinet Office, 2001)
GDP	–	Gross Domestic Product
GNP	–	Gross National Product
LDP	–	Liberal Democratic Party of Japan
METI	–	Ministry of Economy, Trade and Industry
MHW	–	Ministry of Health and Welfare
MITI	–	Ministry of International Trade and Industry (after 2001, METI)
MOE	–	Ministry of the Environment
MOF	–	Ministry of Finance
NA	–	Negotiated Agreement
NO <sub>x</sub>	–	Nitrous Oxides
OECD	–	Organisation for Economic Co-operation and Development
PCA	–	Pollution Control Agreement
SMEs	–	Small and Medium Enterprises
SO <sub>2</sub>	–	Sulfur Dioxide
TSE	–	Tokyo Stock Exchange
USEPA	–	United States Environmental Protection Agency
VAP	–	Keidanren's Voluntary Action Plan
VEA	–	Voluntary Environmental Agreement

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"The selfsame moment I could pray

And from my neck so free

The Albatross fell off, and sank

Like lead into the sea."

*The Rime of the Ancient Mariner, Samuel Taylor Coleridge*

## **Chapter 1: Introduction**

Environmental quality and how best to protect it are currently “hot-button” issues but are not new challenges. The last few decades have indeed seen significant increases in environmental policy experimentation and the use of new policy tools to address these challenges. Foremost among which one finds the increased use of voluntary approaches. These approaches evolved from few uses and forms to cover a wide variety of agreement and pollutant types. They also spread throughout the industrialized world and were applied by many different levels of government. Much of the empirical and theoretical literature in the field is, however, based on European and North American experiences. Studies of environmental voluntarism are therefore influenced by a background political economy of deregulation, privatization, and changing norms about the appropriate role of the state in markets.

As the use of voluntary approaches increased throughout the late 1980s and 1990s so too did debate over their desirability. Opponents of environmental voluntarism saw dangers in its use through undue firm influence and the possibility of watering-down environmental standards. Advocates, on the other hand, saw numerous benefits both to overall cost-effectiveness and state-firm relations. As the debate progressed many conditions for effectiveness were identified and analyzed by scholars of environmental voluntarism. Central to many of these conditions is the role of information provision and diffusion. In much the same way that firm accounting was cleaned up by external monitoring, environmental agreements were generally theorized by scholars to be most

effective when supplemented with widespread information distribution. The role of civil society as both diffuser and recipient of information was emphasized by many interlocutors as necessary to effectiveness. Yet these, and other identified conditions, were largely absent in Japan – the world’s most successful and extensive user of environmental voluntarism.

Scholars of Japanese environmental politics have consistently pointed out the dearth of academic works studying Japanese VEAs; this is particularly true for the English language literature (Tsutsumi 2001, 145). The year of publication of a widely cited “initial survey” is telling; it was first available in 1999 (see OECD 1999). Current theorizing about VEAs, moreover, suggests that such agreements are particularly unlikely to be successful in the spectacular fashion we see in Japan (i.e., across pollutants, industries, and time). Thus the detailing and examination of a crucial case (as argued by Eckstein 1975) which poses challenges to current VEA theories provides a significant contribution to the literature. Simply put, this examination of the Japanese case reveals the absence of previously identified conditions for effectiveness *in the presence of success* and thus makes a meaningful contribution to strengthening VEA theorizing. This contribution should not be taken lightly given that a negative finding contributes to the literature as much as a positive finding (King et al. 1994, 19-23). Lastly, the clear negative finding of this thesis is helpful to all scholars of environmental voluntarism in that it provides impetus to new theories, examinations, and conclusions. The social sciences are ultimately a collaborative effort, one to which this thesis tries, however humbly, to contribute a helpful and needed addition.



A survey of the literature on VEAs shows that the role of stability has been thus far overlooked. Stability, as this thesis later argues, has important implications for the effectiveness of VEAs. It is not the position of this thesis that political economic stability is *the* determinant of agreement effectiveness nor should the reader think that any attempt has been made to identify the relative strength of stability as an explanatory variable. Rather this thesis argues that the role of stability, as a contributor to VEA effectiveness, has been mistakenly overlooked. Indeed, the studies and works consulted never devoted much attention to political-economic stability; when stability was mentioned it was usually in relation to another variable and not itself an object of study or theory. The purpose of this thesis is therefore twofold. First, it seeks to contribute to the literature a negative finding with regard to many of the effectiveness conditions identified by other scholars of environmental voluntarism. Second, it speculates about the importance of political economic stability to environmental voluntarism with attention to political, policy, firm and individual stability.

In Japan the application of voluntary approaches to environmental protection took place within significantly different political economic conditions from those seen elsewhere. State intervention in markets, to choose but the most obvious difference, continued to be acceptable far longer in Japan than in many other industrialized states. These conditions, moreover, were visible throughout much of the postwar period and it is their continuity which defines the period under examination. In the period starting from the mid-1990s, the pillars upon which Japan's highly stable political economy were built

began to crumble and instability increased throughout Japan's political economy. This thesis therefore focuses primarily on the period beginning with the conclusion of the first negotiated environmental voluntary agreement in 1952 until the mid-1990s, a lengthy span but with considerable continuity throughout. Before proceeding further there remains one other scope condition applied to the thesis, the size of the firms in question.

It is important to remember that, throughout this thesis, general references to companies and firms specifically do *not* refer to small and medium enterprises (SMEs). This focus on large firms (usually with 1000 employees or more) is justified on a variety of grounds. Within Japan itself large firms have long acted as opinion leaders and indicated to smaller firms acceptable business practices and 'normal' means of operation (Anchordoguy 2005, 20). It is for this reason that policymakers have focused other forms of voluntarism on a given industry's largest members (Okimoto 1989, 129). Certain features of stability in Japan's political economy such as lifetime employment are, moreover, most clearly visible in Japan's largest firms. Yet there are also good reasons for focusing on large firms in works studying environmental voluntarism. In a prototypical heavily industrialized region in Japan – indeed the region suffering the worst air pollution levels in the 1960s – one study found that the top firms, though few in number, represented more than 90 percent of pollutant emissions (Welch and Hibiki 2003, 537; Fujikura 2001, 470). In short, the largest firms in Japan are responsible for the lion's share of emissions and strongly exhibit characteristics found more weakly among SMEs. It is on these grounds that the scope of the thesis is explicitly limited. In much the same way that large firms illustrate aspects common to all firms, the Japanese

experience dealing with certain pollutants exemplifies characteristics common to nearly all.

In addressing the extremely broad topic of environmental voluntarism in Japan it is useful to identify and utilize cases which typify and illuminate wider trends. The role of environmental voluntarism in Japanese attempts to reduce sulfur dioxide emissions ( $\text{SO}_2$ ), for example, was selected for this very reason. Of the two types of agreements studied, this case exhibits numerous important qualities common to most negotiated agreements. The number of observations, moreover, was significantly increased in a variety of ways. First, high numbers of Japanese prefectures utilized voluntarism to address this environmental pollutant. Second, experience with this pollutant and voluntarism now stretches over more than 50 years. Third, among the pollutants available to study, sulfur dioxide is arguably the best described in the English language literature.

The second case utilized takes a slightly different approach as a result of being used to illuminate a different type of environmental voluntarism: unilateral commitments. The pollutant itself, carbon dioxide, is here examined for reasons similar to those identified above but the focus of the case is instead on a particular agreement: Keidandren's Voluntary Action Plan (VAP). As the flagship program covering nearly half of Japan's  $\text{CO}_2$  emissions, the VAP is a worthy target of study for a few reasons. First, the extent to which it is successful will have significant implications for other voluntary approaches to this problem in Japan. Second, the VAP is one of the best-

studied Japanese agreements amongst English-language scholars. As such, the body of previous research utilized helps to increase the accuracy of the thesis' observations and results. Third, the VAP has a long history relative to most unilateral commitments in Japan and thus increases the observations available over time.

The thesis draws primarily on data from the academic literature and supplements it with government and industry reports. The breadth of academic literature consulted does, however, deserve mention as different fields contributed in unique ways. The economics and environmental economics literature was valuable for understanding the nature of Japanese market structure and its corollaries. Sociological literature, on the other hand, helped significantly in understanding the mediating influence of social and cultural context. When discussion of administrative guidance and bureaucracy was necessary, political scientists provided a wealth of insights and information. As well, the business and finance literature aided in understanding corporate perspectives on environmental voluntarism. Together these overlapping analytical lenses provided a unique look at the data utilized and contributed to the overall accuracy of the thesis.

Before finally turning to the structure of the rest of the thesis, it is here important to remind the reader of the key underlying arguments upon which it rests. First, the effectiveness conditions identified by other scholars of environmental voluntarism are generally absent in Japan. Information diffusion and third party monitoring are two of the most clearly visible lacunae but numerous other conditions are also absent. These include a lack of: significant end-consumer contact, civil society involvement, clarity and

specificity of agreements, penalties for agreement failure, a litigious society and clear legal status of the agreements. Second, having thus provided a negative finding the thesis further argues that part of the explanation for environmental voluntarism's effectiveness in Japan can be found in its high political-economic stability. This stability encourages investment in pollution abatement, increases the credibility of commitments and agreements, and facilitates long-term planning. Such stability is, moreover, important at the individual, firm, political, and policy levels.

The structure of the rest of the thesis is as follows. Chapter 2 explains the development and spread of voluntary environmental agreements. This provides necessary background and identifies extant theorized conditions for effectiveness. It also provides definitions of the terms utilized and engages with the literature to specify the meaning of voluntarism and role of coercion. In Chapter 3 the VEA literature specific to Japan is reviewed and the cases of SO<sub>2</sub> and CO<sub>2</sub> are examined. Both cases are used to illuminate important aspects common to most Japanese environmental voluntary agreements. Following this Chapter 4 argues that the role of stability has been underemphasized in the literature and identifies ways in which stability impacts VEAs' effectiveness. In general, long-term planning and investment – both important to pollution abatement and environmental initiatives – are encouraged by high political economic stability. Having thus provided an outline of some possible influences of stability, Chapter 5 is concerned with identifying the stability of Japan's political economy in four categories: politics, policy, firms, and individuals. Finally, Chapter 6

sums up the thesis, identifies current trends in Japan's political economy, and offers a tentative explanation of current VAP effectiveness.

## **Chapter 2: Voluntary Environmental Agreements**

### **Voluntary Environmental Agreement Development**

Popular and scholarly works on environmental regulation and protection have, for some time now, recognized significant growth in the use of self-governance and voluntary approaches since the late 1980s and early 1990s. While their practical application and development has increased significantly over the last fifteen years, so too have theoretical works on voluntary and cooperative approaches to environmental regulation. Throughout these periods scholars oft criticized widely used traditional “command and control” (C&C) approaches to environmental protection and pollution abatement. Command and control approaches are, in essence, the utilization of legitimate state tools of coercion to ensure compliance with *uniform* emissions standards and regulatory policies. By the 1970s a number of scholars began to argue that C&C approaches were highly cost-ineffective and that alternative measures could significantly reduce the costs of pollution abatement (Tietenberg 2006, 1).

An influential 1990 study found that the cost of pollution abatement in the United States was equal to greater than ten percent of total government purchases. The same study also found that, taken together, the three largest components of pollution abatement reduced GNP growth 0.191 percentage points (Jorgenson and Wilcoxon 1990, 314 and 338). Numerous scholars and policymakers have therefore pointed to the rising costs of traditional approaches both to firms and to states as motivating experimentation with voluntary alternatives (Khanna 2001; Bailey and Rupp 2006; Harrison 1999; Börkey and

Lévêque 2000). Other scholars have, however, suggested that the rise in environmental voluntarism can be attributed wholly or nearly wholly to the ongoing critiques (Carmin et al. 2000, 314). Trenchant criticisms of C&C approaches' efficiency and cost aside, it is nevertheless true that "policy styles tend to evolve incrementally...bounded by institution structures and cultural norms" (Bailey and Rupp 2004, 249). Still other scholars have therefore identified several additional factors which also contribute to the continuing emergence of environmental voluntarism. In the order they are discussed these factors essentially amount to the confluence of changes in: arguments about the effectiveness of C&C approaches, norms about the appropriate role of the state in the market, state capacity, and the perceived social responsibility of firms.

While some were concerned with the efficiency and social cost of C&C approaches to environmental protection, others began to identify both unintended consequences and general failures in the traditional approach. Some critiques focused on the tendency of past approaches to be medium-specific. This encouraged firms to shift pollutant emissions from one medium to another such as from liquid effluents to atmospheric disposal of emissions (Khanna 2001, 291; Khanna et al. 2005, 5). This was argued to have occurred because C&C approaches encourage end-of-pipe technology adoption rather than process modifications (Andrews 1998, 178). Other critiques placed greater emphasis on the inability of regulators to keep pace with new pollutants and processes in an increasingly complex and technically advanced economy (Börkey and Lévêque 2000, 35). Still other questions were raised about the effectiveness of traditional approaches, particularly with regard to non-point source pollutants (Sinclair 1997, 529).



Yet critiques of traditional approaches were not concerned only with the technical problems but also with engendered social and relational problems. Described by some critics as “unnecessarily adversarial and legalistic” it was argued that a “culture of resistance” might develop among firms as a result of C&C approaches. At its very worst this resentment might even blossom into active cooperation among firms in identifying and exploiting gaps in regulatory coverage (Harrison 1999, 53 and 55). Overall, the relationship between environmental regulatory bodies and firms was described, perhaps charitably, as having been coloured by mutual mistrust (Nash and Ehrenfeld 1996, 18; Beardsley et al. 1997, 7). As the efficiency and effectiveness of C&C approaches was often being called into question, broader norms regarding state size and involvement in the market were also in flux.

Among the states of the industrialized world questions were being raised by scholars, policymakers, civil society, and private enterprises about the appropriate role of the state in markets and the appropriate size of state bureaucracies. Throughout the 1980s the ascendance of Reaganomics in the United States and Thatcherism in the United Kingdom were arguably the two most visible expressions of these changes in norms. In different ways both Reagan and Thatcher sought to reduce the role of the state in the market as well as to reduce the burden of state regulation on the economy. Among many continental European countries policymakers similarly began pursuing public-private partnerships and initiatives which had become “fashionable.” In the Netherlands – one of the most extensively studied cases within the voluntary environmental agreement literature – deregulation, decentralization and privatization neatly encapsulated the main

features of these new norms and trends (Glasbergen 1998, 694 and 696). Smaller governments, lacking the resources of their predecessors, therefore find it harder to raise needed funds for programs – voluntary or not – that require, among other things, significant financial capital (Lyon 2003, 9). Thus while some scholars point to the impact of changing norms as important to the rise of environmental voluntarism, others have pointed to a decline in state capacity to effectively regulate and monitor increasingly powerful markets and firms.

As of 2005 the market capitalization of ExxonMobil was larger than the GDPs of, among others: Portugal, Greece, Vietnam, and New Zealand.<sup>1</sup> While it is true that ExxonMobil, as the world's largest firm (by market capitalization) is particularly well-suited to this comparison, it is hardly in a class of its own and only overtook GE to claim first position in 2005.<sup>2</sup> As the strength of multi- and transnational firms continues to grow the material conditions upon which past regulations rested has also changed. Consequently, as James Rosenau has argued, "...a transformation of the material conditions [upon which a given order depends] can foster a breakdown, or at least a restructuring, of the prevailing order" (1992, 21). In the face of growing market and firm strength, scholars studying voluntary environmental agreements have pointed to a decline in state capacity such that "...the state is no longer able – or willing – to entirely manage society from above..." (Arts 2002, 29; see also Andrews 1998, 193). In the United States,

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<sup>1</sup> Country GDPs can be found in the CIA World Factbook. Purchasing Power Parity (PPP) figures were used and are available at < <https://www.cia.gov/cia/publications/factbook/index.html> > (Accessed October 22, 2006). The 2005 Market Capitalization of ExxonMobil is available at "ExxonMobil replaces GE as world's largest company in market-cap," < [http://www.newratings.com/analyst\\_news/article\\_700301.html](http://www.newratings.com/analyst_news/article_700301.html) > (Accessed October 22, 2006).

<sup>2</sup> "ExxonMobil replaces GE as world's largest company in market-cap," < [http://www.newratings.com/analyst\\_news/article\\_700301.html](http://www.newratings.com/analyst_news/article_700301.html) > (Accessed October 22, 2006).

for example, the US Environmental Protection Agency's (USEPA) budget shrunk roughly 15 percent between 1980 and 1996 despite continually growing responsibilities for pollutant monitoring and standards establishment; at the same time, former USEPA administrator William Reilly estimated that fewer than 20 percent of politically mandated deadlines were met (Nash and Ehrenfeld 1996, 17). The growing import of firm and market cooperation to effective environmental protection has been recognized not only by the academic community but also by actors in the private sector. Indeed, debate within the business community over the roles and responsibilities of firms has been spirited and extensive.

Within the global business community but particularly within that of the advanced industrialized nations there has been significant debate about the appropriate roles, rights, and responsibilities of corporations. A significant portion of this debate, moreover, has centred on the social responsibilities of firms to the environment and voluntarism. Those skeptical of the benefits of corporate environmental initiatives come from a wide variety of backgrounds: the stylized 'right' oppose perceived inefficiency and moral imperialism while those on the 'left' tend to decry corporate insensitivity and illegitimacy (see Friedman 1970; Goodpaster and Matthews 2005). Opposition notwithstanding, from the late 1980s onwards many firms – but especially large transnational and multinational firms – sought to address environmentalists' criticisms within firm processes. One of the main motivations for firms was the idea of *eco*efficiency: with fewer inputs used and less pollution created firms could both become more efficient and reduce pollution in one fell swoop (Schmidheiny 1992; Andrews 1998, 177). Critics of this process, primarily from

outside of the business community, have tended to regard corporate environmental efforts as more speech than substance and thus have termed it *greenwash* (Clapp and Dauvergne 2005, 174-179). Whether the growth of environmental initiatives among firms is or isn't an attempt to disguise true corporate ecological impacts is here less important than recognizing the significant proliferation of firm environmental initiatives since the Brundtland Commission's 1987 call for 'smart' regulations.

### Applications and Spread of VEAs

Voluntary environmental agreements can be found in varying approaches and numbers throughout the industrialized world.<sup>3</sup> As of 1997, 22 OECD countries had concluded more than 350 voluntary initiatives; every member state of the EU, with the exception of Greece, had concluded such agreements (Skjærseth 2000, 58). It does, however, bear noting that the majority of the European agreements were concluded in the Netherlands and Germany which together held roughly two-thirds of the total (Karamanos 2000, 71). Conversely, in the United States the total figures are significantly lower; one 1996 study identified 13 major voluntary programs including the relatively well-studied 33/50, Green Lights, and Energy Star programmes (Arora and Cason 1996, 414). Canada too has utilized voluntary programs to address a variety of threats to the environment such as the ARET Challenge, aimed at reducing firms' emissions of toxic, persistence, and bioaccumulative pollutants (Harrison 1999, 61-63). Overall, voluntary agreements have been applied to a host of environmental problems including, but not

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<sup>3</sup> This is not to say that voluntary environmental agreements cannot be found in the developing world for indeed they can be. The development and deployment of such agreements is, however, arguably greater in the industrialized world; it is also the focus of this section. For an example of developing world environmental voluntary agreements see Tietenberg and Wheeler's (1998) work on information disclosure in Indonesia (the PROPER programme).

limited to: toxic chemicals, acid rain, waste disposal and management, energy efficiency, climate change, packaging, soil pollution, natural resource utilization, and vehicle emissions (cf. Bailey and Rupp 2006, 41; Karamanos 2000, 71). In the same manner that the geographic dispersal of such agreements is far from uniform, so too are the form of the agreements and their relative use by industries similarly unbalanced.

Voluntary environmental agreements can indeed be found across many different industries and emissions categories. In the EU, for example, 27 industry-level initiatives were underway by 2001 and in the US there were nine such initiatives (Khanna 2001, 296). While the number of industry-level initiatives would ostensibly suggest a plethora of industries involved, other scholars have pointed out that throughout the world nearly half of all industry-led initiatives are related to the chemical industry's Responsible Care programme. Among these initiatives most contain no monitoring or evaluation provisions nor do they have quantitative targets (Börkey and Lévêque 2000, 37).<sup>4</sup> Among EU member states (and as will later be shown, also in Japan) negotiated agreements between firms and governments are, moreover, the most commonly utilized form of voluntary environmental agreement; in addition, they are overwhelmingly legally non-binding (cf. Bailey and Rupp 2006, 41; Börkey and Lévêque 2000, 40; Karamanos 2000, 75). It is to understanding and defining the terms utilized in this and other scholarly works that we next turn.

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<sup>4</sup> Developed in 1985 largely to regain public trust following several well-publicized human and ecological disasters, Responsible Care has since spread throughout the international chemicals industry. Among these disasters perhaps the most famous occurred in Bhopal, India at a Union Carbide production site; nearly 4000 people were killed in the incident with human and ecological impacts continuing today.

### Defining and Understanding Voluntarism

Among scholars who study voluntary environmental agreements it is not only content which is contested but also the terms and definitions employed. By the year 2000 there were 18 distinct but common terms and “at least” eight common definitions in use (Karamanos 2000, 69). As though this was not confusing enough, students of the field also were confronted with a surfeit of typologies with each reflecting the emphasis, assumptions, and biases of the scholars involved. Given the wide variety of processes and end products present among voluntary environmental agreements it is important to provide a sufficiently inclusive definition while simultaneously maintaining intellectual coherence. As such, the intellectually tidy definition provided by Long and Arnold (1995, 6) is particularly useful: voluntary environmental agreements (VEAs) are “agreements among the corporate, government and nonprofit sectors not required by legislation that aim to improve environmental quality or natural resource utilization.” Within this still-broad definition the work of Börkey and Lévêque (2000, 36-40) provides a simplified but widely cited tripartite typology of voluntary approaches: unilateral commitments, public voluntary schemes, and negotiated agreements. Before further specifying each part of the typology it is, however, important to first address a contested but frequently underspecified part of scholarly works on VEAs: the nature and degree of coercion involved.

Works concerned with VEAs often take for granted that the reader shares with the author a common understanding of ‘voluntary.’ As such, there are numerous examples of the meaning of ‘voluntary’ being left undefined and unexplained. Yet here of greater

concern is the tendency for some authors to equate voluntary with penalty-free agreements and a total lack of coercion. Skjærseth, for example, includes the “absence of sanctions” as part of his definition of VEAs. This is because “...target groups cannot be expected to participate in agreements that may lead to negative sanctions” (2000, 60-61). Similarly, Karamanos argues that one of the four defining characteristics of VEAs is that they lack penalties for non-participation and usually too for agreement termination (2000, 67-68). Khanna likewise separates “voluntary initiatives” from those motivated by “market-based and public pressures” (2001, 293). While scholars are right to explicitly address the role of negative sanctions and coercion in VEAs the definitions provided are of questionable utility. Firms, commonly participants in VEAs, *voluntarily* and regularly sign business agreements with other firms which certainly provide for sanctions in case of agreement termination. None would argue, however, that firms did not voluntarily enter into the business deals. Similarly, with the emphasis some scholars place on a lack of penalties for non-participation, further issues are raised. Is a non-participating firm penalized when a competing firm receives government subsidies or tax-breaks as a result of program participation? What constitutes a penalty to a firm is rarely made clear; in the case of Khanna’s definition, is a firm which tries to gain increased “green” market share through VEAs not acting voluntarily? Lastly, while it is immanent in other works that participation in VEAs necessarily lacks government coercion as a motivating factor, other scholars have explicitly pointed to the relative import of coercion.

Identified by some as the “paradox of a...voluntary approach” the existence of a coercive government is “often a necessary prerequisite” for the creation and success of

VEAs (Harrison 1999, 59). Ultimately, even among “purely voluntary” agreements “a complete absence of compulsion is in fact rare” (Sinclair 1997, 535). With this in mind it is the position of this thesis that a definition which requires a thorough examination of each agreement (based on the contestable degree of coercion involved) significantly limits our ability to talk about voluntary environmental agreements as an identifiable category. The ultimate test of voluntarism must therefore be easily recognized and classifiable; in short, it must be legal. Any agreement which, either in content or formation, was required by law cannot be fairly described as voluntary. As such, agreements which go beyond the legally-mandated requirements may be fairly described as voluntary without regard to the presence or absence of penalties for agreement termination. This definition is sufficiently broad so as to encompass the range of voluntary agreements available while simultaneously being sufficiently crisp in providing an easier means of classification. With this in mind we can now return to explicating the tripartite typology here utilized.

VEAs generally fall into one of the three still-broad aforementioned categories by Börkey and Lévêque (2000, 36-40). First, unilateral commitments are firm-created programmes the scope and goals of which are determined by the firm and communicated to stakeholders. Such commitments are not, however, limited to a single firm and can instead be made by a firm, several firms, or whole industries. Second, public voluntary schemes are those in which “firms agree to standards...developed by public bodies such as environmental agencies.” In such schemes firms accept predefined membership conditions, standards, monitoring criteria and evaluations. Lastly, negotiated agreements



(NAs) are those which may or may not be legally binding “contracts resulting from negotiations between public (national, federal or regional) authorities and industry... [in which] their contents are defined...jointly by both.” In the case of negotiated agreements it is the contention of this thesis that the specified levels of public authorities should be increased to include all levels and, importantly for this work, local governments. Empirically, across both the EU and the world, a significant majority of VEAs are firm-government NAs (cf. Karamanos 2000, 75; Börkey and Lévêque 2000, 40). In Japan this is as well the case but unilateral commitments (at least with regard to climate change) are increasingly numerous and important. Thus while the following discussion of the strengths, weaknesses, and effectiveness conditions will often apply to all classes of the typology, the discussion is particularly focused on negotiated agreements and unilateral commitments.

### Benefits of VEAs

Voluntary environmental agreements are particularly attractive to governments insofar as they allow the state both to reduce (monitoring, enforcement, legislative and related) expenses while simultaneously holding out of the promise of environmental protection (Arora and Cason 1996, 414). In states with numerous access and veto points negotiating costs are, in particular, likely to be lower for VEAs than traditional C&C regulations (Welch and Hibiki 2003, 526). While some have argued that the state may eventually end up indirectly paying for the environmental improvements, the important point here is that the costs are *in the short run not borne directly* by the state (Stoeckl 2004, 139). This advantage will be particularly salient in states where the

aforementioned norm changes have gone the furthest. Cost-reduction is not, however, limited to states; firms also benefit in a variety of ways from reduced costs.

The flexibility inherent to many VEAs is thought to allow “firms to make the most cost-effective emission reductions” (Arora and Cason 1996, 414). Some such reductions may take the form of win-win situations in which increased ecoefficiency at once reduces costs and emissions; other reductions may simply be less costly to a firm than those likely to be affected by traditional regulations. Negotiated agreements between entire sectors of industry and governments may, moreover, provide for total lower abatement costs as firms with lower costs can bear the majority of the reductions (Bailey and Rupp 2006, 52). While skeptics may question the relative impact of cost-effective reductions, one study found that environmental costs may total as much as 10-12 percent of manufacturing expenses (Andrews 1998, 188). This figure, far higher than the commonly assumed two to three percent, undoubtedly raises the value of voluntary approaches to polluting firms.<sup>5</sup> While such costs are relatively direct, other scholars have emphasized the value of indirect cost reduction to firms through VEAs.

In the case of the US EPA’s 33/50 Program, scholars have argued that the program reduced participants’ “potential...costs of liabilities” (Khanna and Damon 1999, 1). Participation in VEAs is therefore argued to function as a signaling device to customers, regulators and other firms (Arora and Cason 1996, 414) which reduces the risk of future private law suits and “thus raises the expected value of future profit”

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<sup>5</sup> Measured differently Imura et al. (2005, 274) estimate that, in Japan, pollution control plants and equipment “can generally be assumed to be about 30 per cent of total fixed costs.”

(Stoeckl 2004, 150). In this way participation in VEAs is at least partly a function of firm ability to plan for the future. Empirical evidence of the costs of environmental law suits is, however, somewhat mixed. As early as 1990, one US-based study found that lawsuits generally impose significant one-time costs on a firm's stock price averaging a loss of 1.2 percent (Muoghalu et al. 1990, 365). Other works have reversed the sequence and instead examined firm participation in VEAs as an ameliorative measure *following* drops in stock price rather than a preventative measure. Konar and Cohen, for example, found that firms which experienced the greatest decline in share price following emissions data publication were also those most likely to initiate larger longer-term reductions; they did not, however, find any noteworthy effects of lawsuits on firm valuation (2005, 26). In addition to liabilities and lawsuits there is, however, another cost indirectly lowered by VEA participation – that of the labour force.

Among the costs which may be indirectly reduced by participation in VEAs, some scholars have pointed to worker satisfaction and retention as important considerations. Retaining employees concerned about the health impacts of firm pollutants, for example, may require higher wages (Harrison and Antweiler 2003, 361). Firm participation in a VEA may, however, reduce such pressures and increase employee satisfaction; a 1995 survey of Canadian firms found that employee concern for the environment was the third most important motivator of firm environmental activities (Henriques and Sadorsky 1996, 388). Thus, firms are likely to participate insofar as they stand to achieve cost reductions as VEAs reduce pressure on wages and retention rates. Such theorizing, while important, points to the particular national lens through which most scholars have thus far examined

VEAs. In states where employee retention and wage increases pose fewer problems for firms, as this thesis later argues is the case in Japan, labour considerations are consequently of less importance and cannot provide a significant spur to effectiveness or participation. Overall, while there are numerous direct and indirect cost reduction benefits for VEA participant firms, other scholars have rightly pointed out that an economic focus is only one of two important perspectives (Welch et al. 2000, 410-412). It is to the second perspective of governance and regulations that we now move.

Many studies of environmental economics regard regulations as fixed boundaries within which individuals and industries operate. As the object of regulation, firms lack incentives to pursue costly beyond-compliance agreements and initiatives (Khanna 2001, 298). Yet numerous studies and scholars now point to the ability of firms to utilize VEAs as both a method of regulatory preemption and modification. Nearly two-thirds of industry respondents to a European Commission survey referred to the potential of VEAs to “forgo or postpone regulation” as the most important benefit of participation (Harrison 1999, 67). This potential for avoiding regulation has led some scholars to disparage VEAs as little more than substitutes for more effective traditional regulation in cases of strong political resistance (Lyon 2003, 3). VEAs may also be beneficial to firms insofar as they reduce external pressure from stakeholders including community and environmental groups. Empirical works have indeed shown that greater community pressure is correlated with greater firm environmental voluntarism. The relationship between pressures from non-community groups (e.g., national eNGOs) and environmental voluntarism is, however, somewhat less clear (cf. Welch et al. 2000, 413;

Henriques and Sadorsky 1996, 392). It is also possible, as Maxwell and Decker suggest, for firms to reduce extant regulatory pressure by trading voluntary actions for regulatory relief (2006, 425-426). If firms are, however, unable to prevent, preempt, or relieve traditional regulation through participation in VEAs they may still be able to influence the content and form the coming regulations take.

Future environmental regulatory standards may be influenced by past firm innovations thus giving firms “a competitive advantage in the future and [creating] barriers to entry by new firms” (Khanna 2001, 298) as well as “raising costs of compliance for other firms” (Arora and Cason 1996, 414). This may also prevent losses in firm competitive advantage as these firms can avoid future delays derived from the implementation of new regulations and standards (Andrews 1998, 188). Conversely, firms may create or participate in VEAs as a rational *long-term investment* for the future when they expect heavier forthcoming regulatory burdens (Khanna and Damon 1999, 8). The ability to influence future regulations through VEAs may, however, be less valuable to firms located in states with corporatist tendencies. In such countries “environmental standards have traditionally been set through bipartite negotiation with the regulated industry” (Harrison 1999, 55) and VEAs might do little to increase industry influence. Unfortunately, definitive conclusions on this point remain elusive as empirical studies focused on testing this have yet to be developed.<sup>6</sup> It does, however, again remind us of the importance of national context to careful scholarly work. Corporatist states aside, it is nonetheless often argued that VEAs generally increase trust, cooperation, and awareness

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<sup>6</sup> While it is undoubtedly the case that corporatism and voluntary environmental agreements have been linked in the literature, comparative (and other) works which explicitly attempted to utilize state corporatist traditions as an explanatory variable eluded my research.

between firms and authorities (Skjærseth 2000, 63; Börkey and Lévêque 2000, 52). Although empirical proof on the point is limited, interviews with Dutch industry and government officials who have extensively used VEAs support this argument (Harrison 1999, 64). While for advocates of VEAs this closer cooperation is a net benefit, for VEAs' detractors firm-state cooperation is akin to supping with the devil.

Advocates of VEAs tend to see industry-state cooperation in a positive light whereas opponents of closer cooperation have pointed to the dangers of regulatory capture. This problem is amplified within a NA context but exists to varying degrees within most VEAs. In such cases regulators charged with protecting the public interest instead come to express in part or in full the opinions or goals of the target of regulation. This may allow industry to weaken the content of or delay the completion of VEAs (Harrison 1999, 58). The risk of this capture appears to be greatest in the presence of two conditions: first, where "strong information asymmetry exists between industry and government negotiators" and second, "where industry threatens large-scale employment losses as a result of new policies" (Bailey and Rupp 2006, 43). In general, Carmin et al. find that the increased use of VEAs is typified by unequal influence – usually in favour of industry (2003, 538). In cases where industry is able to extensively dilute or delay VEAs they may come to function as little more than greenwash and thus have led some to call into question their ultimate value. So far these critiques have assumed firm participation in VEAs. Yet as numerous interlocutors have argued, firm participation in VEAs is uncertain and presents its own problems.

The problem of firms free-riding on industry-wide agreements presents a not easily addressed problem to VEA advocates. Among NAs, individual factories or subdivisions may indeed free ride on the efforts of the rest of the firm. Still, this problem is particularly salient in the case of industry-wide agreements or standards. The benefits of the NA, such as avoided regulations, are indivisible while the costs are borne by each firm individually. Each firm therefore has "an even greater benefit if it does not abate pollution while others do." Business associations, generally the signatory to these NAs, have at their disposal only the "rather weak sanctions" of pressure and exclusion (Börkey and Lévêque 2000, 50). Participation rates are therefore one of the main problems confronting VEAs. Free riding thus stands to both reduce overall agreement effectiveness and undermine "the commitment of those firms initially inclined to participate." In the EU low participation rates have at times led to industries' and others' calls for the introduction of universal regulations (Harrison 1999, 58 and 67). One could be forgiven for assuming that non-participating firms are acting either selfishly or, more charitably, wholly in their own self-interest. While some firms are undeniably acting in this manner, other firms do not participate in VEAs for quite a different reason: while the spirit is willing, the flesh is weak.

#### Participatory Capacity

It is now generally accepted that large firms are more prone to participate in VEAs (Khanna and Damon 1999; Arora and Cason, 1996). In part this is because they are more visible to the public and environmental groups; visibility itself is partly a result of the quantitatively larger pollutant releases (Harrison and Antweiler 2003, 363). The

relatively lower participation of SMEs appears, moreover, to hold across pollutant and industry categories. In Canada, for example, nonparticipants in the ARET voluntary pollutant abatement program tended to be smaller firms (Harrison 1999, 62) while participation rates in a Canadian climate change VEA were similarly skewed to larger firms (Takahashi et al. 2001, 158). It has been argued that smaller firms are simply ignorant of their environmental impacts and possibilities for innovation (Bailey and Rupp 2006, 43) perhaps because environmental learning imposes costs too steep for firms lacking certain economies of scale (Stoeckl 2004, 146). Others have argued, however, that capacity is a better explanatory variable than environmental attitudes or knowledge. The abovementioned 2001 study of a Canadian climate change VEA found, for example, that executive attitudes concerning corporate responsibility, personal responsibility, and environmental modification played no statistically significant role in the likelihood of firm participation (Takahashi et al. 2001, 158). Petts et al. found some evidence that smaller firms simply do not believe that they can have much environmental impact but conclude, on the whole, that "...the capacity and feasibility to act in the majority of SMEs does not match the generally [environmentally] positive culture" (1999, 21 and 28). If attitudes and knowledge do not play a significant role, and the primary determinant of SME behaviour is capacity, what determines capacity?

Capacity to participate in VEAs is often argued to be restricted by the financial situation in which a firm finds itself at a given time. The less financial flexibility a firm has, the greater difficulty it has in raising funds, and the degree to which firms are generally financially secure are all argued to affect firm participatory capacity. The



empirical record, however, bears somewhat mixed evidence on this point. In the USEPA's 33/50 program, for example, Arora and Cason find that there is weak support – but only weak support – for the argument that more profitable firms are more likely to participate. They also find similarly weak support for the argument that firms with more risky financing situations are less likely to participate (1995, 284). In the US utility industry one study argued that “forces linked to market deregulation may tend to counter [this particular VEA's effectiveness]” (Welch et al. 2000, 423). Henriques and Sadorsky, moreover, find that firms working close to capacity are less likely to pay attention to VEAs since expansionary pressures edge out other concerns (1996, 392). While on balance a majority of scholars attribute some explanatory power to market and financing pressures, Khanna et al. find that market pressures had a statistically insignificant affect in driving firm behaviour (2005, 26). Thus the extent to which firms have the aforementioned characteristics will, at the very least, somewhat influence their likelihood of participation in VEAs and may impact their participatory effectiveness.

The results of empirical studies commonly show that SMEs are more greatly affected by immediate market and financial considerations. Though VEAs may increase profits in the long run, the relatively higher discount rates (i.e., a higher short-run time preference for money) of SMEs might disqualify long term investment and profits from consideration (Stoeckl 2004, 149). Among SMEs and large firms it can be demonstrated that utilizing more expensive and higher efficiency motors and drives would reduce long-term costs; most firms, however, appear to prefer the lower initial costs of less efficient equipment to the greater but later returns (Sinclair 1997 542-543). The evidence suggests

that this is even more the case among consumers and SMEs. Along these lines Sutherland (1991) argues that the attractiveness of VEAs is sharply reduced among both consumers and (usually small) firms unable to diversify their risk. Put differently, consumers and SMEs tend to have less stable finances. For such firms and individuals the initial costs dwarf the later and uncertain benefits (described in Stoeckl 2004, 146). Neither, it bears noting, are these costs trivial. In the 33/50 programme, for example, participation in that VEA was correlated with a statistically significant reduction in return on investment (ROI) (Khanna and Damon 1999, 20). A 1994 Australian study furthermore found that while both small and large firms were willing to invest in high-efficiency motors, the required pay-back period differed significantly depending on firm size; whereas large firms accepted a period of 20-22 months, small firms averaged only 12-14 months (described in Stoeckl 2004, 146). Drawing upon the above discussion of VEAs history, theory, and empirics, one can distill numerous conditions identified for voluntary environmental agreement effectiveness.

#### Effectiveness: Definition and Conditions for

What one means by “effectiveness” is disputed in much the same way that definitions of voluntarism, coercion and agreement characteristics are debated. Effectiveness is variously argued to be, among other things, a combination of the extent to which: environmental degradation is ameliorated, the terms of the agreement are met, the goals of the agreement are met, similar standards are met at a lower cost, and the relative ambitiousness of the targets compared with a business as usual scenario. In short, scholarly uses of “effectiveness” are multivariate and often disparate. The problem with

many definitions of effectiveness is the difficulty one faces in systematically analyzing them. By comparison, works which base their discussions on ex-post effectiveness face far fewer problems (Börkey and Lévêque 2000, 49). Ex-post effectiveness (hereafter, effectiveness) is addressed by asking (and answering) the question: were the goals identified in the agreement met, or not?

Inasmuch as scholars have disparate definitions of effectiveness the conditions they identify for effectiveness are also dissimilar. Nevertheless, there are certain general features of VEAs which are found throughout the literature as contributors to effectiveness. Agreements in which firms stand to profit from implementation are likely to be highly effective. The extent to which this can be seen depends on the extent to which the market places value on good environmental decisions (Welch and Hibiki 2003, 525). Similarly, firms who sell to end-users of products or directly to consumers are likely to exhibit greater effectiveness (Arora and Cason 1996, 413) but only if consumers and users have sufficient information about the agreement itself and monitoring results. The same is generally thought true of the general public and compliance rates (i.e., effectiveness) are argued to increase alongside public information provision (Stoeckl 2004, 141; Tietenberg and Wheeler, 1998). This provision of information applies to the negotiations process, the agreement's publication, and the monitoring provisions included. Overall effectiveness of the agreements is therefore thought to increase with greater citizen and environmental movement participation (Carmin et al. 2003, 529-532). As Dasgupta and Wheeler find, this effect is particularly salient in well-educated and litigious societies (cited in Stoeckl 2004, 151). Lastly, effectiveness may also be

increased by the provision of information to investors who can punish firms failing to meet targets (Khanna 2001, 315; Harrison and Antweiler 2003, 363; Khanna et al. 2005, 26).

Punishment and sanctions are important insofar as they are credible in the face of agreement failure (Stoeckl 2004, 140). For this reason, perhaps, other scholars have pointed to the significance of clearly specified liabilities and the inclusion of explicit sanction mechanisms in the agreements (Bailey and Rupp 2006, 43; Skjærseth 2000, 63). In cases where the tools of punishment are limited to social sanctions and pressure, voluntarism is thought to exhibit a low probability of being effective (Börkey and Lévêque 2000, 50). In cases where legal authority is unclear or limited, effectiveness is similarly reduced (Welch and Hibiki 2003, 527). The effectiveness of agreements is also thought to be increased by reduced free-riding among firms (for industry-wide agreements) and at individual firm production sites (for large firm agreements). Such free-riding is also reduced by the centralization of agreements and uniformity of conditions. As such the extent to which agreements are negotiated by a central governing body and exhibit high uniformity will have implications for their effectiveness. Lastly, the clearer the terms, conditions, and goals are made to all parties, the more effective the agreements promise to be (Bailey and Rupp 2006, 41).

In some ways, the development of VEAs in Japan closely resembles the North American and European experiences upon which much of the above theory is based. As in other states, VEAs were used in Japan to address a variety of pollutants and most of these agreements were negotiated agreements and unilateral commitments. Similarly, in

both cases the above definitions and understandings of voluntarism can be fruitfully utilized. Yet the Japanese case, as the next chapter demonstrates, also exhibits significant differences. The development of voluntary agreements, for example, did not occur in the context of deregulation and privatization. Similarly, the role of the state in the market was arguably less contested in Japan than elsewhere and the abovementioned culture of resistance was generally less salient. It is to analyzing the Japanese experience with voluntary environmental agreements that we now turn.

### **Chapter 3: Japanese Voluntary Environmental Agreements**

In 2003, Harrison and Antweiler correctly drew scholars' attention to the significance of national context in which racial, geographic, economic and regulatory variables may differ (366). It is therefore important to carefully examine national cases of environmental policy before attempting either general theorizing or cross-national comparative research. The political economy of Japan and the context within which it developed, moreover, differs in numerous ways from that of North America and much of Europe. Its history and development is therefore important to examine in order to avoid the intellectual trap of facile assumptions about which Harrison and Antweiler warned.

#### **Historical Background**

Japan rapidly developed following the devastation wrought by the Second World War; by 1976 its economy had grown 55 times in size (Ueta 2005, 88). This unprecedented growth was not, however, without consequence. Pollutant levels also sharply increased with deleterious consequences for human health and the environment. By the 1950s Japanese industries were expelling so much particulate matter that atmospheric dust levels as high as ten times current figures were recorded in industrial areas. The impacts of this and other air pollutants quickly became apparent as respiratory illnesses increased in industrialized areas. In Yokkaichi city, for example, 20 percent of residents suffered asthma in 1962; buildings near the factories kept their windows closed year round because of the air pollutants blowing in from the petrochemical industry (Imura 2005a, 21-24). Water and soil contamination also occurred with well known

cases of mercury poisoning in Minamata (1959) and Niigata (1965), and cadmium poisoning or *itai-itai* disease in Toyama (1964) (summarized in Flath 2000, 227-228).<sup>7</sup> Salt-water sources were similarly afflicted with acute contamination of Tokyo Bay, Ise Bay, Osaka Bay, Dokai Bay (dubbed the Sea of Death) and the Seto Inland Sea. As these and other pollution cases became heavily publicized questions began to be raised about the heavy emphasis on economic growth; consensus on the necessity of pollution controls and victim compensation soon emerged (Haley 1992, 60).

The issue of industrial pollution quickly became problematic for both industry and politicians. Local governments from a variety of parties took the initiative in the 1950s and 1960s in the face of national government failures. In 1952 one of the earliest VEAs (a Pollution Control Agreement or PCA) was signed between the Shimane prefectural government and two factories (Welch and Hibiki 2003, 533).<sup>8</sup> By 1967, even before the advent of the widely publicized *itai-itai* law suit in 1968, the national government attempted to harmonize environmental protection and economic growth with the creation of the Basic Law for Pollution Control. As well, in 1968 the national government introduced the Air Pollution Control Law which established emissions criteria for certain areas, some technical specifications, and gave the government the legal ability to order improvements and penalties (Imura et al. 2005, 268).

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<sup>7</sup> Cadmium poisoning had previously occurred several times between 1900 and 1964, the year given is that in which Flath has argued it was “fully understood” in Japan.

<sup>8</sup> Though Welch and Hibiki identify this as the origin of VEAs in Japan other scholars have identified different dates. It is, however, certainly one of the earliest and is the first identified after World War Two.

Despite this, the Liberal Democratic Party (LDP) still saw its share of the vote fall below 50 percent in 1970 while the number of opposition mayors sharply increased compared with only a few years before (see Broadbent 2005, 114-115; Figure 3.0). The populace was clearly displeased with the ruling LDP. Whereas the satisfaction rate of government in 1969 was still 40 percent, by the 1970s it had decreased to less than 30 percent; in 1973 *dissatisfaction* with the government was greater than 80 percent (Watanabe 1997, 145). Whilst the environment was previously considered an issue with little electoral traction, the LDP seized upon it to prevent further vote hemorrhaging. The 1970 'Pollution Control Diet' therefore saw 14 environmental laws and measures enacted; perhaps most significantly it was also in the 1970 session that the Environment Agency was created (Imura 2005a, 29; Imura 2005b, 69). Among industry too there was significant apprehension about the environmental and human impacts roiling the public.

*Figure 3.0: Environmental Protests and Political Support*

[Figure 3.0 removed due to copyright restrictions. It is a graph which shows a non-linear but strong correlation between environmental protests, opposition mayor electoral victories, and LDP vote share.]

*Source:* Broadbent 2005, 115.

The considerable visibility of the pollution-victims' lawsuits in Japan led to a change in public attitudes with notable impact on electoral politics in Japan. Yet these same lawsuits also directly impacted Japanese industry. In each of the major lawsuits (Minamata, Niigata, *itai itai* and Yokkaichi) the firms being sued lost the case. When the losing firms appealed to higher courts the ordered awards simply increased. This was not



lost on the firms in question; in the case of *itai itai* Mitsui Metal Mining Company settled further claims out of court and modified its operations to prevent recurrences (Flath 2000, 228). As these trials tended to stretch over several years and garner substantial national and international attention, other Japanese firms undoubtedly took note of the results and costs imposed. The costs to Japanese industry were by no means limited, however, to purely financial considerations. Indeed, possibly of greater significance to firms was that their ability to open new factories was suddenly curtailed. While protests occurred in many areas of Japan, for the first time in 1964, Mishima and Numazu residents succeeded in preventing the construction of MITI-planned industrial complexes (Matsuno 2005, 219). Thereafter, throughout Japan citizens stalled planned industrial expansion. If this was not alarming enough for industry another equally important shock was about to arrive. The socialist and communist-supported mayor of Yokohama threatened to indefinitely delay construction of a new power plant in the absence of a Pollution Control Agreement (PCA). Similarly, in 1968 the Tokyo Metropolitan Government which was also led by an opposition party politician who publicly opposed a new power generation plant unless the firm first agreed to negotiate a PCA (Matsuno 2005, 218-219). To the extent which firms associated increased environmental stringency with opposition politicians being in office, industry officials were surely aware that changes were imminent. The results and form of these imminent changes are the focus of the following two cases.

Scholars of environmental politics, perhaps even more so than the casual observer, were amazed at the speed with which Japan reduced its environmental pollution problems.

While there is broad agreement on this point there do remain interlocutors who see not rapid improvement but a lack of sufficiently drastic action (cf. Imura and Schreurs 2005, 3; Baba 1997, 189). Nevertheless, in the twenty years following 1974 Japan managed both the largest growth in the G7 as well as significant reductions in numerous pollutants. An OECD study found that Japan managed to increase its GDP 122 percent while simultaneously reducing SO<sub>2</sub> and NO<sub>x</sub> emissions by 82 and 21 percent respectively (quoted by Ren 2005, 300). In the case of wastewater the percentage recovered by industry increased from about 36 percent in 1965 to 76 percent in 1980 (Ren 2005, 303). It is also worth mentioning the important but often overlooked fact that the composition of Japanese manufacturing changed in this period. The pollutant reductions were made not because of these changes but *rather in spite of them*. Between 1970 and 1987 the heavy and chemical industries percentage of total manufacturing output increased from about 60 to 75 percent. Nor can the reduction in pollutants be attributed to significant changes in overall economic composition; the share of GDP held by manufacturing, construction and utilities decreased less than two percent in this period (Minami et al. 1995, 3 and 7). This is especially relevant insofar as these selfsame industries were responsible for much of the air, water, and soil pollution in Japan. Among these many pollutants being emitted, the case of SO<sub>2</sub> nicely exemplifies the common challenges, responses, and outcomes of environmental protection in Japan. In short, tackling SO<sub>2</sub> set the patterns familiar to later environmental problem amelioration.<sup>9</sup>

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<sup>9</sup> In addition to being an exemplary case there are two additional practical reasons for here utilizing sulfur dioxide. First, in postwar Japan sulfur dioxide has a somewhat longer history of amelioration than many other pollutants. Second, it appears to be the best-studied environmental pollutant in the English language literature and therefore provides a wealth of perspectives and information to draw from.

### The Case of Sulfur Dioxide

Sulfur dioxide emissions have numerous health and environmental impacts including, but not limited to: respiratory disease, reduced visibility, acid rain and water body acidification (USEPA 2006). In Japan, SO<sub>2</sub> emissions came under scrutiny as a result of the aforementioned Yokkaichi asthma pollution case. As of 1994 more than 1,200 victims had been officially certified with compensation at an annual cost of 1.3 billion yen (Nishijima 1994, 137). Industrial cities like 1962 Yokkaichi had residents suffering SO<sub>2</sub> levels eight times that of other areas and in annual average concentrations between three and five times current standards (Imura 2005a, 24). By 1970 the problem had reached its zenith with 5 million tons annually emitted. Within five years, however, this figure had been cut in half. Emissions continued to fall and by the 1980s emissions had fallen to roughly 1.1 million tons; in 1990 emissions had reached a new low at 0.7 million tons (Ueta 2005, 88-89). In the industrial city of Yokohama yearly emissions throughout this period decreased from almost 105,000 tons to 5,200 tons. Measured according to SO<sub>2</sub> emissions per unit of GDP the results are similarly impressive: between 1965 and 1980 Japan achieved a reduction of approximately 88 percent. By 1990 results showed a 14-fold decrease in emissions per unit of GDP. Lastly, throughout the 1990s Japan's ambient SO<sub>2</sub> concentration has remained low and, though at a slower pace, continued to decline (Ren 2005, 303; Imura et al. 2005, 273-274; MOE, nd.).

*Figure 3.1: Ambient Airborne SO<sub>2</sub> Concentration*

[Figure 3.1 removed due to copyright restrictions. It is a graph which shows a sharp drop in ambient airborne sulfur dioxide concentrations particularly between 1967 and 1975.]

*Source:* Ministry of the Environment, 'State of Japan's Environment.'

How was this comparatively rapid and extensive reduction in SO<sub>2</sub> emissions and concentrations achieved? As central government Japanese politicians and particularly those in the LDP began to realize the political saliency of the SO<sub>2</sub> problem they finally took action designed to (at the very least) pacify public discontent. Thus in 1968 the Air Pollution Control Law was introduced. This law specified controlled areas, set emissions standards for those areas, provided some technical specification and gave the national government the legal ability to order improvements and punishments. In February 1969 national standards were set for ambient SO<sub>2</sub> levels. These standards, however, represented only targets and, like the Basic Law for Pollution Control's targets, were not legally binding (Imura et al. 2005, 268; Flath 2000, 228). Only for the very largest polluters were several different laws passed at the national level which specified mandatory emissions standards; the severity of these standards appears to have been greater at newer facilities than older ones (Imura 2005d, 157-159). This uneven enforcement in which newer, larger, geographically or otherwise different firms faced different regulatory environments was to become a common feature of Japanese environmental protection. This is partly due to the highly decentralized nature of Japan's environmental initiatives and especially its pollution control agreements (PCAs).

While the national government focused on economic growth and was slow to react to public demands for action, local governments were in the 1950s and 1960s already attempting to fix local pollution problems. Their primary tool was the *kougai*

*boushi kyoutei* or Pollution Control Agreement, itself a type of VEA. Though the earliest such postwar agreement was signed in Shimane Prefecture in 1952, most scholars point to the 1964 Yokohama City–Electric Source Development Corporation PCA as the precedent setting agreement (Welch and Hibiki 2003, 533). The agreement section covering  $\text{SO}_x$  saw the negotiated level set at 60 parts per million (ppm). This represented a significantly tighter standard than local regulations (100 ppm) and national standards (200–240 ppm) (Tsutsumi 2001, 152). This agreement is here notable for a variety of reasons. Aside from being precedent setting it was also primarily concerned with air pollutants including the major air pollutant  $\text{SO}_2$ . Resident concern, prior to the PCA's creation, became organized protest against further air pollution. This is understandable in an area already infamous for 'Yokohama Asthma' much like the aforementioned Yokkaichi Asthma. Although the Ministry of Health and Welfare (MHW) and local government expressed concern, they could alone do little more than this because electric generation (and its emissions) fell under the sole control of the Ministry of International Trade and Industry (MITI). MITI, aware of the trouble in Numazu and Mishima, elected to mediate the PCA between the city and firm rather than overrule local objections (OECD 1999, 18). MITI involvement in voluntary environmental initiatives, though hardly uniform, would become common in PCA negotiations (Matsuno 2005, 221).

These PCAs spread throughout industrialized Japan and indeed throughout the entirety of the country. The abovementioned 1968 PCA the Tokyo government forced a power generation company to sign was but one of many PCAs signed in the 1960s and 1970s concerned with air pollution and  $\text{SO}_2$ . Such agreements were particularly common

among power utilities. Themselves responsible for between 30 and 40 percent of total emissions, the conclusion of PCAs with utilities was particularly important in this period (Matsuno 2005, 227). Interviews with industry conducted many years later found that the “key measure” taken in lower sulfur oxides emissions was the conclusion of PCAs with polluting firms (Tsutsumi 2001, 152). Likewise among the second-largest emitters of SO<sub>2</sub>, steelworks, pollutant reduction didn’t occur until the advent of PCAs (Matsuno 2005, 227). Also in 1968 an important change occurred to the Air Pollution Control Law. For the first time local governments were given the ability to set emissions criteria and penalties for failing to meet agreed-upon standards (Imura et al. 2005, 268). Chiba prefecture, newly empowered and angry that Tokyo had won more stringent emissions standards from a company with facilities in both locations, declared a moratorium on further power plant construction; a “ripple effect” was felt throughout the country (Matsuno 2005, 219). The PCAs signed and the emissions standards contained therein, however, varied by area in form, content, and negotiation method. While some were publicized, others remained private between local government and firm. By 1969 both MITI and the MHW declared a Yokkaichi city PCA “a model case for the nation” and the 1971 White Paper on Pollution published by the Prime Minister’s Office stated that PCAs were effective pollution prevention tools (cited in Matsuno 2005, 224). With PCAs’ image burnished by national government accolades their spread continued and accelerated throughout the 1970s.

Following the local government trend towards greater environmental protection and more stringent emissions standards, in 1973 the national government created a levy

to be implemented on large SO<sub>2</sub> polluters. The levy's creation was partly motivated by the need to fund the Yokkaichi asthma compensation scheme, but these tax funds were also directed towards R&D for pollution abatement. Since past research by firms into pollution abatement had proven of limited use, MITI's national research institutions were given responsibility for the development of new (mainly end-of-pipe) desulfurization technologies as well as joint research with firms (Imura et al. 2005, 270). A 1977 OECD report concluded that Japan's approach to SO<sub>2</sub> abatement relied on administrative guidance "in the spirit of a planned economy" (quoted in Imura 2005a, 31). It would however be a mistake to portray national government actions as heavy-handed measures completely unaffected by industry wishes.

Industry in Japan invested heavily in pollution abatement to meet public and government demands. Compared with other states' firms, Japanese firms invested three times as much in anti-pollution equipment (Ueta 2005, 89). Much of the early and significant investment took the form of end-of-pipe (EP) technology rather than clean production (CP) technology (Imura et al. 2005, 275-276). While its spread was both rapid and extensive, EP technologies such as flue gas desulfurization were initially resisted by firms since EP technology usually raises fixed production costs. While public pressure and media attention were both important in overcoming firm and industry resistance, two other factors were also of import. First, industry was given a formal voice in national environmental planning.<sup>10</sup> Each industry targeted by environmental standards and regulations was, beginning in 1971, invited to participate in advisory councils. These

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<sup>10</sup> It has been convincingly argued elsewhere that Japanese industry *always* had a voice through the LDP. While this is undoubtedly true, it was largely an informal voice in contrast with the above formal influence.

councils were to develop emissions standards and were comprised of representatives from industry associations, bureaucracy, and academia. This influence meant that the standards which did emerge were “closely tailored to [industry’s] needs and capacities” (Broadbent 2005, 115).

Second, industry participants were rewarded with subsidies, tax-breaks, and a host of other benefits. In heavily regulated and SO<sub>2</sub>-generating industries such as electrical generation, the government was able to reward firms with regulated price increases (Flath 2000, 229). The Japan Development Bank, the Japan Environment Corporation, and the Small and Medium Enterprise Agency similarly granted low-interest loans to participating firms to encourage EP adoption and research (Ueta 2005, 90). This, together with generous tax-write offs for anti-pollution equipment meant that private investment in EP technology grew drastically in the 1970s to a 1975 peak of 950 billion yen or nearly 18 percent of all private investment (see Figure 3.2). One measurable outcome of this investment is the number of flue-gas desulfurization plants which more than doubled between 1974 and 2005 (Imura et al. 2005, 267-268). On the whole, Japanese firms invested a total of 5,200 billion yen for sulfur oxide (SO<sub>x</sub>) abatement throughout the 1970s (Nishijima 1994, 144).

*Figure 3.2: Industry’s Pollution Control Investment*

[Figure 3.2 removed due to copyright restrictions. It is a graph which shows a high rates of industry investment in pollution control which peaks in 1975.]

*Source:* Inui et al. 2005, 257.



### General Characteristics of Japanese PCAs

The shape of Japan's approach to SO<sub>2</sub> is largely characteristic of that commonly utilized for most traditional pollutants. Minimum (usually ambient) standards are specified by the national government, local governments set emissions standards and perform some environmental monitoring, and industry self-monitors and reports emissions (Imura 2005d, 157; Imura 2005a, 31). In the pursuit of environmental protection, local governments have three main policy instruments: regulation by ordinance, administrative guidance, and PCAs (Matsuno 2005, 228). PCAs can be usefully defined as voluntary agreements concluded between some combination of firms, local governments, and civil society; they are usually designed with beyond-compliance emissions standards at the core. Within the aforementioned typology they are negotiated agreements (NAs) and are not legally required. Since the Yokohama PCA of 1964, more than 40 000 agreements have been created with greater than 30 000 still in effect (Sugiyama and Imura 1999, 129).

Among the 40 000 agreements one can clearly see a wide variety of applications, content, and goals. In some localities, however, not all facilities conclude PCAs (Welch and Hibiki 2002, 411) whereas in others it is a prerequisite of facility construction (Tsutsumi 2001, 150). One commonly cited advantage of the agreements is their flexibility and the great extent to which they can be customized to local conditions, needs, and culture. This customization has, however, led to uneven enforcement. As the case of SO<sub>2</sub> showed, firms operating in different areas are subject to different standards. Within

localities too the uneven nature of PCAs is also visible. In the case of SO<sub>2</sub> newer firms were subject to more stringent regulations while generally in Japan larger firms are held to a higher standard. One study found that 70 percent of firms with more than 999 employees had PCAs that imposed beyond-compliance requirements; among firms with fewer than ten employees this figure was 25 percent (Matsuno 2005, 228). This is not, however, argued to be because of their greater visibility (as much of the VEA literature would suggest) but is instead a result of government negotiators taking into consideration the “available technology, funds, and installed equipment” of firms and facilities (Tsutsumi 2001, 149). In short, those able to bear heavier loads are expected to do so.

Participants in the negotiating process also vary by area and PCA. Though a large majority of the agreements are signed between a single local government and firm, in some cases representatives of neighbourhood organizations or *jichikai/chonaikai* participate either as witnesses or negotiators. In a small number of cases other NGOs may sign PCAs with firms directly (Tsutsumi 2001, 146). In cases where firms sign agreements with governments, survey results show that *only about half of the agreements are made public*. This prevents firms from complaining about inequalities between same-industry PCAs but also prevents firms and governments from facing public complaints about perceived lax standards. Somewhat surprisingly, in the case of Chiba prefecture, firms surveyed were more concerned about the negotiating procedures than possible inequalities between firms (Matsuno 2005, 223 and 234).

One might think that PCAs, as a major tool of local governments, are primarily aimed at achieving ambient standards set by the national government. Yet PCAs “tend to precede rather than compliment legislation” (Welch and Hibiki 2002, 411). In part this is because PCAs have long been used to fill in regulatory gaps, most recently in the case of unregulated pollutants from high-technology industries. On the other hand, voluntary agreements may be used to assuage public concern in cases where the danger of the effluent or substance isn’t yet certain (Tsutsumi 2001, 148-149). These and other PCAs sometimes (but not usually) contain liability clauses which delineate firm responsibility for damages; this is advantageous for firms seeking to avoid other legal action being brought against them. PCAs also are thought to provide legitimacy and a positive environmental image to firms (Sugiyama and Imura 1999, 131). While the majority opinion currently sees PCAs as non-binding gentlemen’s agreements, some scholars maintain that PCAs are rather legally binding contracts (cf. Sugiyama and Imura 1999, 130; Tsutsumi 2001, 146-147). Interestingly, this debate has raged on as long as PCAs have been around precisely because, binding or not, the agreements are being kept by both sides. Legal tests, it would seem, have not been forthcoming.

Interview research performed by Welch and Hibiki in 2000 and 2001 indicates that once a PCA is signed the agreement is enduring (2003, 534). The reason for this stability and its impact is, however, left unstated by the scholars. In part, the long-term nature of the agreements appears to be partly a result of repeated interaction between the firm and local government. Most PCAs are renegotiated yearly giving local authorities the ability to develop close ties with firms and gain knowledge of the equipment,

production and pollution prevention technology utilized by firms (Tsutsumi 2001, 150). While in other states such information often is released, local governments keep firm data and reports confidential and out of the public eye (Welch and Hibiki 2002, 412). For firms this process has proven useful and the process trustworthy. One 1993 study found that 68 percent of businesses renewing PCAs felt that their concerns were taken into account; fully 91 percent of governments responded that businesses either 'perfectly' or 'very well' followed the PCAs (Matsuno 2005, 226). Repeated interaction and a sense of cooperation therefore encourage firms to commit faithfully to the negotiating process. For local governments this deeper knowledge of the equipment, technology, and particularly the finances of firms coupled with uneven nature of PCAs allows governments to pursue local economic stability (Matsuno 2005, 231). In short, governments take into account the relative situations of firms and negotiate agreements as stringent as could be expected without causing firms undue economic hardship or to close. With the conditions and stringency of the agreements thus tailored to firm characteristics implementation is significantly facilitated. There is, however, another type of VEA even more closely tailored to firm characteristics – unilateral commitments of firms themselves.

#### Unilateral Commitments in Japan

Despite differing in applications and history, unilateral commitments have in common with PCAs both their effectiveness and voluntary nature. Unilateral commitments are, as understood in the above typology, a relatively recent development in Japan. It was in the 1980s that the focus of environmental concern changed from (largely)

local pollutants (e.g., SO<sub>2</sub>) to global problems such as climate change (Imura 2005b, 71). Japanese firms began to take stronger unilateral environmental initiatives throughout the 1990s despite somewhat decreased fervor in the wake of post-bubble economic troubles. The increase in unilateral initiatives springs partly from a sense that government planning and intervention in the economy is no longer acceptable and that businesses and markets deserve greater emphasis (Imura 2005a, 43 and 141). Unlike negotiated agreements in Japan, unilateral commitments have primarily been established by industries to address global warming, waste disposal, environmental management, and overseas environmental conservation. They also cover a large number of industries including manufacturing, energy, transportation and distribution, construction (Imura 2005d, 172-173). They are, perhaps most importantly, one of the main ways in which Japan expects to reduce its carbon dioxide emissions and meet its Kyoto Protocol commitments.

#### Japan's Carbon Dioxide

Leading industrialized nations like Japan are responsible for significant emissions of CO<sub>2</sub> as a result of significant fossil fuel-based energy consumption. Japan has, as part of its Kyoto requirements, committed itself to reducing such emissions by, relative to 1990 levels, 6 percent by 2010. This is likely to prove difficult for two reasons. First, Japan's emissions in 2004 were still 7.4% greater than in 1990 (MOE 2006, 14). Second, Japan is already one of the world's most energy efficient countries. As a result of energy insecurity and the 1973 and 1978 oil shocks, Japanese industry and policymakers have long emphasized energy efficiency. Between 1973 and 1988 the energy use of Japan increased about 16 percent while its GDP grew 81 percent; by 1997 energy consumption

per unit of GDP had declined nearly 35 percent (Broadbent 2005, 121; Imura et al. 2005, 271).

While some traditional command-and-control approaches have been utilized with regard to energy efficiency, most Japanese approaches specific to climate change have emphasized subsidies, low interest loans, tax breaks, information provision, clean technology adoption, joint research, and importantly *voluntary action* by individuals and businesses. Such approaches, moreover, characterize most government climate change policies and plans including: the Greenhouse Effect Prevention Project (1989), the Action Plan to Address Global Warming (1990), MITI's New Sunshine Program (1990), the Basic Environmental Plan (1994) and its revision (2001), and the Law for Promoting Measures to Cope with Global Warming (1998) and its revision in 2003 (Nishijima 1994, 145; Johnson 1998, 236; Imura 2005, 168-169). This coupled with the sense among industry that administrative guidance and government intervention were inefficient and unacceptable is argued to have led to greater unilateral industry initiatives. The single largest, most visible, and (important for its use here) best studied over these unilateral commitments is the Keidanren Voluntary Action Plan (VAP).

#### Keidanren's Voluntary Action Plan

In 1991 Keidanren, the largest and most influential business association in Japan, published its Global Environmental Charter. Keidanren "represents [the] overall interests and opinions of Japanese business society, member corporations and trade associations" (OECD 1999b, 5). By 1996 it had published its Appeal on the Environment which

encouraged industry to address global warming and simultaneously called for industry-wide (and Keidanren-integrated) unilateral commitments – put together in the Keidanren Voluntary Action Plan (VAP). Thirty-four industries were participating in the VAP as of 2001, representing nearly 45 percent of total CO<sub>2</sub> emissions and roughly 80 percent of CO<sub>2</sub> emissions from industrial and energy-converting sectors (Keidanren 2002). Since the 1990s Japan's extremely high energy efficiency decreased somewhat and the general trend was "moving in the wrong direction" (Schreurs 2005, 317). Yet despite this, between 1997 and 2001 participants in the VAP managed to decrease overall CO<sub>2</sub> emissions almost 6.5 percent; this decrease even puts total emissions in 2001 about 3.2 percent below 1990 levels (see figure 3.3). Insofar as "it is no exaggeration that the government plan to [meet Kyoto targets]...is based on the presumption that voluntary plans of industry will be faithfully implemented" this reduction is of great importance to the Japanese state (OECD 1999b 19).

*Figure 3.3: CO<sub>2</sub> Emissions of Keidanren VAP Participants*

[Figure 3.3 removed due to copyright restrictions. It is a graph which shows carbon dioxide emissions by VAP Participants between 1990 and 2001 and forecast emissions for 2005 and 2010.]

*Source:* Keidanren, 'Results of the 5<sup>th</sup> Follow-up to the Keidanren Voluntary Action Plan on the Environment.'

The diversity of industries participating in the VAP is notable as there are hardly any cases elsewhere where non-manufacturing industries participate, especially to this extent. This diversity is, however, somewhat reduced when it comes to size; many SMEs

are exempted from participation in the initiative (Sugiyama and Imura 1999, 132). Whether a result or cause of the diversity of participating industries, Keidanren's VAP allows industries to set collective targets but allows each firm to choose how to meet these targets (Imura 2005d, 165). Different industries chose to set not only different levels but also different types of targets. For some industries emissions intensity targets were chosen, for others total emissions reductions, and for still others emissions from product use were targeted for improvement. The industry associations are then responsible for compiling the achievements (and failures) of their members and sending an aggregate figure to Keidanren. In turn, Keidanren compiles the industry figures and publishes an annual review of overall VAP successes and failures. Some firms have published figures and reports of their performance, but generally speaking they are unverified by third parties and have no mechanism for engagement with civil society (OECD 1999b, 9 and 24). Lastly, as fits the provided definition of unilateral commitments, there are no direct penalties imposed for failing to hit the targets or show improvement (Sugiyama and Imura 1999, 132-133). The lack of penalties causes one to somewhat question the reasons behind the effectiveness of Keidanren's VAP. Yet as the next section demonstrates, Japanese VEAs' effectiveness is generally problematic for current scholarship.

### Puzzling Effectiveness

In sharp contrast with early optimistic writings on environmental voluntarism, recent scholarship – particularly those works focused on policy – has been significantly less sanguine. A 1997 European Environmental Agency study, for example, confirmed



the effectiveness of environmental voluntarism in only one-third of the cases examined. (described in Harrison 1999, 65). A similar review of voluntary approaches conducted by the OECD in 2003 found that VEA effectiveness was "still questionable" (described in Jaccard et al. 2006, 5). Voluntary approaches have also been highly criticized in Canada for failing to arrest carbon dioxide emissions. As one report wrote, "...voluntary approaches have simply failed and are thoroughly discredited by the results presented" (Bramley 2002). Others, looking both at Canada and abroad, concluded that voluntary approaches to carbon dioxide abatement are both ineffective and (somewhat surprisingly for VEA advocates) expensive to boot (Jaccard et al. 2006). Thus in general terms, the visible successes of Japanese VEAs are puzzling with regard to recent scholarship on VEAs. If one examines the particular characteristics of Japan's VEAs in relation to the abovementioned effectiveness conditions, their success appears more puzzling still.

Among the industrialized nations of the world, Japan has what is arguably the longest and most successful experience with environmental voluntarism. The closest competitor for top spot, the Netherlands, has also had broad success with VEAs in almost every pollutant category. A notable exception to this trend, however, is the "especially unsuccessful" Dutch experience with the application of voluntarism to carbon dioxide emissions abatement (Andrews 1998, 185). Without here delving into a binational comparison, the point remains that Japan's (largely successful, as of 2001) experience with voluntary carbon dioxide abatement is unique. In many ways this agreement effectiveness is all the more puzzling since it, like much of the SO<sub>2</sub> pollution, comes from non-end consumer industries. Coal, mining, concrete, iron and steel producers have all

successfully reduced emissions of both SO<sub>2</sub> and CO<sub>2</sub> despite lacking significant end-consumer contact. One could argue, however, that this is understandable in cases where the end consumer (i.e., the general public) receives significant information about and opportunities to participate in the agreements and their formation. This impact would be particularly strong in an educated and litigious society. The provision of information, it may be argued, thusly compensates for a lack of direct firm-consumer contact.

While the argument may be theoretically sound, it lacks grounding in the realities of Japanese environmental voluntarism. As indicated above, only about half of all PCAs are made public and the individual firm results of the Keidanren VAP are generally not released. This lack of information, coupled with a scarcity of NGO and civil society participation in most PCA negotiations, means that several of the identified characteristics of effective agreements are indeed not present in Japan. Education and litigiousness may make agreements effective elsewhere but in a state notorious for having low litigation rates this explanation seems unconvincing. Nor does there appear much evidence that specified liabilities have contributed to effectiveness in Japan. Still, community groups do occasionally participate in VEA creation as a witnessing body but such participation appears largely confined to the initial negotiations and is not visible in later agreement renewals. Worse still for agreement effectiveness, most lack third party or independent monitoring and instead rely upon firm emissions reports. With several well-publicized exceptions, the overwhelming majority of firms appear to faithfully report emissions to local authorities.<sup>11</sup> This is, interestingly enough, the case despite Japanese PCAs lacking another condition for effectiveness: specificity. While specific

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<sup>11</sup> For one such recent exception see "Dirty Tricks," Sugimoto 2006.

agreements are often argued to be effective agreements, Japanese PCAs “rarely provide specific direction regarding preferred reporting, inspection, compensation, or managerial mechanisms” (Welch and Hibiki 2002, 411). Lastly, contrary to numerous scholars, Japanese VEAs appear effective in the absence of legal clarity as to their nature. While the debate is ongoing the point remains that, with regard to effectiveness, clarity of legal status is thought important to effectiveness. With all of this in mind it is therefore the case that Japanese VEAs remain effective despite lacking many (if not most) of the effectiveness conditions identified in the wider literature.

In this chapter the thesis outlined the context within which Japanese VEAs developed. It has also shown that both PCAs and Keidanren’s VAP have been highly successful in addressing sulfur dioxide and carbon dioxide emissions respectively. The striking success of these agreements itself provides a spur to examination as, particularly in the case of carbon dioxide, their success is elsewhere unmatched. When one considers the effectiveness conditions commonly identified by scholars, this success is even more arresting. Japanese VEAs generally lack many of the identified effectiveness conditions including: legal clarity, specificity, information provision, and a litigious society. Other facts, such as high VEA effectiveness in industries not dominated by end consumers, are also puzzling. The Japanese case therefore indicates the need for still more theorizing about VEAs. In so doing, it is to the largely untapped literature of political economic stability that this thesis now moves.

## **Chapter 4: The Role of Stability**

Among scholars of VEAs the role of long-term thinking is often mentioned, trust is sometimes mentioned, but stability – a factor upon which both trust and long-term thinking are oft argued to depend – is rarely mentioned nor is it examined. In cases where stability is mentioned it is usually only in passing and not as the focus of VEA works. The lack of attention paid to stability also holds true for its opposite, instability. Furthermore, this lack of systemic attention to stability/instability within the VEA literature applies in nearly even measure to every *type* of stability. Among the broader social science literature the use of political stability and arguably stability more generally has “not been systematically operationalized” despite its more common use (Gupta 1990, 205). The difficulties scholars face in defining stability partly derives from the fact that, as Sanders argues, “stability and instability... [are] relative tendencies, not discrete states” (1981 quoted in Feng 2003, 51). This understanding of stability, premised upon its spectrum of possibilities rather than on the presence of artificially bifurcated categories, requires a similarly flexible definition. At one end of this spectrum we can therefore define *stability* as the absence of change; its corollary of *instability* is rather constant change. In the overwhelming majority of cases, the measured variable will fall somewhere in between these two stylized extremes.

### **Stability, Growth and Investment**

Among the literature on VEAs one can identify two general approaches: one from the perspective of governance and one from economics (Welch and Hibiki 2003, 523-

524). Yet within these approaches there are two smaller subcategories worth mention. In the governance literature stability may be approached from the perspective of policy stability as well as political stability (adapted from Feng 2003). Political stability concerns changes in, among other things: the structure of states such as that caused by juntas and coups, institutional changes such as constitutional reforms, and government changes such as the transfer of government from one party to another or among members within a party. Policy stability concerns changes to policy understood as “the means by which public authorities seek to alter the behavior of target groups” (Skjærseth 2000, 59). As such, the larger the number of changes to policy the larger the policy instability present in a given state.

Among the economics literature, stability can be conceived of at the level of the firm as well as the individual.<sup>12</sup> Welch and Hibiki define the economics perspective as one which “seeks to predict voluntary behaviour of the firm based upon the costs and benefits” (2003, 523). Yet this perspective captures only half of the picture. As Gupta argues, if individual decisions have “...a profound effect upon his personal life, the impact of [individuals’] collective decisions on the welfare of the aggregate economy is no less telling” (1990, 254). Still, this recognition does not by itself give us an understanding of firm or individual stability. Firm stability is somewhat difficult to distill from the available literature but measures thereof include a mixture of: firm access to financial capital, mobility, turnover, market structure and competition, and diversification

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<sup>12</sup> One could reasonably argue that contained within economic stability there is a third category of macroeconomic stability or the overall stability of the economy of a state. Without denying this possibility it is the contention of this thesis that macroeconomic stability, insofar as it is reflective of individual and firm stability, is sufficiently captured by these included measures.

of assets (cf. Heggstad and Rhoades 1976; Baccara and Razin 2006).<sup>13</sup> Glasbergen hits upon this when he writes that firms “are confronted with the logic of their own specific position – their position on the market, their financial position, their technical options and their competitive edge” (1998, 694). Firm stability therefore depends on numerous factors but ultimately is expressed as the relative certainty (stability) or uncertainty (instability) a firm perceives in its decision-making process. Individual stability is similarly difficult to define but is here considered closely bound up with job security. The higher the job security an individual maintains, the higher their stability. This is true, moreover, for both workers and management. Taken together the four categories (policy, political, individual, and firm stability) give us a good picture of the overall political-economic stability of a state. The impacts of this stability are the subject of the next section.

The general trend of works on stability can be effectively summarized as follows: instability has a pernicious impact on economic growth. In a far-reaching study of the economies of dozens of states, for example, Gupta concludes that even “an average amount of political instability can set back a nation in its developmental path by decades” (1990, 254-255). In part this is because instability raises uncertainty, itself abhorred by markets as well as individuals who seek predictable financial returns. While the general trend is toward overall reduced growth, other scholars have pointed to still other impacts of instability. Sociopolitical instability, for example, was found to reduce the investment

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<sup>13</sup> Numerous works consulted referenced stability without once providing a definition of it or its determinants. From the survey performed the vast majority of scholars writing about stability do *not* define it.

share of GDP in several studies throughout the 1990s (summarized in Feng 2003, 167). The strength of this impact, however, is far from uniform.

Pindyck and Solimano, for example, similarly find that both political and economic uncertainty depresses investment by firms (1993, 297). In addition to depressing firm investment, uncertainty also poses the challenge of delaying planned investments, particularly irreversible ones (Carruth et al. 2000). Yet the degree to which uncertainty lowers investment also varies by firm size and type. Ghosal and Lounгани, for example, find that among industries dominated by SMEs the impact of uncertainty is even greater; this occurs, they argue, because of the greater difficulties smaller firms face in raising funds from capital markets (2000, 338). In addition to firm size the industry in question is also relevant to the impacts seen. Conway, for example, finds that uncertainty reduces investment among the manufacturing, transportation and housing sectors but has its strongest impact on manufacturing investment. This is argued to occur because among manufacturers “the magnitude of irreversibility” is considerably larger (1988, cited in Rodrik 1989, 19). Similarly, McDonald and Siegal found that even moderate uncertainty was able to more than double the rate of return demanded of industrial projects. When the project is long term and takes several years to accomplish the required rate of return multiplies (1986 described in Pindyck and Solimano 1993, 259-260). Lastly, Serven and Solimano find similar impacts among investors who must be convinced of a policy’s high stability (cited in Feng 2003, 166). Insofar as VEA implementation requires investment – and there are numerous ways in which it does –

many of the impacts of instability will be directly felt. In much the same way that the impacts are disparately felt, however, the sources of instability are similarly diverse.

Numerous studies have argued that increased exchange rate volatility decreases private investment (Brunetti and Weder nd., 2). One way in which this volatility may impact firms is through creating uncertainty in the cost of wages and materials, itself a depressor of investment (Huizinga 1993, cited in Ghosal and Loungani 2000, 339). Unlike exchange rates which are at times uncontrollable, politics and policy are also sources of uncertainty. Questions surrounding the credibility of policy commitments in developing countries, for example, "can act as a hefty tax on investment" and it has been argued that this is particularly the case for structural reforms and liberalization policies (Rodrik 1989, 2 and 20). In states where wealth disparities are large such policies are even more uncertain. If parties can only compete for a single large coalition they will tend to converge on similar policy positions; the larger the wealth distribution inequality, however, the larger the groups available with different policy preferences (Feng 2003, 60-61).

In the case of political change, coups and rebellions create very large instability and consequent impacts but even relatively smaller changes like the transfer of power from one political party to another or constitutional revision still have weak impacts (Feng 2003, 51).<sup>14</sup> In the case of country-specific studies, some scholars have argued that this impact is in fact relatively strong. One collection of such studies concludes that, in

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<sup>14</sup> By comparison Brunetti and Weder (nd., 9) find a negative effect on investment from constitutional changes but the impact was not statistically significant.



the face of “recurrent ‘electoral cycling,’ neither the officials nor their policies [in Europe and North America] have much staying power.” In many East Asian states, however, “regime continuity” provides the state with high credibility in implementing policies (Chan 1994, 4-5). While some scholars of VEAs have taken similar approaches to stability, the discussion has a somewhat distinct approach based in part on emphasized firm-state relations. Lastly, though not commonly discussed it bears mentioning that firm instability may result from firm and industry characteristics. Innovative firms and firms with a diversity of products have higher learning costs and lower overall stability (on innovation see Baccara and Razin 2006; on learning costs see Khanna et al. 2005, 26).

#### VEAs and Stability

Since VEAs gained in use and diversity in a period of deregulation, decentralization, and privatization they therefore came to the fore amongst conditions likely to harm their effectiveness. Deregulation, for example, often decreases firm stability by increasing the number of competing firms. It also, importantly for individual stability, promises to increase unemployment and lower wages – at least in the short run. Even in cases where *total unemployment* is lowered by deregulation, employment at extant firms may decrease in the face of stiffening competition (Blanchard and Giavazzi 2001, 4 and 36). Thus to the extent which VEAs impose increased costs on firms operating near their (deregulation-pushed) limits one could reasonable expect labour to oppose their implementation. Similarly, Henriques and Sadorsky find that the greater the strain on extant firms’ available financial capital the less likely to occur and be effective VEAs become (1996, 382). As such instability increases, moreover, firms increasingly

think first of short term profits rather than long-term planning (Johnson 1998, 227; Blanchard and Giavazzi nd., 40).

On the other hand, firms in which profits sharply decline (and with them, stability) may see a different individual or group of individuals facing job uncertainty: management. In the Japanese textile, steel, and metals industries, for example, heavy PCA-induced investment in pollution control saw profits drop more than 90 percent in the mid-1970s (Ren 2005, 301). In an era of increasingly deregulated capital markets, 'under-performing' firms face the threat of involuntary restructuring dictated by ever-strengthening investor interest and power (Andrews 1998, 189). Strengthened investor control and high pollution abatement costs therefore increase the instability of management individuals who, to maintain their own job stability, should be focused on short-term profits for markets and investors.

The entry of new firms and exit of old firms from deregulation and privatization also challenges another factor upon which VEA effectiveness is thought to rest: the maintenance of long-term relationships and good will (Bailey and Rupp 2006, 52). For example, among several European countries "first phase" covenants characterized by single-issue agreements and limited time periods are generally regarded as less effective than "second phase" agreements which are designed for the long term and institutionalized cooperation between industry and governments (Glasbergen 1998, 694). Insofar as high instability results in an inability to form long term relationships, VEA effectiveness will be curtailed. Wallace, in a relatively rare *explicit* mention of stability,

argues that having an "...unstable policy climate causes distrust and pushes industry towards misusing dialogue mechanisms in an attempt to manipulate or mislead regulators" (1995, 221). In the United States, moreover, a climate change VEA aimed at electrical utilities failed partly because the industry was concurrently deregulated, leading to greater competition and the use of cheaper polluting fuels (Welch et al. 2000, 422). As such, instability damages long term firm-state relations by encouraging dishonesty in negotiations and by emphasizing short-term planning by firms.

On the other hand, where policy is stable over the long term "...a sense of trust in the motives of politicians and officials [develops and firms] begin to feel willing to disclose the potential for technical improvements to solve environmental problems." In turn, policymakers can utilize this information in the design of new instruments such as VEAs in a lower tension environment (Wallace 1995, 224 and 228; see also Takeshi 1994, 164). Long term interaction is necessary partly because the accumulation of shared experiences and legitimacy takes time to establish (Shimada 1992, 268). This is particularly important to environmental voluntarism as "...in the real world, there is more uncertainty associated with the use of negotiated agreements as compared to [traditional approaches which]... will affect [firm] calculations of comparative efficiency" (Delmas and Marcus 2004, 16). The ongoing recognized cooperation, moreover, results in longer time horizons among participants due to greater value being attached to the relationship itself and greater perceived security (Murakami and Rohlen 1992, 72). This stability is derived, in part, from the broader political conditions of a state and its political stability.

To create the most beneficial conditions for VEA effectiveness government discretion must be both constrained and flexible. On the one hand, instability from an excess of regulator discretion will increase the risk that agreements formed will be soon discarded. On the other hand, in situations where the regulator lacks the authority to modify rules and permit procedures the costs of implementation and negotiation increase substantially (Delmas and Marcus 2004, 15). As well, stability in the way that governments create policies is important as “uncertainty, disruption, and adaptation costs” increase when new negotiation partners and mechanisms are introduced (Bailey and Rupp 2004, 248). Lastly, perhaps as a result of low issue politicization but regardless of the exact reason, government restraint from mid-agreement action is important. When governments are able to refrain from early intervention (usually in cases where agreements look likely to fail) they increase the value of the agreements to all participating firms by increasing the credibility and stability of the agreements. In turn, this decreases the uncertain future value of VEAs to industry which lowers the discount rate applied to the investment required. As stability contributes to effectiveness through, among other things, increased credibility of commitments and value of long-term investments, one can reasonably expect this to occur in Japan – a state characterized by extremely high stability on almost any measure.

## **Chapter 5: Stability in Japan's Political-Economy**

### **Policy and Political Stability**

The sheer number of mentions of stability in discussions of Japanese politics and economics is striking. Among the many factors labeled *stable* one finds politics, policy, interest rates, exchange rates, employment rates, interfirm relationships, employment patterns, financing, stockholding, negotiation patterns, industry associations... the list goes on and on. Given the widespread use of the *stable* label one might think that Japan has always exhibited high stability. There is, however, nothing historically predetermined about the current high stability of the Japanese political economy, nor can we simply attribute it to cultural traits unique to Japan. Though culture permeates and influences numerous aspects of stability, it cannot alone explain it. Stability in Japan's political economy is rather a result of planning and historically contingent fortuity; both occurred mainly in the post-war period. Following the abovementioned four facets of stability (political, policy, individual, and firm) this section seeks to demonstrate how, on virtually any measure, Japan's political economy exhibits high stability.

At the broadest level of analysis, Japanese policymakers and citizens wanted stability following the tumult of the Second World War. In the immediate postwar period the presence of hunger, labour strikes and widespread black markets created significant instability. In order to increase political economic stability the government therefore sought to curtail individual and firm failures (Anchordoguy 2005, 8). The success of policies designed to avoid such failures is noteworthy. In fact, in 1996 one scholar

identified the low rate of bankruptcies in Japan and their noncyclical nature as important characteristics of its political economy (Stiglitz 1996, 166). One way in which this was achieved was through close control of capital flows and the financial system. In the case of banking, an emphasis on stability had been present even before the Second World War.

In 1923 one of the largest earthquakes to strike Japan devastated Tokyo and the surrounding areas. The debts and damages related to it forced 126 banks to close, default, or have their operations officially suspended. Numerous other banks, despite remaining open, also suffered significant losses and total damage from the earthquake and ensuing fire was estimated at as much as 35 percent of GNP (Hoshi and Kashyap 2001, 29). Later, as Japan returned to the gold standard in 1929, the following three years saw another 65 bank failures bringing the total to nearly 200 in less than a decade. This was a “driving force behind... concern with ‘stability’” among Japanese policymakers who thought that heavy regulation and segmentation would decrease instability due to market predations (Hoshi and Kashyap 2001, 91). It also provided for greater government control of capital and targeting of capital to industries and firms considered important by the government. In the 1930s, for example, this increased control allowed the Ministry of Finance (MOF) and Bank of Japan (BOJ) to direct “a stable flow of capital to the military” (Anchordoguy 2005, 37). Government policies throughout the war and after also resulted in higher concentrations of capital in smaller numbers of large banks (Yamazaki 1997, 63). Whereas in 1901 there were roughly 1900 banks, by 1941 there were less than 200 and by 1945 there were only 61 remaining; about half of these 61 were, moreover, controlled by the four major *zaibatsu* (Hoshi and Kashyap 2001, 58-59).

To this smaller group of banks the government directed significant guidance in the postwar period as it had in the 1930s. This guidance was undoubtedly facilitated by the manner in which postwar decentralization policies progressed; while the *zaibatsu* and general trading companies were broken up, banks were not (Yamazaki 1997, 63). It was around these remaining (and powerful) banks that the postwar *keiretsu* networks would emerge.

As Adams and Hoshi argue, the tangible impact of the 1950 Act Concerning Foreign Investment was the exclusion of foreign capital. This was done to avoid the instability foreign capital was thought to bring and “which Japan could not then afford” (cited in Hoshi and Kashyap 2001, 94). Foreign capital was only allowed when it did not threaten the extant industrial order, the livelihoods of SMEs, or the indigenous development of technology. In essence, it was allowed when it didn’t create instability. Though capital liberalization occurred four times between 1967 and 1971, prospective foreign investors still needed to convince “invariably dubious” Japanese bureaucrats that the investment posed no threat to any of the above (Pempel 1998, 51). Outgoing investment was similarly curtailed and until 1997 Japanese firms wishing to engage in foreign exchange transactions needed to obtain a special license (Cargill and Yoshino 2003, 22). Both Occupation authorities and the MOF, moreover, felt that Japanese reconstruction should begin with solid banks and did little to encourage the growth of securities markets. A quick glance at the sources of industries’ external funds is telling: in 1931 bank loans were about 14 percent of the total, in 1940 about 54 percent and by 1957 bank loans alone accounted for more than 81 percent of total external funds (Hoshi

and Kashyap 2001, 75 and 85). With Japanese capital kept in, foreign capital kept out, the number of banks limited, and securities markets largely ignored, government influence in capital allocation (through the banks) became significant. This influence, it bears repeating, was aimed both at growth and stability.

Among Japanese banks the government's emphasis on stability and its ability to manipulate capital allocation resulted in the development of the "convoy system." Bank competition is (somewhat) discouraged in the convoy system which prevents weaker financial firms from falling too far behind stronger ones. Much like a naval convoy traveling as a group, weaker vessels are protected by traveling at the same rate as stronger ones. The combination of regulations and rewards available to the MOF is diverse but has, among others, three important tools. First, under the terms of the 1947 Temporary Interest Rate Adjustment Act (still in effect into the 1990s), the MOF was able to directly regulate short-term lending rates and heavily influence long-term lending rates which were set in relation to long-term bond rates (Hoshi and Kashyap 2001, 104). Second, the MOF was influential with the Bank of Japan in its decisions to extend, or not, additional credit to the banking system. Third, the MOF controlled bank branch expansions and would commonly grant them to reward banks who'd followed MOF suggestions. Sumitomo Bank, for example, agreed to the MOF's request to purchase a faltering rival bank and write off its bad loans; in exchange, Sumitomo Bank was allowed to keep the smaller rival's offices in and around Tokyo thus doubling its branch network (Hoshi and Kashyap 2001, 114 and 122). This policy of unofficial control came to be known as "window guidance." Beginning in 1957, window guidance effectively pushed individual



banks to provide capital to either specific companies or entire industries (Pempel 1998, 54). By 1975, the year of the largest annual investment in pollution control technology, Japan had established "one of the most rigidly regulated and administratively controlled financial systems in the world" (Cargill and Yoshino 2003, 70).

The emphasis placed by policymakers on long-term planning also significantly contributed to the pervasive stability of the political economy. Among private banks, the MOF encouraged long-term consumer deposits by allowing higher interest rates to be granted for longer terms. Similarly, higher interest rates were also granted at institutions where capital was more likely to be directed to long-term lending (Hoshi and Kashyap 2001, 101). In 1951 the Japan Development Bank was created to facilitate capital intensive investments in "basic industries such as electric power, coal mining, ocean shipping, iron and steel" (Inui et al. 2005, 258). Investment in pollution abatement in all of these industries (except ocean shipping) was later to become fundamental to SO<sub>2</sub> abatement. In 1952 the Long-Term Credit Bank Act established a new type of bank specifically aimed at long-term lending. As such, the Long-Term Credit Bank of Japan was established and the Industrial Bank of Japan was modified to fit the new category. These banks were, however, not beneficiaries of the aforementioned long-term deposit interest rates. Instead, they were required to raise money by issuing debentures; the private banks would then purchase and use these as collateral for below call rate BOJ loans. In this roundabout way, the BOJ was able to provide funds to these new long-term credit banks and thus industry (Hoshi and Kashyap 2001, 108-110).<sup>15</sup> These long-term

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<sup>15</sup> The call rate is the overnight inter-bank interest rate. Debentures are generally bonds for which no specific assets have been pledged.

finance banks, created specifically to finance equipment purchases, dovetailed neatly with pollution abatement investment which usually required significant equipment and capital investment lacking near-term financial rewards.

Other banks and institutions were also set up to direct the flow of capital within the Japanese economy. The Japan Development Bank (JDB), for example, set up following the war began to provide low interest and, importantly, long-term loans often coordinated with the long-term credit banks (Flath 2000, 263). These loans were extended to pollution control equipment purchases and research in 1960. The general philosophy of the JDB was succinctly expressed by a former JDB official in 2002: "We do not want any bankruptcies," he said, "all companies should survive" (quoted in Anchordoguy 2005, 13). In 1961 the Small Business Finance Corporation followed suit as did the People's Finance Corporation in 1963. In 1965 the Pollution Control Service Corporation (later to become the Japan Environment Corporation) was established to meet increased demand for pollution abatement loans (Inui et al. 2005, 254). These bodies also provided loans for research into pollution abatement technologies at low interest and with effective subsidies. Interestingly, all of these bodies are now supervised and regulated by the Ministry of Economy, Trade, and Industry (METI) (Ueta 2005, 89).

In the 1960s Sankou Shipping was asked by government regulators to participate in an industry-wide merger and bailout program designed to create six competitive firms. The head of Sankou, however, refused and the company pursued its own investment and growth policies. By the 1970s Sankou looked a smashing success and had more vessels

than the largest shipping company in Japan. In the mid-1980s, however, Sankou had taken a bad gamble and was in need of financial help. It is worth emphasizing that this is roughly *twenty years* after Sankou's refusal to participate in the industry mergers of the 1960s. Government ministries and other industry members, however, remembered Sankou's earlier actions and refused to help. Sankou's banks, aware that the government had refused to intervene, also pulled support and in 1985 Sankou was forced to declare bankruptcy (summarized from Hoshi and Kashyap 2001, 159-163). As the case of Sankou Shipping indicates, firms are able to ignore ministry guidance when they are so determined, however "failure to comply with [MITI's] guidance has often provoked some form of indirect reprisal in a totally separable context, often at a later date" (Murakami and Rohlen 1992, 92). This credible threat of reprisal coupled with the simple threat of publicizing non-compliance resulted in MITI's environmental recommendations achieving high implementation rates. Ultimately, Wallace argues, the threat of publicizing environmentally misbehaving firms was so strong that it never needed to be used (1995, 101).

The source of at least some of MITI's long-term monitoring powers and credible threats derives in part from its relatively high stability. Generally speaking in Japan, bureaucrats are less impacted by political winds than elsewhere. Whereas in the United States as many as 4000 bureaucrats are political appointees, Japanese bureaucrats overwhelmingly remain regardless of changes in government (Oishi 1993 cited in Johnson 1995, 228). MITI has also been considered a credible interlocutor by firms as it has long participated in voluntary agreement formation and is significantly more trusted

than the Ministry of the Environment (OECD 1999b, 16; Broadbent 2005, 119). Yet firms were not, at least in the early postwar, motivated only by credible fear of reprisal. As Murakami and Rohlen have argued, both industry and government shared the belief that free competition of firms would lead to the creation of a single huge firm able to destroy the others. In turn, "explosive instability" would result. As such, firms and government both sought competition but within defined boundaries. Though the argument may stand or fail on its own merits "[one] cannot doubt that such shared cognition was a cornerstone of [firm-government relations]" (1992, 92). Undoubtedly the transfer of personnel between MITI and large firms also facilitated this common understanding.

The practice of former bureaucrats joining private industry is not unique to Japan. In the United States, for example, those industries most characterized by public-private cooperation have also seen such movements (Okimoto 1989, 162). Still, the extent to which this occurs in Japan is elsewhere unequalled and has been termed *amakudari* or literally, descent from heaven. This practice accelerated in the 1970s and particular with regard to high-level firm placements as firms sought to defend themselves from the instability associated with the yen revaluation (Johnson 1995, 151-154). Such former bureaucrats are found throughout Japanese industries and, among elsewhere, are found in: industry associations, private firms, semi-private firms, and public corporations. MITI officials tend to gain employment in: electrical generation and transmission, steel, petroleum, and automobiles (Flath 2000, 254; Johnson 1995, 145). All four of these industries are, moreover, important sources of traditional pollutants such as SO<sub>2</sub>. While

other ministries and bureaucrats gain employment in a variety of fields, *amakudari* from the Environment Agency is by comparison very rare. On the whole, this practice has allowed “the bureaucracy to steer the economy through a tight network of people loyal to the state and core communitarian goals such as national autonomy, economic development, *and a fair and predictable social order*” (Anchordoguy 2005, 41 – emphasis mine).

A less commonly cited facet of *amakudari* but a nonetheless important facet is the relatively high rate at which bureaucrats join the Liberal Democratic Party (LDP) as election-seeking politicians. Between 1955 and 1989 roughly 21 percent of all LDP representatives elected to the Lower House were former high ranking civil servants making them the second largest group in the LDP. As Okimoto wrote, given “the small number of higher civil servants leaving the bureaucracy each year, the 21 percent figure is statistically astounding.” Between 1948 and 1977, moreover, *most* of the prime ministers and 43 percent of cabinet members were also former civil servants (Okimoto 1989, 216-219). Insofar as this increases the flow of information and cooperation between the bureaucracy, the LDP, and the executive it promises to increase the stability of the policies developed between and among them. Such is even more the case in light of the LDP’s long dominance.

Throughout the postwar period the electoral dominance of the Liberal Democratic Party was astounding. Though other states such as Sweden and Norway saw particular parties maintaining power over similarly long periods they often did so through resort to

coalition governments. In Japan, however, the LDP ruled without coalitions and often achieved two-to-one majorities over a span of 38 years (Pempel 1998, 5-6 and 222). This stability in ruling party provided Japanese businesses with an unusually stable policy environment lacking the “policy oscillations” common in other countries (Okimoto 1989, 181). Within the LDP too, stability was high, encouraged by a seniority-based system in which everyone is allowed a “fair” turn in cabinet. This had the effect of “minimizing political battles that could undermine the nation’s stability... [and created] primarily negative incentives to bold, risk-taking behavior” (Anchordoguy 2005, 61). Lastly, this LDP dominance occurred not only at the national level but also, even more strongly, at the local and prefectural levels (Pempel 1998, 5). At these lower levels too, cost-effectiveness and unrestrained competition were not the norm. Rather it is “more appropriate to suggest that *cost-effectiveness is instrumentally pursued to attain stability in the local economy*” (Matsuno 2005, 231 – emphasis mine). In other words, at both the ambient and emissions standards setting levels of government the policy and political environments exhibited arguably unique political and policy stability, an emphasis on economic stability, and long-term thinking. As Anchordoguy argues, the Japanese political and policymaking system is one in which “[d]ecisions are made that favor social stability over efficiency” (2005, 7).

### Individual Stability

Attitudinal surveys have long shown that Japanese business elites and the general public favour income egalitarianism more than any other OECD state and even, during the cold war, at levels equal to Eastern European states (Chaivacci 2005, 109). In 1989

more than 90 percent of Japanese described themselves as middle class and Japan consistently ranks at or near the top of measures of equitable income distribution. Remembering the aforementioned tendency for unequal wealth distribution to increase policy instability, Okimoto provides a tidy confirmation that "on the basis of structural and attitudinal indicators, Japanese society appears to be among the world's wealthiest and most stable. *It is no accident that Japanese politics has also been so stable*" (emphasis mine 1989, 180). Yet while Okimoto and others identified attitudinal variables, still other scholars have pointed elsewhere to the roots of Japan's high stability. Pempel, for example, writes that the economic support provided to various politically important but inefficient industries and regions left Japan with "far fewer personal and regional inequalities than all but the most committed social democracies" (1998, 50). Also important to the relatively high individual income equality is the nature of employment and worker compensation in Japan.

Generally speaking, the division between blue-collar and white-collar workers is less salient in Japan than elsewhere. One can attribute this largely to the unified promotions system which allowed any worker, regardless of category, to advance up the corporate executive ladder with seniority and dedication to the firm (Watanabe 1997, 116-117). Though not all firms allow this to occur it does take place in the majority of Japanese firms. A 1997 study found that the practice already occurred in about 70 percent of listed large firms, that 75 percent of board members were originally regular employees, and that these practices were increasing (Hashimoto 1997, 38-42). One outcome of the extended promotions ladder is an emphasis among employees on longer

term thinking. Also important to encouraging longer term thinking by individuals is the nature of the salary system and particularly, the bonuses given.

Bonuses in Japan are paid twice yearly and generally comprise between 25 and 33 percent of total labour earnings. They are, moreover, a nearly universal practice – even the Prime Minister receives a bonus. In times of firm financial difficulty it is understood by both employee and employer that bonuses will be reduced or possibly eliminated altogether. On the other hand, employees and employers also share the understanding that in good times employee bonuses will reflect the improved financial situation of the firm (Flath 2000, 128). The overall stability of both the firm and employee is therefore increased in the long run; employees look to the long term for benefits while firms gain flexibility in the short-term. The bonuses, moreover, do not exhibit the massive income disparities currently at issue in many industrialized countries and previously argued to contribute to instability. This was not, however, always the case. Between 1921 and 1936 an increase in firm profits of one million yen would have increased directors' bonuses by almost 25 000 yen. Conversely, between 1961 and 1970 the same increase in profits resulted in a bonus of only 5700 yen (Hoshi and Kashyap 2001, 46). Similarly, while employee stability is now high in Japan it was not always so.

Lifetime employment, as a major characteristic of individual economic stability, has attracted a great deal of attention. The practice developed primarily in the postwar, however, and workers in the period covering 1900-1939 had much shorter tenures than did employees after the war (Flath 2000, 316). The length of tenure is also unusual



compared with other industrialized states. For example, in 1995 male Japanese employees averaged 13 years at a single firm which was higher than 10.5 in Germany and less than 8 in the United States (Anchordoguy 2005, 39). The 13 year figure, moreover, obscures the fact that lifetime employment (presumably longer than 13 years) is the norm at Japan's largest firms but is less common at Japan's SMEs. Nevertheless, this relatively long term employment has been argued to contribute to innovation, quality control, and positive labour-management relations (Iwata 1992, 173-174). In the same vein it has been suggested that lifetime employment contributes to the production process by allowing employees to focus on, and be recognized for, long-term improvements (Wallace 1995, 106). As well, the seniority-based pay of most Japanese firms discourages short-term commitments by employees (Flath 2000, 314). This, coupled with the nature of Japan's unions, contributed to significantly more stable individual and firm economics.

Since the 1950s Japan's unions have simultaneously negotiated with firms in a process called *shuuntou*. One impact of this relatively unusual process is that it tends to result in fairly uniform wage increases throughout firms and industries (Flath 2000, 128). Given the aforementioned instability generated by labour price volatility this serves to increase the relative stability of firms as well as individuals who have little reason to change employers for financial gain. Still more important, however, is the centrality of stable employment (as opposed to wage increases) to union thinking (Murakami and Rohlen 1992, 90). In the 1980 negotiations, for example, unions agreed to a wage increase of 6.7 percent despite an increase in the consumer price index of 10.4 percent in

1970 and 9.5 percent in 1980. As Shimada writes, "This remarkable wage moderation helped the Japanese economy to absorb the [second oil shock] and quickly restore a stable economic balance" with respect to prices, national income, productivity and the exchange rate (1992, 277-278).

In exchange for their cooperation in other areas including wages, employees work in a system where layoffs are the last resort available to firms. The courts have similarly ruled that firms must first exhaust all other means available for cutting costs and it has become the norm to reduce firm labour force by attrition rather than firings (Anchordoguy 2005, 38). Unemployment rates in Japan are consequently only minimally correlated with recessions (Flath 2000, 125). This, added to the abovementioned factors has meant that (in this respect at least) employees and firms are particularly stable. As both a contributor to firm instability and a measure of individual stability, strikes and labour disputes nicely illuminate Japan's stability. In 1986 Japanese firms lost 252 days to strikes and disputes; this was roughly two percent of the number lost in the United States (Okimoto 1989, 122). Individual labour stability in Japan helps contribute to the high stability of Japanese firms but alone does not capture all of its important aspects. Managerial strength, the keiretsu, and firm finance are important factors and are the focus of the next sections.

### Firm Stability

Japanese firms, like their employees, have long exhibited high levels of stability. Rates of entry to and exit from the market, for example, have long been significantly

lower than that of other states (see Figure 5.0). On the Tokyo Stock Exchange (TSE) and the New York Stock Exchange (NYSE) similar numbers are also seen. Between 1980 and 1997, for example, the TSE saw less than 1.5 percent of listed firms go bankrupt; this figure is smaller than that of *one* year on the NYSE (1993) (Hoshi and Kashyap 2001, 201-202). This is partly a result of the aforementioned political, individual, and policy stability. Yet there are other important contributors to firm stability, two of which are here particularly salient. First, the role of the *keiretsu* and firm membership therein is important to stability in multivariate ways. Second, high managerial strength in Japan increases their stability as individuals and reduces the influence of short-term profit-seeking capital on firm decisions.

*Figure 5.0: Firm Entry (creation) and Exit (closure) in the U.S. and Japan*

[Figure 5.0 removed due to copyright restrictions. It is a graph which shows a firm entry and exit rates in the U.S. and Japan; the Japanese figures are consistently less than those found in the U.S. between 1982 and 2001.]

*Source:* Anchordoguy 2005, 14.

Following the Second World War Occupation authorities, for a variety of reasons, decided to break up the *zaibatsu*. The *zaibatsu* were characterized by (single and multiple) family control of major holding companies which themselves controlled subsidiaries and affiliated firms. The Mitsui Trading Company and Mitsubishi Trading Company, for example, were broken up into more than 200 smaller companies. Yet by 1954 they had largely reformed and rejoined (Flath 2000, 77). The shape of the new corporate groupings was somewhat different from the *zaibatsu* and thus the *keiretsu* were

born. At the centre of each of the six major *keiretsu* is a single commercial bank with extensive shareholding of and loans to (and between) member firms.

Relations between member firms tend to be long-term in nature and lessen the impact of price variations on production (Flath 2000, 128-129). When a member firm is in financial trouble, the central bank and other members generally step up support through financial, personnel, and technological transfers. This is done with the understanding that, should healthy firms begin to struggle, they will receive the same support. For instance, when the first oil crisis pushed Ataka and Company close to bankruptcy, Sumitomo Bank (one of the central *keiretsu* banks) arranged a merger for it with another firm. This firm, a decade before, had been bailed out of a financial crisis by Sumitomo and owed it a "debt of gratitude" (Hashimoto 1997, 35-36). As Iwao Nakatani argues, the "primary purpose of [keiretsu] group formation seems to be the sharing of risks and profits among group members by which stabilizations of corporate performance is enhanced" (quoted in Okimoto 1989, 138). Insofar as environmental technologies require significant investment, the role of the *keiretsu* is considerable.

In general both the technological transfer itself and the application thereof are facilitated by firm membership in a *keiretsu*. This occurs in a few different ways. Technology transfer among members of the group is often thought to have occurred more easily as a result of greater trust and emphasis placed on the relationship itself, rather than profits possible from a new technology (for a well researched example of this see: Okimoto 1989, 75). Similarly, the transfer of knowledge is thought to require "stable

settings” in which mutual trust characterizes the relationship (Takeshi 1994, 164). Such stability is encouraged by the fact that the trading relationships between firms are sympathetic and provide a “testing ground” for the introduction of new processes and products (Wallace 1995, 106). The application of the new technologies, on the other hand, is facilitated by increased stability of firm access to capital. Hoshi et al. find that while investment is particularly curtailed among most firms during business cycle downturns, among *keiretsu* firms investment was generally unaffected by cyclical variations (1991, cited in Hoshi and Kashyap 2001, 191). These impacts are especially relevant to emissions reductions as they apply in even greater measure to larger firms who are generally the largest emitters. Smaller firms who are less commonly direct members of the *keiretsu* exhibit greater instability as indicated by their higher entry-exit rates (see Figure 5.1).

*Figure 5.1: Opening and Closure Rates of Japanese Firms by Size*

[Figure 5.1 removed due to copyright restrictions. It is a graph which shows significantly higher small firm creation and closure rates compared with large firms between 1976 and 1988.]

*Source:* Hashimoto 1997, 18.

Firm executives throughout the world are, like their employees, also concerned with job stability. Yet the high stability of firm managers in Japan is little found elsewhere in the world. This high stability is often argued to allow longer-term planning,

greater managerial freedom, and firm stability. This managerial strength and stability may have some roots in Japanese culture, but the balance of explanatory power is thought to rest instead with the nature of finance in Japan. In short, finance in Japan is dominated by weak individual investors, corporate cross-shareholding, and bank-dominated investing.

Individual shareholders were not always weak in Japan. In the prewar period the import of individual shareholders can be seen in the relatively high numbers of individual (large) shareholders serving as directors of firms. During the war, however, the government sought to separate ownership and management and reduce the influence of profit-seeking capital on firm operations. As a 1940 government outline stated, firms should concentrate on quality and quantity "freed from the control of capital, whose first purpose is profit" (Okazaki 1997, 295). From the works of postwar scholars it would seem that they succeeded. Rather than shareholders controlling Japanese firms, Japanese firms regard "dividends...merely as a capital cost and the interests of stockholders do not have top priority" (Iwata 1992, 175). While there are significant differences of opinion among scholars as to how exactly management was separated from ownership, there is broad agreement on two points: first, that managers in Japan are generally very independent in decision making; second, that following the war large individual shareholders became less and less common (Yamazaki 1997, 81).

The numbers on this point are indeed relatively straightforward. In 1949 individuals and families held nearly 70 percent of stocks while banks and firms had about

16 percent. By the 1960s, however, corporate and bank shareholding had increased drastically and numbered between 65 and 70 percent of all large firms' outstanding shares. The largest 100 firms in Japan listed on the TSE (and measured by total assets), moreover, show almost no individual shareholders at all. The influence of individual shareholders is, moreover, hampered by the nature of general shareholders' meetings in Japan: 80 percent are on the same day and 60 percent of those meetings are less than a half hour long (Anchordoguy 2005, 47-49; Hashimoto 1997, 24). As one scholar of the Japanese economy well put it, general stockholders' meetings are "notorious charades having little or nothing to do with the actual governance of the corporations" (Flath 2000, 288). Individual shareholders truly opposed to policies being pursued by managers could file lawsuits, but as of 1992 only 19 such suits had ever been filed, in part because of the high costs they generally imposed on plaintiffs (Hoshi and Kashyap 2001, 324). The question remains, however, what do the lack of large individual shareholders and their lack of power have to do with stability? Put differently, what is it about corporate and bank dominated shareholding that increases stability? The answers to these questions are not simple but do revolve around two central ideas: first, the short-term capital demand for profits is alleviated; second, stable shareholding is part of broader long-term agreements between firms and between firms and banks.

Looking back at some of the abovementioned work on VEAs, scholars indicated that smaller firms and individuals had higher discount rates than larger firms. This meant that smaller firms' time preference for money was skewed towards the present and that an investment's likely payoff needed to be larger for them to invest (or the payoff needed to

come sooner). Larger firms, on the other hand, were either more willing or able to wait longer for the same or smaller payoffs. In 1989, the twenty largest financial institutions in Japan (in terms of corporate shareholdings) ranked as the largest shareholder of 477 firms, the second largest in another 798 firms, and the third largest shareholder among 1006 firms; all together giving them significant control of more than 2000 firms. In the same year, the twenty largest non-financial firms were the largest shareholders in 251 firms, the second largest in 105 firms, and the third largest in 80 firms; with significant control in a total of 436 (Hashimoto 1997, 26 and 32). Insofar as these large firms and financial institutions have a time preference for money it is likely to be skewed to a longer term than elsewhere. Among these firms, moreover, shareholding was dominated by allied firms.

*Figure 5.2: Japanese and U.S. Return on Equity*

[Figure 5.2 removed due to copyright restrictions. It is a graph which shows consistently lower Japanese Returns on Equity compared with the U.S. but with a significant spike in Japanese returns in 2002 and 2003.]

*Source:* Anchordoguy 2005, 31.

Compared with other states, the turnover of shares in Japan has long been low. In large measure this is because significant amounts of outstanding shares are held by partners, creditors, *keiretsu* group members and other allies who “rarely divest their shareholdings” (Flath 2000, 271). According to one scholar, roughly half of all corporate investments in shares are in fact purchases of allied firms’ stock (Hashimoto 1997, 28).



Institutional investors, particularly allied firms, are willing to accept lower returns and smaller dividends so long as the real value of equity shares increases (Okimoto 1989, 43 and 137). Compared with the United States, at least, lower returns have long been the case in Japan even in the speculative bubble years (see Figure 5.2). One impact of the stable shareholding among allied firms has been the dearth of takeovers of Japanese corporations. Though *keiretsu*- and bank-organized takeovers were not common, neither were they unheard of – as unsolicited bids were. Nor did it matter if the firm attempting a hostile takeover was Japanese or foreign. In the case of Sankyo Precision Machinery, an unsolicited takeover attempt was met with the firm's main *keiretsu* bank threatening to sever all business ties to the challenger. In the face of threats and *keiretsu*-organized shareholder opposition, the firm trying to take over Sankyo withdrew its bid and sold the shares it had acquired to Sankyo-allied firms (Hashimoto 1997, 36). In fact, it wasn't until 1999 that the first Japanese firm was procured through an unsolicited takeover bid (Hoshi and Kashyap 2001, 323). A commonly-argued consequence of this protection from hostile takeovers, individual shareholder weakness, and cross-shareholding is that Japanese firms – and their secure managers – are better able to pursue long-term strategies than their foreign competitors (Baba 1997, 184).

Myriad factors in the Japanese political economy have been described as stable and the four elements of stability here analyzed – political, policy, individual, and firm stability – are all highly stable in Japan's political economy. Capital flows played an important role in facilitating much of this stability. Governments and banks directed capital to long-term projects and investments while foreign capital, with its perceived

emphasis on the short-term, was largely excluded. *Keiretsu* financing, unlike that of shareholders, was less demanding of short-term profits. Investment could therefore proceed without significant regard to short-term financial or profit fluctuations. Such stable investments and planning were also facilitated by high managerial strength in Japan and individual labour stability. Bureaucrats, also important to capital flows and controls, played an important role in increasing stability as they were significantly insulated from political changes. Later in their careers the practice of *amakudari* facilitated the common emphasis on stability among large Japanese firms. Politicians and politics were similarly stable as a seniority-based system ensured that risk-taking or uncertainty-increasing behaviour was unnecessary to advancement. Overall, Japan's political economic stability is extremely high throughout the period in question and contributed in multivariate ways to the effectiveness of Japan's voluntary environmental agreements.

## **Chapter 6: Conclusion**

Voluntary environmental agreements are increasingly common policy tools utilized throughout much of the industrialized world. Their rise from relative obscurity in the late 1980s and early 1990s sparked significant and ongoing debate about their costs, benefits and effectiveness. Advocates see tremendous opportunities both for firms and for governments in the use of voluntary approaches to environmental protection. For firms the advantages include but are not limited to: cost effectiveness, flexibility, green markets and profits, increased legitimacy, regulatory relief and influence, employee retention, and protection from external pressures of all kinds. For governments the advantages are also thought significant and include: monitoring and enforcement cost reduction, cooperative relations with industry, flexibility, reduced pollutants, and a lower burden placed on industry. On the other hand, detractors of VEAs see significant and ongoing dangers in their utilization. Such interlocutors have called attention to the dangers of regulatory capture, greenwash, free-riding, and the seemingly inevitable logic of market capitalism.

Other scholars, however, were less concerned with the outcomes of VEAs and more focused on identifying the motivations and characteristics of participant firms. While there is broad agreement on several characteristics of likely participants (i.e., large, visible, high emitters) examining the motivations of firms has been somewhat less conclusive. Empirical research into this area, while significant and growing, has thus far

yielded mixed results. Motivations identified in the literature include: avoiding current and future regulations, gaining legitimacy, profiting from new technologies, raising the costs of entry to new firms, and protecting the firm from environmental lawsuits. Governments, on the other hand, have been motivated to experiment with new approaches by reductions in state capacity, and changing norms about the role of the state in the market and the social responsibilities of firms.

How scholars understand VEAs is undoubtedly a function of the terms utilized and how they are defined. Like many issue areas, environmental voluntarism has seen tremendous diversity in terminology and definition. Significant debate has occurred over the meaning and definition of voluntarism and the role of coercion therein. A commonly utilized tripartite typology of VEAs was here used to provide a parsimonious means of classification. Agreements therefore are argued to generally fall into one of three categories: negotiated agreements, public voluntary schemes, and unilateral commitments. Among these three categories both negotiated agreements and unilateral commitments are the most common, though roughly half of all unilateral commitments are related to the chemical industry.

Finally, a growing body of work has attempted to identify the conditions under which VEAs are most likely to be effective. Yet definitional issues are also contentious with regard to effectiveness. Varying definitions exist in the literature and run the gamut. Several of the most common definitions include the extent to which: the environmental problem was solved, the terms and targets of the agreement were reached, the relative

ambitiousness of the targets, and the improvement relative to a given baseline. Some definitions of effectiveness are significantly easier to measure than others; a business-as-usual baseline, for example, is almost inevitably contentious and provokes continued debate. For simplicity's sake effectiveness was here defined as the extent to which the terms and targets of the agreement were successfully fulfilled. On this measure the Japanese case exhibits voluntary agreement effectiveness almost without parallel.

In the face of central government failure, local Japanese governments of all stripes attempted to address environmental degradation through environmental voluntarism. Specifically, local governments developed and extensively used pollution control agreements to address numerous pollutants. It bears repeating that the Japanese experience with PCAs therefore began far sooner and in greater numbers than the cases upon which most VEA theorizing is based. Sulfur dioxide, for example, was targeted by numerous voluntary agreements in the 1960s and 1970s in an attempt to reduce ambient concentrations wreaking havoc with human and environmental health. Some prefectures and localities made the conclusion of PCAs a necessary precondition to firm establishment while for others they could be later negotiated (or even ignored totally). Generally speaking, however, the conclusion of a PCA came – with time – to be regarded as a normal and necessary part of doing business throughout Japan.

Firms at first resisted concluding agreements for fear of increased costs; with MITI and political pressure, however, they soon resigned themselves to the process. Their terms and conditions were only sometimes revealed and the participation of

community groups was generally quite limited. Importantly, the PCAs were usually negotiated to cover only one facility or a small set of facilities in an area. Among Japan's few environmental NGOs participation was, perhaps due in part to the agreement's local nature, nearly unheard of. Enforcement and stringency came to be notably disparate as firm characteristics resulted in different agreements being formed. Newer and larger firms came to face harsher standards while older and smaller firms were given greater leeway in emissions criteria. Monitoring was generally left up to the firm with only period inspection by local authorities. The overall results were stunning: environmental quality rapidly improved as industry massively invested in pollution control and abatement technologies. Their success tangible and their mechanisms understood, both industry and government came to accept PCAs as common to business and useful for addressing environmental degradation. This remained the case into the 1980s when unilateral commitments sprang onto the national radar.

Japanese firms, like many abroad, started to see opportunities for growth in environmental protection. Despite the collapsing of the bubble economy this green optimism remained strong and unilateral commitments by industry became more common. This occurred in no small part because of the nature of new challenges facing the Japanese environment. Non-point source and transnational environmental considerations came to dominate much of the environmental debate in this period. Also important to increased firm initiatives was a sense among many that state intervention in the market had become less desirable. Perhaps foremost among the environmental concerns of the 1990s onward was climate change, and by extension, carbon dioxide

emissions. Throughout the early 1990s the government promoted voluntary initiatives, subsidies, loans, tax breaks and technologies for CO<sub>2</sub> abatement. Yet it was in 1996 with the publication of the Keidanren Appeal on the Environment that CO<sub>2</sub> abatement truly took off. By 2001 34 different industries were participating in a Keidanren-led plan with significant success and total emissions dropped more than three percent below 1990 levels. The effectiveness of the unilateral commitments on CO<sub>2</sub> abatement and the PCAs for SO<sub>2</sub> abatement, however, is puzzling given extant theory.

Many of the effectiveness conditions identified in the literature appear missing in Japan while other conditions, likely to harm effectiveness, appear present but without the deleterious consequences. Information provision, to name the most striking example, is highly circumscribed in most of Japan's voluntary environmental agreements. Agreements, reports, negotiations, and results are often kept private; something as basic as the existence of an agreement is only revealed roughly half of the time. With secrecy common, opportunities for civil society participation are sorely lacking and third-party monitoring is similarly rare. Most agreements, moreover, lack penalties for termination and non-compliance and the available tools of suasion and social pressure – at least in the case of CO<sub>2</sub> – are usually thought extremely weak. The Japanese case therefore indicates the need for still more theorizing about VEAs. Part, but only part, of the answer to this puzzle can be found in the relatively high stability of the Japanese political economy.

As an element of environmental voluntarism stability is rarely mentioned and is almost never examined for its impacts. The same is true of instability. In part the lack of

attention to stability is derived from the difficulty faced in defining stability and instability. As tendencies rather than easily quantifiable states the study of stability and instability is challenging for scholars. Within this thesis, stability was defined as the absence of change and instability as constant change; in the majority of cases the utilized measure falls somewhere in between the two stylized categories. With this in mind four types of political economic stability were identified (political, policy, individual, and firm) and examined to illuminate their characteristics and impacts on VEAs.

In general instability lowers investment and long-term planning by firms and individuals. Political instability generally reduces investment in a given state and lowers the credibility of political commitments. Such instability has multivariate sources: while coups and violence have the largest visible effects, smaller changes like changes in governing party or even in the executive of the governing party still have weak but significant impacts. Policy instability, on the other hand, also reduces investment but has been somewhat better studied. Needed rates of return increase with policy instability and this is particularly the case for capital-intensive and long-term investments. Insofar as the Japanese case showed the necessity of investment for pollution abatement the impact of instability on VEA effectiveness promises to be significant. Where policy is stable, however, firms are thought to develop closer relationships with policymakers in which the potential for innovations and environmental improvements is more likely to be revealed. Individual stability is also important for both employees and managers of firms. When employees feel their jobs are unstable due to firm financial strain they are likely to agitate against costly voluntary commitments. Managers, on the other hand, feel greater



pressure to produce near-term profits and a reduced capacity to plan for the future – both of which agitate against VEA creation and effectiveness.

The political economy of Japan exhibits extremely high stability on nearly any measure utilized. Income equality is generally among the best of the OECD countries and among the largest emitters of pollutants individual job security is extremely high. Managerial stability is also high both as a result of conscious efforts during the war period to weaken shareholders and the stable patterns of cross-shareholding among Japanese firms. Large firms, in general, exhibit extremely high stability as visible in the low bankruptcy rates. Important too is the low firm creation ratio as increased competition is thought to lessen stability. In large measure both of these facts stem from the *keiretsu* affiliations of most large Japanese firms. Both risk and profits are reduced as firms are part of a group who come to each others' aid but stability is significantly increased. As a result, investment by *keiretsu* firms is insensitive to cyclical business variations; this means that even firms struggling financially are able to invest in pollution abatement. Also important for firm stability is the relatively slow movement of capital through the Japanese economy. Active government policy discouraged foreign capital and strongly encouraged domestic capital into long-term arrangements. While such policies had prewar antecedents, they were greatly facilitated in the postwar era by the high dependence of Japanese firms on banks for external finance.

Policies favouring stability were themselves facilitated by the arguably unique dominance of the Liberal Democratic Party. Domestic politics were therefore stable over

the course of 38 years as the LDP dominated Japanese politics. Intraparty fighting which could have proved destabilizing was also kept to a minimum by seniority and rotation-based cabinet appointments. The stability of policies was also strengthened through extensive ties between the LDP, government bureaucrats, and the system of *amakudari*. MITI officials regularly retired into top jobs in Japan's most polluting industries as well as into politics as LDP members. Negotiations among politicians, bureaucrats and firms were therefore rendered even more stable given the personal and professional *amakudari* links among them.

#### Trends to the Future

If, as this thesis has speculated, stability is important to VEA effectiveness and environmental investments, then recent trends in Japan should be somewhat concerning to advocates of voluntarism. The trend of Keidanren VAP participant emissions, for example, shows that while a 3.2 percent reduction in carbon dioxide emissions had been achieved by 2001, between 2001 and 2005 forecast emissions shot up dramatically. Forecasted emissions for 2005 were more than five percent above 2001 levels; the forecast for 2010 shows failure of the VAP with carbon dioxide emissions 8.1 percent above 1990 levels (Keidanren 2002); since the forecast publication actual measurements have indeed shown increased carbon dioxide emissions although possibly at slightly lower rates than originally forecast (Keidanren 2005). Anecdotal evidence suggests that individual, firm, policy, and political stability have all been reduced in recent years with deleterious consequences for environmental voluntarism.

Though changes occurred both before 2001 and after, the increased emissions from Keidanren participants overlaps neatly with numerous instability-creating changes to the political economy of Japan. While before 2001 the LDP's loss of power was significant, perhaps more significant was the 2001 rise to power of Junichiro Koizumi. Though the ultimate impact of his policies and reforms is strongly debated it remains significantly beyond the scope of this thesis. What is, however, relevant is the instability his tenure as Prime Minister arguably amplified. In foreign policy (troop deployment to Iraq), banking (postal savings system privatization), and party politics (expulsion of numerous sitting members) the influence of Koizumi was significant and often signaled breaks with the past. In policy, too, shifts were visible throughout the late 1990s. The upgrading of the Environment Agency to Ministry status, while also of uncertain consequence, undoubtedly created at least *some* instability among firms concerned with environmental policy. At the same time the Economic Planning Agency (EPA) was integrated into the Cabinet Office and MITI was also reorganized and renamed the Ministry of Economy Trade and Industry (METI). Perhaps more significantly, however, were the effects of ongoing changes to firm and individual stability.

Hostile takeovers in Japan have become increasingly common since the first occurred in 1999. In fact, between 2001 and 2002 merger and acquisitions activity increased about 25 percent (Anchordoguy 2005, 226). In part this may be related to changing norms which accept takeovers, bankruptcy, and greater competition as 'normal' (Cargill and Yoshino 2003, 7). On the other hand, changes to the material conditions upon which firm stability rested seem equally likely culprits. Stable cross shareholding,

for example, fell below the 50 percent mark for the first time in 2001. Banks, on the other hand, also began selling shares in greater numbers. While the period between 1991 and 1994 saw 10 percent of bank shareholdings sold, between 1997 and 2000 fully 54 percent of their shareholdings were sold. In the same period, direct foreign investment shot up increasing from \$10.5 billion in 1998 to \$17.9 billion in 2002 (Anchordoguy 2005, 50 and 226). If, as Andrews argued, global capital requires higher short-term returns this cannot but decrease the stability and long-term thinking of Japanese firms (1998, 189). Perhaps concomitantly with bank weakening a visible increase in shareholder activism and strength has been visible in Japan. Unlike before, “new stakeholders...do not shy away from opposing proposals and decisions by the CEOs of the companies in which they invest” (Demise 2005, 213-215). As significant 2001 layoffs at Nissan Motors (with its first non-Japanese CEO) indicated, the emphasis in Japan has begun to shift to profits (see also Figure 5.2). In this same period, moreover, the income egalitarianism of Japan began to decline from the best to, by 2007, the middle of the OECD countries (Yomiuri 2007). Insofar as stability continues to decline in the Japanese political economy one would expect the effectiveness of Japan’s voluntary environmental agreements to share a similar fate. The early evidence, at least, would suggest this decline has already begun.

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