Self-Regulation and the Sanctuary Strategy:

Competitive Advantage through Domestic Cooperation by Japanese Firms

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Abstract

In a “sanctuary strategy”, a firm uses restraints to competition in its home market to create a profit cushion that allows it to compete forcefully in foreign markets. This paper argues that self-regulation by industry associations is an important domestic prerequisite of a successful sanctuary strategy. Therefore, by studying the situation of self-regulation and cooperation within Japanese industry associations, we can identify predictors of a sanctuary strategy and study one example of the competitive effects of cooperation among companies. The paper builds on a data set containing 1153 Japanese industry associations to, first, test standard notions of cooperation and collusion as suggested by the economics of industrial organization, adapted to the context of industry associations. Next, the paper develops new hypotheses to analyze whether internal features of industry association organization predict the likelihood of self-regulation. The paper suggests specific variables that can be used for analysis, and concludes that as self-regulation increases in Japan, so may the sanctuary strategies employed by Japanese firms.

1. Introduction

The international competitiveness of some sectors of Japanese industry has been explained through a variety of approaches, including studies on labor and management practices, production processes, supplier relationships, and financial markets[1]. In strategy terms, Porter (1990) has argued that the successful Japanese industries have all benefitted from a high quality of suppliers, sophisticated consumers, supportive factor conditions (such as skilled labor), and a competitive home market with low barriers to entry and a high degree of rivalry within clusters of competing firms. At the same time, some observers have proposed that cooperation among Japanese firms — for instance through R&D consortia or by way of their *keiretsu* affiliations — have contributed largely to the success of some Japanese industries[2].

This strategic explanation of domestic cooperation as a source of international competitive advantage has received additional emphasis in the wake of the WTO case involving Kodak and Fujifilm[3]. In 1995, Kodak CEO George Fisher argued that "while Fuji competes with Kodak on a global basis, it makes virtually all its profits in Japan, using those proceeds to finance low-price sales outside Japan", adding that "The Japanese market, a large segment, is closed to us. And as a result, Fuji is allowed to have a profit sanctuary and amass a great deal of money, which they use then to buy market share in Europe and in the United States"[4]. By implication, the claim was that Fujifilm was

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[1] See Cole 1994, Koike 1987, Clark/Fujimoto 1991, Imai 1986, Ahmadjian 1996, McMillan 1990, Porter 1992, for examples of each of these approaches.

[2] See Sakakibara 1997, Kodama 1995, Smitka 1991, Gerlach 1992, for examples of these studies.

[3] In 1995, Kodak filed a market-opening petition under Section 301 of U.S. trade law, alleging that large parts of the Japanese markets for color film and photographic paper were closed to foreign competitors due to exclusive tie-ups in Japan's distribution system. The Japanese government denied the accusations and refused to discuss the bilateral Section 301 case, and the case was brought before the World Trade Organization in 1996. The WTO eventually found that Kodak's claims were unfounded. However, while Kodak lost the battle, it may have won the war: in order to prove that markets were not closed, Fujifilm may have had to change some of its strategies, thus allowing Kodak into its "sanctuary". Future market share data will reveal the market outcomes of this case. See Baron 1995, 1997a,b for details on this case.

[4] Quoted after Baron (1997a:305). Fisher brought the concept of "sanctuary strategy" to Kodak from Motorola. Robert W. Galvin, long-time CEO of Motorola, explained Motorola's approach in a speech in 1992 in the following way: "You cannot allow any competitor to have a sanctuary in his or her native market and be allowed to roam in your market in a way that would both cultivate customers and undermine your strengths. Simply put, you must find your

internationally competitive due not to a high degree of rivalry in its home market, but rather due to lack thereof. By being able to keep market access closed to foreign firms and profit margins high in the home market, Fujifilm could compete forcefully elsewhere. In a rebuttal to these claims, Fujifilm argued that Kodak had in fact been pursuing the very same strategy in its home market [5].

Regardless of who was right or wrong in this trade dispute, it has triggered new studies in international business strategy. Baron (1995, 1997a, 1997b) has turned the notion of a sanctuary strategy into a new concept in strategy theory. By focusing the attention on non-market aspects of business strategy, Baron has highlighted the necessity of considering both market and non-market factors in what he calls an "integrated strategy"[6]. The "non-market" aspects in this concept encompass the social, political and legal arrangements that frame a firm's strategy; major non-market actors include the government, media, and industry associations. The strategic implication of Baron's model is that corporations can and should attempt to shape their non-market environments strategically to increase their competitive advantage, be that through lobbying their government, influencing regulation and international trade rules, or cooperating in their industry associations. In Fujifilm's case, for instance, the non-market aspects allegedly included industry associations that enforced exclusive dealings in Japan's distribution system for photo film and paper, and a supportive government in terms of lenient antitrust application in light of these exclusive trade practices.

Given the importance of cooperation for understanding Japanese corporate success in general, and for evaluating the potential for sanctuary strategies in particular, this paper aims to shed more light on inter-firm cooperation in Japan by analyzing the activities of Japanese industry associations. In particular, the notion of cooperative strategies poses two sets of questions. First, how widespread is inter-firm cooperation in Japan, and by extension, how pervasive is the sanctuary strategy ? While companies other than Fujifilm might have considered a similar approach, certainly not all Japanese industries are internationally competitive. It is therefore unlikely that the Japanese non-market

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way effectively into his native sanctuary. We simply knew we could not leave Japanese competitors the isolation in Japan, while they prospected in our home market. We set about using every commercial and political means of influencing changes in that country." See Baron 1997a:304-305 for citations.

[5] See Dewey Ballantine (1995) and Wilkie Farr &Gallagher (1995) for details of the debate and the arguments.

[6] See Baron 1997a for a formal model of this strategy.

business environment has a generic characteristic that allows for this strategy and, *per se* and without further effort, affords all Japanese companies a competitive advantage in international business. The question, then, is whether it is possible to identify economic or institutional determinants in the home market that facilitate cooperation among companies, and thus the creation of a "sanctuary". The second set of questions pertains to recent changes in Japan's political economy. One might presume that inter-firm cooperation is tied to some of the protectionist industrial policies that Japan has pursued in the postwar period. If so, does active cooperation among firms in one industry remain a viable option even with the ongoing deregulation and internationalization in Japan in the late 1990s?

To answer these two questions, this paper first discusses the recent and ongoing shifts in Japan's regulatory environment. The paper argues that, as a result of these recent changes, Japan is moving toward a regulatory system dominated by self-regulation through industry associations. By structuring the rules of their markets through their associations, companies in exporting industries can indeed influence the non-market environment. Self-regulation (*jishu kisei*) ranges from outright collusion, price-fixing, and boycotts of potential competitors to a competitive situation in which firms cannot agree on collusive constraints and thus confine self-regulation to basic market rules. While the Japanese antitrust authorities prosecute the extreme violations, they cannot contain all self-regulation, and the incumbent firms in an industry therefore can cooperate to establish entry barriers to their industry, or otherwise create a "profit sanctuary". Of course, not all industries that self-regulate necessarily also employ a sanctuary strategy; e.g., purely domestic industries are also active in self-regulation. However, self-regulation in the home market is an important prerequisite for a sanctuary strategy by exporting firms. Therefore, by studying cooperation and self-regulation, we also learn more about the situation and prospects for sanctuary strategies by Japanese firms.

In a second step, the paper uses a database consisting of 1153 Japanese industry associations in 29 industries, to determine the economic and organizational factors that facilitate self-regulation among companies in Japan. Employing existing theories developed in industrial organization, the first set of data analyses shows what industries are most likely to self-regulate. Second, by developing new hypothesis on the institutional characteristics of industry association and the effect of internal organization on association activities, the paper identifies concrete markers that signal active self-regulation. The paper concludes that the shift toward self-regulation in Japan's political economy will

reinforce the sanctuary approach in many export-oriented Japanese industries, which may increase the international competitiveness of the leading Japanese firms in the coming decade.

2. The Shift Toward a System of Self-Regulation

Japan's political economy during the period of rapid economic growth (1950s-1970s) has often been labeled that of a "strong, developmental state" (Johnson 1982). This "strong state" pursued a highly pragmatic and focused growth strategy by way of "industrial policies", which included protecting infant industries, channeling financial resources into strategic growth and export industries, and supporting the rapid adoption of new technologies by these industries. These policies were administered by a comparatively powerful and autonomous bureaucracy. While there has been a great debate in the field of Japanese Studies over both the political mechanisms and the economic effects and efficiency consequences of this "strong state" system, most analysts agree that Japan's postwar system was characterized by a vast system of rules and regulations that were crafted and enforced — often in discretionary ways through the extra-legal tool of administrative guidance — by a strong and highly involved central bureaucracy aiming to spur economic growth [7].

The "strong state" system began to change in the 1980s along several dimensions. First and foremost, the revision of the Trade Control Law in 1980 deprived the Ministry of International Trade and Industry (MITI) of its most potent "carrot" in its implementation of growth policies: prior to the revision, MITI was in control of all technology and other imports, which it could use as a tool to make companies agree to cooperate on the country's growth agenda [8]. The revision of this law also

[7] The debate is certainly not settled, as analysts remain divided on two major issues: (1) as to whether industrial policy programs and the executing bureaucrats really had a positive effect on economic growth (e.g., Weinstein 1993, Beason/Weinstein 1996); and (2) as to whether it was the bureaucrats, or rather the elected politicians, who were in charge of designing the programs (e.g., Ramseyer/Rosenbluth 1993). Yet another school argues that while the Japanese state was certainly "strong", it was really industry that was driving the political and business agenda, or at least was actively involved in shaping industrial policy (e.g., Samuels 1987, Haley 1991, Friedman 1988, Uriu 1996, Upham 1996). - For a more detailed discussion of the following argument as well as the mechanisms of administrative guidance, see Schaede 1999.

[8] Until 1980, the "Foreign Trade and Foreign Currency Control Law" (*Gaikoku kawase oyobi gaikoku bōeki hō*) prescribed approval by MITI for literally every cross-border transaction. This law effectively ruled out all international finance and put MITI in control of all trade activities. After its revision, the law permitted all transaction other than those that were explicitly prohibited by MITI. The list of prohibited activities was initially very long but has

opened the door for financial deregulation, as it allowed companies to tap into international markets. This triggered a long but steady process of financial reorganization in Japan, which eventually undermined the bureaucracy's former tools of keeping the cost of capital low and channeling funds into designated sectors. In the 1980s, foreign pressure (*gaiatsu*) by the United States and the European Union forced, first, the abolition of official tariffs and, next, of non-tariff trade barriers. The "bubble economy" of the 1980s created a feeling of invincibility which convinced many Japanese that deregulation was in order, since the economy was strong enough to withstand import competition without government support. Following the collapse of the stock and real estate markets in the early 1990s, scandals involving politicians and bureaucrats created distrust in the country's leadership. Not only was the "strong state" unable to guide the ailing economy out of its slump, the bureaucrats also proved ineffective in designing industrial policies for the newly emerging industries, such as biotechnology or telecommunications. In the 1980s and 1990s, it seemed that Japan was indeed moving away from the former system of a policy guidance by a strong bureaucracy.

However, as deregulation proceeded, no independent supervisory agencies were established to assume regulatory tasks and monitor corporate behavior[9]. As the ministries lost the powers to guide their industries, a regulatory vacuum developed. To fill this void, industries assembled in their associations and increased an activity many companies had been engaged in for quite some time: self-regulation (*jishu kisei*). Self-regulation refers to a process by which an industry association, comprised of the leading firms in an industry, designs rules of trade for that industry and enforces those rules through self-designed sanctions. Thus, self-regulation encompasses a broad spectrum of activities, including: settings standards or minimum quality requirements, restricting business hours, setting rules on advertising, restricting market access, and agreeing on prices. Further, self-regulation

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been revised and shortened frequently during the 1980s and 1990s.

[9] The one exception here is the Financial Supervisory Agency (*Kinyū kantoku chō*), and this was established only in 1997, after the financial scandals and the bad loan crisis had revealed major problem in Japan's system of bank inspection and supervision. Even in this case, however, it is questionable just how independent the agency will be from the Ministry of Finance. -- Also, it is important to differentiate between entry and process regulation. For instance, Vogel (1996) has argued that even with ongoing deregulation, Japan's ministries have "re-regulated" by way of requiring a larger number of permits, licences etc. for entry into a certain business. However, re-regulation does not refer to process regulation, i.e. monitoring the compliance with rules. The "regulatory vacuum" described here refers to the monitoring of corporations *after* they have entered a business.

means that an industry creates a "trading system" and defines its own "trade habits" (*shōkankō*) and rules in the distribution system: the incumbent companies may stipulate what kind of competitive behavior is permissible, they may negotiate investment plans, or divide markets either by territory or product category. They may agree to refuse to deal with companies that are not association members, they may stipulate a model contract to be used by all firms, or create an accounting or fee schedule. Some of these activities, especially relating to quality inspection and rules on advertising, may be initially delegated by the regulating ministry to the industry[10]. Others may be conducted independently by the industry, without official delegation or even tacit acknowledgment by the cognizant ministry. Some activities may enhance the quality standards of the industries, while others may introduce unfair trade practices or restraints of competition.

It is important to note that not all self-regulation is illegal. Some of the activities included in self-regulation are perfectly legal in all legal systems, while others would be prosecuted in most countries. However, many of the activities listed above might be considered illegal in the U.S., but are not regarded as violations of the antitrust laws by the Japanese authorities. Thus, while from the U.S. perspective many self-regulatory activities look like constraints of competition, they are not interpreted as such in Japan. Thus, while the activity of "self-regulation" is not unique to Japan's industry associations, the differences in legal interpretation mean that the scope and depth with which Japanese associations pursue it are much more significant than in other countries. In general, Japan's antitrust system deals with self-regulation rather leniently, except for blatant price-fixing or coercion. To the extent that self-regulation is investigated by the Japan Fair Trade Commission (JFTC), most self-regulation — such as exclusive tie-ups in the distribution system or even price maintenance— is treated as "unfair trade practices". As such, these violations carry no penalties other than a rather inconsequential cease-and-desist order[11]. Thus, when ministerial guidance began to decline in the 1990s, companies faced few legal limits when they began to use their industry associations to self-

[10] In such a case of regulatory delegation, the industry association assumes the functions of a "private interest government". See Streeck and Schmitter (1985) for the concept, and Tilton (1996) for case studies.

[11] Unfair trade practices fall under Section 19 of the AML, and as such cannot be penalized by administrative fines. Moreover, existing legal doctrine hinders an application of stricter rules to these types of violations. See Schaede (1999) for a detailed analysis of the Japanese Antimonopoly Law in relation to self-regulation and data and case evidence that the law is not enforced strictly on most activities that result in self-regulation.

regulate more actively.

Regardless of the legal situation, a company must assess the costs and benefits of cooperating with its competitors. In terms of benefits, there are three primary reasons why a company might be interested in joining an industry association and cooperating in a process of self-regulation[12]:

(1) As for structuring the rules of the industry, a company may have three primary objectives with self-regulation: (a) to structure fast-changing markets through standards and rules, e.g., in high-technology industries; (b) to create a reputation of quality and fairness by self-enforcing ethical standards, e.g., in investment banking or the medical associations; and (c) to increase its bargaining power by teaming up with competitors against powerful buyers, e.g., in the intermediate product markets or the subcontractor industries.

(2) A company may aim to increase its profits through collusion with its competitors (while this is the most obvious motive and the one practice that is easiest to observe, it is not the most common self-regulatory activity. Because it is considered illegal, it is difficult to carry out and requires significant caution and effort in its execution).

(3) A company, or group of companies, may strive to reduce uncertainty through extensive exchange of information, including investment plans and costs, with the primary goal being to lower variance in profits. This can be achieved through agreements to curtail capacity or keep dividend payments low and stable, to allocate customers or markets, or to require exclusive trade rules (e.g., in order to boycott discount stores).

Sanctuary strategies involve a mix of the second and third approach. By using self-regulation to structure the domestic market and limiting competition in order to attain stable and above-competitive profits at home, exporting firms can sell products at a discount in foreign markets. Lower profits in export markets are counterbalanced by stable, high profits in the domestic market. To implement this strategy, self-regulation may include entry barriers through restrictions in the distribution system, boycotts of foreign competitors and discount stores, or retail price maintenance

[12] One important reason why Japanese companies self-regulate, which is not included in this list of objectives, is inertia: the fact that they have always done so. There is ample evidence provided by studies in organizational ecology and institutional theory that companies often continue doing what has worked for them in the past. In the case of self-regulation, throughout Japan's economic history industry associations have cooperated and self-regulated. See Schaede (1999) for the complete argument.

and other means to “maintain stable prices” in the home market.

The obvious problem with self-regulation is the danger that it results in collusive practices which harm the efficiency of the industry and its firms. To be sure, if companies block market entry and rig prices, over time they are likely to become cost inefficient. Indeed, many of Japan’s domestically oriented industries, especially in basic materials, have succumbed to this type of slack. Yet, some of Japan’s export-oriented industries, such as automobiles and electronics, have been able to avoid the pitfalls of collusion. There seem to be three ways in which industries can benefit from self-regulation while escaping potential pitfalls: (1) by focusing on their international competitors, in addition to their domestic ones, as the measure for competitiveness and bench-marking, companies can avoid being blindsided; (2) by sharing cost and other strategic information for the domestic market, companies can make more informed business decisions and reduce waste of resources; and (3) by limiting self-regulation to those activities that do not harm efficiency, companies can leave room for competition; for instance, even under price agreements they can agree to compete on quality, or they can limit self-regulation to entry barriers and rules on distribution which increases their margins but does not affect domestic competition. Therefore, while domestically oriented industries may suffer a loss in efficiency from increased self-regulation, competitive industries can use self-regulation to increase their competitive advantage by successfully setting up a sanctuary without being dulled into inefficiency in the process.

In sum, cooperation by way of self-regulation in the home market can have positive efficiency consequences; the sanctuary strategy is one example of such a positive outcome. While the decline in ministerial guidance has undermined Japan’s industrial policy system, the process of deregulation has also created a regulatory vacuum that provides an incentive for increasing self-regulation. Due to existing legal doctrine, antitrust authorities are unlikely to be able to contain these activities. Given the relevance of self-regulation for the sanctuary strategy, by determining the conditions under which industry associations are likely to self-regulate actively, and by looking at the organizational characteristics of associations that are active self-regulators, we can identify a set of variables that can help predict whether firms in an industry are potentially cooperating to employ an international sanctuary strategy.

3. Economic Determinants of Self-Regulation

While all Japanese industry associations engage in a certain amount of self-regulation, the question is whether some industries, for reasons of industry structure, are more likely to self-regulate than others. Firms in those industries may be better able to erect entry barriers, enforce compliance with industry rules among their members, or prescribe trade rules, and thus may be more likely to implement a sanctuary strategy. What are these features in industry structure that support self-regulation?

The Dependent Variable

To explore the effect of industry features on self-regulation, we can employ the logic of the so-called "structure and conduct" studies of collusion in industrial organization: although not all self-regulation is necessarily collusive, the logic is similar (e.g., Hay/Kelley 1974, Fraas/Greer 1977, Tirole 1988). However, before using these insights, we must adapt this theory to a study of self-regulation within industry associations rather than collusion among independent firms.

Empirical studies of collusion in the U.S. have looked at the shared characteristics of colluding firms using official cases prosecuted by the U.S. antitrust authorities; i.e., "caught in the act of colluding" is used as the dependent variable (e.g., Hay/Kelley 1974, Asch/Seneca 1975, Fraas/Greer 1977, Posner 1976)[13]. The difficulty with this approach is that the observable portion of collusion is a function of legal enforcement, as it reflects the types of cases that the antitrust authorities chose to prosecute (Asch/Seneca 1975). Nevertheless, for our purposes, the fact that the JFTC has either

[13] Collusion is typically thought of as a formal or explicit agreement among competitors without significant individual market power to earn greater than competitive profits (Hay/Kelley 1974). Therefore, researchers sometimes use the profit rate of companies involved in collusion as an index of a collusive agreement — the higher the markup of the colluding firms, the better their scheme. For the current study, however, profit rate is not a meaningful indicator of successful self-regulation. This is because, as outlined above, in contrast to market-based collusion, self-regulation is not necessarily always focused on the pursuit of higher profits by members. In fact, self-regulation is often aimed at stabilizing the market and reducing variance in profits over business cycles through the imposition of barriers to entry, exclusionary trade rules, and the monitoring of competitive behavior. Therefore, in the context of associations, self-regulation is broader in its implications for a company's strategy than simple profit. We need a dependent variable other than profits to evaluate self-regulatory activities across industries.

investigated, or prosecuted a certain industry association contains useful information about the activities of that association that can be used as evidence of cooperation or collusion.

However, information on JFTC cases is only one indicator of self-regulation. In order to construct a more robust dependent variable to measure self-regulatory activity in industry associations, the following logic was applied. First, self-regulation, while broader than collusion, certainly encompasses some of the basic elements of a cartel, i.e., formal agreements among competing firms to block market entry, raise prices, etc. (i.e., "collusive self-regulation"). Second, self-regulation can be primarily rule-oriented and in some cases may initially have been sanctioned or delegated by the regulators and then extended to serve the industry's needs — in which case it can be subsumed under the broad concept "industrial policy". In either form, competing firms cooperate to achieve specific objectives in terms of market structure, i.e., they self-regulate. To analyze whether industry associations involved in such cooperative activities are different from associations that are not, we use as a dependent variable a combination of two variables in the data set: a variable called *SUSPECT* which takes the value "1" for those associations investigated by the JFTC and "0" for all others; and a variable called *INDUSTRIAL POLICY*, which takes the value "1" for those associations that have been identified by six Japanese bureaucrats from different ministries as being involved in industrial policy programs and above-average self-regulation (see the Appendix for a detailed discussion of how this variable was constructed). Combining these two variables results in a composite new dummy variable, "suspect and/or industrial policy (*SELFREG*), which identifies 357 associations, or 33.3% of the entire sample, as being involved in self-regulation to such an extent that they were recognized by the authorities. Thus, we have three different dependent variables of interest: *SUSPECT* for all collusive activities; *INDUSTRIAL POLICY* for all officially acknowledged and tacitly assented self-regulation; and *SELFREG* as a combination of the two, which is used as an overall proxy for self-regulation, both public and private.

Independent Variables and Hypotheses

With this background, we can now empirically investigate the relationships between industrial characteristics and the propensity of associations to self-regulate. Under what industry conditions is

self-regulation easier to sustain? We begin by examining as independent variables those constructs previously suggested in empirical structure-and-conduct studies. The first and most obvious of these structural features assumed to facilitate cooperation is the number of firms involved in a cooperative or collusive agreement. Bain (1951) first suggested that the smaller the number of participants in a cartel, the less divergent the opinions among participants and thus the easier it is for firms to collude. Stigler (1964) added to this the observation that a smaller number of participants also makes it easier to detect cheating and, thus, to enforce an agreement. However, due to the variety in the types of associations and their members, membership size is a very noisy variable with a high variance[14]. Fortunately, we can use a proxy for membership. Bain also suggested that industry concentration would affect cartels in the same way: the higher the concentration, the easier it is for the few leading companies to collude. Translating these insights to the context of industry associations leads to the first hypothesis:

H1: The higher the market concentration ratio in an industry, the more likely is the association to be involved in active self-regulation.

Using a similar logic, we can also investigate how "tight" an association is in terms of internal structure. Tightness refers to the extent of members' involvement in the decision-making process within the association. Since an association's decision-making body is the board of directors, one measure of tightness is the ratio of directors to total members; i.e., how many member firms are directly represented by their presidents at the monthly meetings. For example, consider an association with 20 members and 20 directors — here, the ratio is one, indicating that the presidents of all members are directly involved in all agreements. In contrast, an association with 60 member firms and 20 directors has a ratio of 1/3, which suggests less tightness. Tightness — how many member firms are immediately involved in making the agreements — is related to the effectiveness of interest representation and internal unity. This leads to the second hypothesis:

[14] The membership variable has a very high variance, with an average of 695, a median of 78, and a standard deviation of 3066. Moreover, associations can have other associations as members, which increases the diversity of interests and, if corrected for, further increases the variance.

H2: The tighter an association (the higher the ratio of directors to members), the more likely it is to be involved in active self-regulation.

Besides the number of participants to the agreement, empirical studies in industrial organization have shown that product characteristics may determine the ease with which groups of firms can cooperate or collude[15]. The first of these characteristics is the degree of product heterogeneity: the more homogenous a product, the easier it is to collude on price. There are two reasons for this. First, if the product is completely homogeneous, such as milk or gasoline, price is the primary strategic variable with which to compete, so the parties to the agreement need to discuss only one issue. Second, should one party attempt to cheat, it is easily detected since it can only meaningfully cheat on price. Yet, comparatively few products are perfectly homogeneous. More commonly, there are two primary dimensions along which "product heterogeneity" can be considered. First, there is an issue of substitutability: Are competitors' products fully interchangeable, or do consumers develop preferences although products are rather homogeneous (i.e., what is the elasticity of substitution between competitors' products)? Second, have producers succeeded in convincing their customers of differences in quality or the usefulness of "extras" (e.g., service or features)? In either case, collusion becomes more difficult since these differences would have to be negotiated. Based on this logic, we can postulate that:

H3: The more homogeneous the products in an industry, the more likely the industry's association is to be involved in active self-regulation.

A second product characteristic that is often considered regarding the ease of price collusion is the rate of technological change in an industry. Obviously, a rapid rate of change can destabilize or undermine a collusive agreement since it requires constant renegotiation to accommodate new product characteristics. As for self-regulation, however, rapid technological change may also have the opposite effect and require more self-regulatory activity rather than less. First, in fast changing

[15] Many researchers have contributed to this literature; see Scherer 1980 for an overview, and Hay/Kelley 1974 for an early application.

markets, existing government rules and standards often become outdated, requiring the formulation of new rules by competing firms. Second, rapid technological change may have similar effects as new market entry in its potential to destabilize the existing hierarchy and market share among firms. This may trigger more efforts to self-regulate, especially by market leaders that feel threatened by new product developments. Finally, to the extent that the government supports technological change through industrial policy, there should be a positive association between technological change and the industrial policy variable. These conflicting lines of arguments result in two alternative hypotheses to be tested:

H4a: The more rapid the rate of technological change in the products represented by an industry association, the less likely is the association to collude; that is, the less likely the association is "suspect" in terms of having been investigated by the JFTC.

Alternatively:

H4b: The more rapid the rate of technological change in the products represented by an industry association, the more is the association involved in industrial policy and the structuring of self-regulation.

Because of the possibility of opposite effects, the composite variable *SELFREG* may be too aggregated to permit accurate tests of the relation between technological change and self-regulation. Therefore, empirical tests of hypotheses 4a and 4b will be conducted using separate variables of *SUSPECT* and *INDUSTRIAL POLICY*.

The hypotheses postulated thus far are based on previous theory and research. However, a possible alternative explanation needs to be controlled for before interpreting the effects of number of cartel members and product characteristics. That is, the behavior of an industry association may reflect its history and experience. For instance, associations in older industries such as coal-mining or shipbuilding, with experience in industrial policy-related cooperation, might self-regulate more than younger industries such as solar energy or fiber optics. While experience is difficult to measure, one

proxy that can be used to represent the duration, though not the intensity, of an association's self-regulation over time is the age of the association[16]. If, in contrast, it is true that economic factors determine whether an association is involved in self-regulation more than average, then the age of the association should not be significantly related with the dependent variable.

H5: The older an association, the more likely it is to be actively involved in self-regulation.

Analysis

The five hypotheses propose a set of relationships between industry and association characteristics and the propensity of the association to self-regulate. Given that self-regulation as measured here is a dichotomous variable (0 = no, 1 = self-regulating as indexed either by prosecution by the JFTC or engagement in industrial policy), the appropriate multivariate analysis needed to determine the effects of the independent variables on the probability of involvement in self-regulation is a logistic regression as follows:

$$Prob(Self\text{-}Regulation) = \frac{1}{1+e^{-SELFREG}}$$

where

$$SELFREG = \alpha + \beta TOP3 + \beta tight + \beta product + \beta dtech + \beta age.$$

In this equation, *SELFREG* is the dichotomous variable indicating self-regulation, *TOP3* indicates the combined market share of the largest three firms in an indust , and that therefore are more likely to implement a sanctuary strategy. ry (H1), *TIGHT* is the ratio of directors over members (H2),

[16] In interviews at the various Japanese ministries, many officials suggested that the history of the industry or the association is important for understanding the current behavior of the association. -- The *AGE* variable was computed by subtracting the year the association was founded from 1998. Most industry associations with prewar roots reorganized and renamed themselves under SCAP orders between 1947-1950, and list as their founding year the year of postwar reorganization. This limits the power of the *AGE* variable. At the same time, however, all associations older than 45 years can be considered to have prewar origins.

PRODUCT denotes the degree of product heterogeneity (H3), *DTECH* indexes the rate of technological change (H4), and *AGE* is the age of the association (H5). The database is described in detail in Appendix 1.

In order to provide a more fine-grained picture of the effects of each of the independent variables on self-regulation, and to test the alternative Hypotheses 4a and 4b, the aggregated dependent variable *(SELFREG*) was also decomposed into its two component parts (*INDUSTRIAL POLICY* and *SUSPECT*) and the same analysis conducted on each variable; that is, the following additional logistic regressions were run:

$$INDUSTRIAL\ POLICY = \alpha + \beta TOP3 + \beta tight + \beta product + \beta dtech + \beta age.$$

and

$$SUSPECT = \alpha + \beta TOP3 + \beta tight + \beta product + \beta dtech + \beta age.$$

Results

Table 1 presents the results of the three regressions. First, using the combined dependent variable *SELFREG*, results are strongly supportive of hypotheses 2, 3, and 4. Coefficients for tightness, product heterogeneity, and technological change are highly significant. Note that in logistic regressions, the coefficient *B* indicates the change in the log odds ("odds" meaning the ratio of the probability that an event will occur over the probability that it will not) associated with a one-unit change in the independent variable. To make this same information more intuitive, the entry "*Exp(B)"* (which is *e* raised to the power *B*) expresses the odds, as it indicates the factor by which the odds change with the independent variable changes by one unit. If *B* is zero, the factors equals 1; thus if the factor is greater than 1, the odds are increased; if it is smaller than 1, the odds are decreased. For instance, a factor of 2.79 for *DTECH* means that when the rate of technological change increases by one unit, the odds of self-regulation increase by a factor of 2.79. In contrast, a factor of 0.49 for product heterogeneity means that if heterogeneity increases by one unit, the odds that the association is an active self-regulator decrease by almost half.

*** Table 1 about here ***

The results suggest that the more tightly knit an association is, the more homogeneous the product, and the higher the rate of technological change, the more likely self-regulation is. Note that each of these effects is independent of the other. For instance, telecommunications, while not highly heterogeneous (from the consumer's perspective) is certainly subject to very rapid technological advances. Age, in contrast, is not a significant predictor of self-regulation, suggesting that history is not as much a factor than the economic variables. Neither does the concentration ratio predict self-regulation very strongly, and if anything, the result is negative. One possible explanation here is that the higher the concentration ratio, the less important are formal agreements (e.g. Scherer 1980, Tirole 1988). Obviously, with fewer numbers, it is easier for firms to agree on self-regulation and monitor each other, making regular meetings or fixed monitoring schemes less essential. This reduces the likelihood both of detection and of cooperation with the authorities. They may also carry out agreements through implicit actions, such as price leadership schemes, which the JFTC does not typically prosecute. However, even if the concentration ratio does not predict a high degree of self-regulation, this does not necessarily imply that highly concentrated industries do not self-regulate. At the same time, the results strongly suggest that even non-concentrated industries self-regulate actively[17].

Next, the separate entries for *INDUSTRIAL POLICY* and *SUSPECT* help differentiate whether it is industrial policy involvement (i.e., self-regulation as identified by the regulators), or collusion that is driving the results. We find that the internal tightness of an association, i.e., the ratio of director to members, is very strong across all models. Thus, the more tightly organized an association is, the more likely it is to self-regulate, both in terms of rule-making and collusion. Likewise, the degree of product heterogeneity is negative across all models, suggesting that — as predicted — the more homogeneous the product, the more active is the industry in self-regulation, again both in terms of legal and illegal cooperation. Moreover, the results suggest that the rate of technological change has no significant impact on collusion (supporting H4a), but at the same time

[17] Another possible explanation for the negative sign for *TOP3* is a correlation between the concentration ratio and "tightness", which measures membership. Indeed, the correlation between the two variables is significant but not very high with $r=.21$, $p<.000$. To test for a possible impact of this correlation, the logistic regression was computed without the variable "*TIGHT*". In that case, the negative sign for *TOP3* remains, but it becomes insignificant. Thus, the concentration ratio in an industry is not a reliable indicator of activities by the industry's association.

it very strongly predicts self-regulation in terms of rule-making (supporting H4b). The more "cutting-edge" an industry, the more likely is the association to be actively involved in the formulating rules for the industry.

4. Internal Indicators of Self-Regulation in Industry Associations

Besides features of economic structure that facilitate cooperation within industry association, one can assume that the organizational setup of an industry association contains predictors of association activities. What are the organizational indicators of self-regulation by an industry association? To analyze the relationship between structure and function, we have to go beyond the insights of economics and develop hypotheses that build on the logic of organizational theory.

One of the main benefits to a company from membership in an industry association is the increase in information flow and decrease in transaction costs associated with gathering information on markets and competitors. An ongoing exchange of information is also a necessary condition for a cartel agreement and its successful implementation and monitoring. Accordingly, industry associations that are highly active self-regulators should also be those that facilitate the exchange of information most. The question, then, is whether one can identify organizational features that ease the flow of information, and thus facilitate self-regulation and a possible sanctuary strategy, within industry associations.

Independent Variables and Hypotheses

The first organizational characteristic that can be used as an indicator of the volume of information flow and processing is the size of an association's staff [18]. The more personnel, the easier become data collection, regular publications, and the organization of meetings. Therefore, we can postulate:

[18] Another strong internal variable is the size of the budget. However, staff and budget are highly correlated, so only staff is used in this regression.

H6: The larger the staff, the more likely an association is to be involved in self-regulation.

Related to the ease and effectiveness of information exchange are its scope and depth. While measuring precisely the intensity of the information flow is impossible, we can consider two proxies for "information sharing". The first proxy is the *shinboku* or "friendship" variable. The term *shinboku* is sometimes transcribed as meaning "to go out and drink and talk together". In a JFTC questionnaire conducted in 1992, more than 60% of all associations considered the creation of such "friendship" among the CEOs in the industry as one of their primary functions. In fact, more than 36% of all associations contained in the database have this particular task explicitly spelled out in their bylaws. To be sure, the bylaws may be just a piece of paper. Yet, it is likely that the founding presidents of the association listed "friendship" as an organizational goal for a reason, and the "*shinboku*" objective may indeed translate into an above-average degree of interaction, which in turn results in active self-regulation. This can be tested by postulating:

H7: Associations that identify "*shinboku*" (friendship) as a primary task in their bylaws are more actively involved in self-regulation.

The second indicator of degree and intensity of information exchange is the ratio of directors over members, i.e., the "tightness" of an association. As discussed previously, a high ratio implies more direct participation by members, thus facilitating the formulation and implementation of self-regulation. The variable "tightness" was included in the preceding analysis of economic factors, and it is clearly a significant predictor of self-regulation. To rule out any collinearity with the "friendship" variable, however, the measure of tightness needs to be included in the equation for organizational issues as well:

H8: The tighter an association (the higher the ratio of directors to members), the more likely it is to be involved in active self-regulation (same as *H2).*

Finally, one could argue that the degree of information exchange in an association depends

critically on the total number of firms in the industry, because the smaller the group the easier it is for its members to meet, disclose strategic details, and agree on a common agenda. In order to control for the possible external impact of total number of firms on the internal organizations, we need to include *TOP3*, the measure for market concentration, in the equation (we cannot use he number of association members here, since that is the denominator in the variable "tightness"). If the internal organizational characteristics of staff, tightness and *shinboku* truly reflect the degree of self-regulation, then the results for *TOP3* should be insignificant. While we have already seen that *TOP3* is not a predictor of self-regulation, again, to rule out collinearity with "friendship" or staff size, the measure is included in this equation:

H9: The higher the market concentration ratio in an industry, the more likely is the association to be involved in active self-regulation (same as *H1*).

Analysis and Results

Hypotheses 6-9 yield the same logistic regression equation as above, but with

$$SELFREG = \alpha + \beta staff + \beta friends + \beta tight + \beta top3.$$

In addition to *SELFREG*, the regressions are also conducted, but with *INDUSTRIAL POLICY* and *SUSPECT* as the dependent variables, to estimate the effects of the internal features on the separate forms of self-regulation. The results are reported in Table 2.

*** Table 2 about here ***

The results show that the incidence of self-regulation is well explained by this model. First, in focusing in on "self-regulation", the results strongly support hypotheses H6 and H7, independent of tightness and market concentration. While the predictive power of one additional staff member is small (with a factor of 1.03), the result is highly significant. This suggests that the absolute size of staff matters to some extent; i.e., a staff of, say, twelve suggests less self-regulation than a staff of 24.

Moreover, the "friends" demarcation is a very strong predictor of self-regulation. When the "friends" variable changes from 0 to 1, the odds of self-regulation increase by a factor of 1.9. Even more than "friendship", however, an association's tightness remains the strongest internal indicator of self-regulation. For every one-unit increase in the ratio of directors to members, the odds of self-regulation more than double. Market concentration, in contrast, remains comparatively unimportant.

The results for *INDUSTRIAL POLICY* are similar, although *shinboku* is the most prominent predictor here. This suggests that associations that define *shinboku* ("friendship") creation as an important function are very actively involved in structuring the rules for their industry, either with or without the government. Contrary to what one might have assumed, however, *shinboku* is not a predictive factor for collusive self-regulation, i.e., those activities caught by the JFTC. One possible explanation is that *shinboku* groups are better able to avoid being detected. An alternative, more likely, explanation is that associations that define *shinboku* as a task are those that are not very close, but rather competitive, and therefore saw a need to stress this function. Therefore, competition within these associations means that they self-regulate more in terms of rule-structuring rather than terms of immediate and direct constraints on competition. In contrast to the split results for friendship, a tight internal organization is a powerful predictor for both rule-oriented self-regulation and collusion. The reason is obvious: the less focused an association, the more difficult it is to reach and implement self-regulation. Tight organization is therefore required for all types of industry agreements.

In sum, these findings suggest that those associations characterized by a tight organization and a "friendship" mission are more likely to self-regulate, and thus to structure the environment for a sanctuary strategy. In trying to determine whether an exporting industry engages in such a strategy, it is helpful not only to consider product characteristics such as product homogeneity or technological change, but also the features of the industry association concerned.

5. Conclusion: The Indicators of Self-Regulation and the Sanctuary Strategy

Cooperation by way of self-regulation through industry associations is an important pillar of Japanese corporate strategy, and it is also one prerequisite of a sanctuary strategy in international

business. By evaluating self-regulatory activities by Japanese industry associations, we can identify key indicators of self-regulation, and thus a potential sanctuary strategy, in terms of product characteristics and internal organization of industry associations.

First, not all industries self-regulate to the same extent. Rather, distinct supportive conditions in the product market contribute to self-regulation and collusion. In particular, the results suggest that product homogeneity predicts self-regulation both in rule-making and illegal constraints of competition, while rapid technological change is predictive only of the rule-making variety of self-regulation. The logic is clear: the more homogeneous a product, the easier it is for an industry to structure market rules and to enforce price agreements. At the same time, while rapid technological change makes it difficult to collude, the more rapid this change in an industry, the more it becomes necessary for the firms in this industry to structure their own regulation, since the government may be lagging behind the ongoing change in its formulation of official rules. As a result, firms subject to fast technological advances, too, may be able to use their domestic self-regulation as a basis for a sanctuary strategy.

Second, as for organizational characteristics of industry associations, two variables stand out: the tightness of an association, and the "friendship" objective. Tightness, the ratio of directors over members, is the most powerful predictor of cooperation. This seems to hold across all industries and associations, and for all types of self-regulation. In contrast, defining the creation of "friendship" as an explicit task in the association's bylaws is a stronger signal of rule-oriented, as opposed to collusive, self-regulation. This implies that while an industry may be structuring its domestic regulatory environment, it is not necessarily involved in illegal activities, as defined in Japan. For instance, the "Japan Photographic Equipment Association" (*Nihon shashin yōhin kōgyōkai),* which Kodak in its unfair trade dispute claimed was instrumental in blocking access to the distribution system, specifies *shinboku* as an explicit task in its bylaws.

What, then, are the internal indicators to consider if one wants to identify an association that is highly actively involved in self-regulation, and thus may pursue a sanctuary strategy? The ratio of directors over members is a first, important variable to gauge self-regulation. For the 1153 associations included in this study, the average ratio of directors over members is 0.3, with a standard deviation of 0.47. Thus, a ratio higher than 0.8 is a strong indicator for a high degree of information

exchange and cooperation within an association, especially if it is combined with a "friendship" objective. In the sample used for this study, which represents about 9% of all Japanese industry associations, 10% of all association had a tightness ratio higher than 0.8, and 32% of more than 0.3. Moreover, the regression results suggested that staff size offers a significant but weak indication of self-regulation. In the sample used here, the average number of staff is 14.5, with a standard deviation of 43. Therefore, a staff size of more than 57 can be considered a strong indicator of an association very active in self-regulation. In our sample, 5% of all associations had a staff of more than 57 people, and 16% had a staff of more than 15. Therefore, while not all Japanese associations have the organizational characteristics of highly cooperative entities, a sizable fraction does. If combined with the findings on product characteristics, these internal indicators of cooperation are strong predictors of self-regulation.

Besides these data findings for the early 1990s, this paper has argued that self-regulation is on the rise in Japan. With the decline in strong state guidance (especially for the competitive, exporting industries), the emergence of a regulatory vacuum in the absence of independent supervisory agencies, and the antitrust authorities sitting hamstrung regarding "unfair trade practices", industries are increasingly structuring their own rules. While many associations have been involved in structuring their own regulation in the 1960s and 1970s with government delegation or approval, they are now engaging in these activities ever more independently from their competent ministries. As a result, Japanese industries find it increasingly easy to structure their home market rules in a way that supports their international business strategies. Throughout the postwar period, industries such as electronics, cameras, and machinery all have employed sanctuary strategies — with explicit government support through industrial policy — to become internationally competitive. With the increase in self-regulation, we can expect these strategies to continue. Successful Japanese companies are likely to remain formidable international competitors.

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Appendix 1: The Database

The database that was created for the purpose of this analysis consists of 1153 industry associations covering 29 industries, for the years 1990/1991. It was compiled from various sources on industry characteristics, as explained below, including the most detailed Japanese directory on industry associations, the *Dantai Meikan* (Shiba 1991). This directory is published biannually by a private company based on information provided by the associations themselves. The sample includes all associations that provided data on basic attributes such as the number of members, directors, and budget, or for which this information could be supplemented through personal interviews and other archival sources. Given the goal of this study to compare associations across industries, the database includes only industry-specific associations; i.e. it excludes associations that span across multiple industries, such as export associations and the overarching umbrella associations such as Keidanren.

Structural Data

The data for these 1153 associations can be divided into three categories: structural, industrial, and functional. Not all data are available for the entire sample, so that the sample size differs by type of analysis.

The first category, structural data, refers to the defining features of the organization and allows for tests relating an organization's structure to its strategy or activities. Structural data include: budget, number of regular member firms and association members, number of directors (i.e. company representatives), number of staff, and number of retired bureaucrats (OB) among the staff (reported by only 68 associations), and age.

Industry Data

In order to analyze the effects of industry structure on self-regulation, the database contains a number of variables that describe an industry's market share and product characteristics. Industry concentration in Japan is measured as the combined market share of the three largest firm, yielding the variable *TOP3*. Data were taken from JFTC data for 1990 (JFTC 1993) and were supplemented using the Nikkei market share study for 1991 (NSSS 1992).

To allow for a test of economic theories of collusion which are concerned with product characteristics, two additional variables were created by coding product characteristics. The first of these variables gauges the degree and speed of technological change in an industry, based in 1992 U.S. data of company funds for industrial R&D performance, using SIC codes at the 2-digit level (NSF 1996). This resulted in a variable *DTECH* which ranges from "1" (= little/slow, funds of less than $2 billion; e.g. food or mining) to "3" (= very rapid, funds exceeding $10 billion; e.g. telecommunications). The second variable estimates product heterogeneity, ranging from "1" (highly homogeneous product, e.g. gas or energy) to "4" (very heterogeneous product, e.g. pharmaceuticals or precision machinery). The classification of product heterogeneity was based on Rauch's (1998) categorization of products depending on whether they are traded on organized exchanges (very homogeneous), whether while not traded they have an official reference price (homogeneous or slightly differentiated), or whether there is no official price (heterogeneous). Rauch's product list was adapted to fit the categorization of Japanese industry association. Appendix 2 presents the categorization of industries for the two variables.

Functional Variables

The third category of data consists of three variables indicating functional characteristics of industry associations. These variables capture the main activities of an association and allow for an analysis of the relationship between organizational or industry characteristics and an association's activities. The first of these functional data relate to the activity of *shinboku*. To assess "friendship", a dummy variable was constructed with a value of "1" if *shinboku* was explicitly mentioned in their by-laws, and "0" otherwise.

In order to evaluate self-regulation by an association, two additional functional variables were constructed. The first of these assesses collusion, as identified by the antitrust authority. In its annual report, the JFTC publishes a list of firms and associations investigated for AML infringements, such as price collusion or unfair trade practices. These data were coded for the period 1980 through 1995 and used to construct a dummy variable called "*SUSPECT*" which takes the value "1" if an association, or more than five companies belonging to this association, were accused of collusion during this period. Given that Japanese industry associations are rather stable over time, the assumption is that if an association was found to have colluded between 1980 and 1995, the structural data of this association as of 1990/91 will still be different from non-colluding associations. Thus, the *SUSPECT* variable allows us to test whether collusive association are organized differently from non-collusive ones.

The second variable constructed to gauge self-regulation is a dummy variable "*INDUSTRIAL POLICY*", which indicates whether an association has been actively involved in structuring the regulation of its industry in the 1980s and 1990s. This variable was created in two steps. First, based on a review of 53 case studies of industrial policy cartels of the 1980s, a preliminary categorization was made of those associations involved in rationalization and recession cartels. Second, a group of six mid-level Japanese government officials from various ministries were asked to identify those associations in the data set which, in their official duties, they believed had a role in shaping industrial policy and implementing regulation. Specifically, the officials were asked to identify those associations that "have been actively involved in structuring programs of industrial promotion; output/capacity reduction; cooperation on price, employees, or trade patterns; and self-monitoring (*jishu chōsei*) and self-regulation (*jishu kisei*)." While the officials agreed that this was a sufficiently precise list of criteria, they pointed out to me that *all* industry associations fulfil at least one of these functions, in particular self-regulation. For this reason, they marked only those associations in the sample that were "above-average" active in self-regulation or in their industrial policy involvement. This coding was used to categorize associations as involved in industrial policy ("1") or not ("0"). While this is a reasonable first approximation for this study, it is possible that some of the associations not identified by the officials might still be highly active self-regulators. Unfortunately, no more objective indicator of "industrial policy" is available. However, to the extent that the officials omitted some active "self-regulators" in their categorization, this omission creates a conservative bias and, if anything, leads to an underestimation of the extent of self-regulation.

Overall, the combination of data from a variety of sources and the comprehensive data on a large sample of associations provides a unique database for analyzing the role and effects of self-regulation in the Japanese economy.

Appendix 2: Categorization of Industries for the Variables "Technological Change" and "Product Heterogeneity"

(1) Categorization for the "Rate of Technological Change"

based on: NSF 1996 (see Appendix 1 for description)

"1" (low)	"2" (medium)	"3" (rapid)
Specialized Retailing Mining & Petroleum Energy Gas Iron&Steel Tools&Instruments Miscellaneous Goods Kiln (glass, cement, ceramics) Textiles Pulp & Paper Food & Drinks Transportation Cargo & Trucking Port Management	Insurance Metals General Machinery Transportation Machinery Chemicals Construction Tourism	Commercial Banking Investment Banking Electrical Machinery Precision Machinery Pharmaceuticals Telecommunications

(*2) Categorization for "Product Heterogeneity"*

(following Rauch 1998 for traded products; for services, based on the consumer's perspective).

"1" (very homogeneous)	"2" (slightly differentiated by quality)	"3" (somewhat differentiated: product features, quality, design)	"4" (very heterogeneous, due to brand, fashion, features, design, etc.)
Commercial Banking* Investment banking* Energy Gas Cargo & Trucking Port Management Telecommunications	Insurance Mining & Petroleum Metals Kiln (glass, cement, ceramics) Pulp & Paper Food & Drinks Construction** Transportation Tourism	Specialized Retailing Chemicals Iron&Steel Textiles	General Machinery Precision Machinery Transportation Machinery Electrical Machinery Pharmaceuticals Tools&Instruments Miscellaneous Goods

* = After interest rate and brokerage fee deregulation in the 1990s, differentiation may become more important for these industries; for the period under discussion, banking products were not highly differentiated in Japan.

** Construction companies differentiate through engineering techniques, but within the various categories of construction (e.g., private housing, high-rise buildings, or bridges), these techniques do not differ substantially across companies.

Table 1: Logistic Regression Results: Self-Regulation and Economic Structure

Independent Variables	"SELFREGU"		"Industrial Policy"		"Suspect"	
	B	*Exp(B)*	*B*	*Exp(B)*	*B*	*Exp(B)*
TOP3	-.01*	0.99	-.009	0.99	-.001	0.99
Tightness	.76***	2.14	.59**	1.8	.54*	1.72
Product	-.70***	0.49	-.58***	0.56	-.51**	0.6
Dtech	1.02***	2.79	1.08***	2.96	.31	1.37
Age	.009	1	.011	1	.004	1
N	455		455		455	
Nagelkerke r2	.17		.16		.06	

*=p<.05,
**=p<.01,
***=p<.001

Table 2: Logistic Regression Results: Internal Characteristics of Industry Associations and Self-Regulation

Independent Variables	"SELFREGU"		"Industrial Policy"		"Suspect"	
	B	*Exp(B)*	*B*	*Exp(B)*	*B*	*Exp(B)*
Staff	.03***	1.03	.03***	1.03	.007*	1
Friends	.60**	1.92	.85***	2.35	-.04	0.96
Tightness	.91***	2.49	.52*	1.68	.53**	1.7
Top3	-.016**	0.98	-.01*	0.98	-.007	0.99
N	363		363		363	
Nagelkerke r2	.20		.22		.08	

*=p<.05,
**=p<.01,
***=p<.001