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Japanese Antitrust Law and the Competitive Mix

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JAPANESE ANTITRUST LAW
AND THE COMPETITIVE MIX

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Japanese Antitrust Law and the Competitive Mix *

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Japanese Antitrust Law and the Competitive Mix

Abstract

Japanese antitrust law exempts a variety of vertical and horizontal restraints that are commonly regarded as anti-competitive. Measures of market structure, market power and deadweight loss in the United States and Japan, however, indicate a striking similarity in the level of "competition" in the two countries despite their very dissimilar antitrust environments. This paper attempts to explain this apparent empirical paradox by adopting the hypothesis that antitrust alters foremost the relative mix of competitive forms, rather than the absolute level of competition. Three Japanese antitrust exemptions are used to illustrate how particular vertical and horizontal restraints allow firms to substitute among price and non-price forms of competition. The examples show that by altering the competitive mix, these antitrust exemptions may in fact be efficiency-enhancing in cases of free-riding, public good investments, and empty cores. Evidence from several Japanese markets lends empirical support.

I. Introduction

Japan's antitrust laws have recently become a focus of academic and policy debate in both the United States and Japan. Japanese antitrust laws were originally modeled after the United States and in many respects continue to resemble closely their American counterpart. An important distinguishing feature, however, is the variety of vertical and horizontal restraints exempted under Japan's *Antimonopoly Law*.¹ Previous analyses of Japanese antitrust law, focusing on price effects to assess competitive impact, concluded that Japan's relatively more liberal antitrust environment had a chilling effect on competition.² Common measures of market structure, market power and deadweight loss which should capture the effects of both price and non-price competition, however, are strikingly similar in the U.S. and Japan despite the two countries' very dissimilar antitrust environments.

This paper attempts to explain this apparent empirical paradox. Following Demsetz (1991), I adopt the hypothesis that antitrust alters foremost the relative mix of competitive forms rather than the absolute level of competition. Firms' substitution possibilities across price and non-price competition require that the observed mix of competitive forms be viewed as endogenous. In particular, the efficient competitive mix will be a function of both product and market characteristics. Drawing upon the efficient restraints literature, I use three exemptions under Japan's *Antimonopoly Law* to illustrate how particular competitive restraints allow firms to

¹ Relaxed antitrust enforcement relative to American standards, as measured by prosecution rates, expenditures and penalties, is also frequently cited as an important difference in the two countries' antitrust environments (Ramseyer (1985)). While Japan's less active enforcement policy may encourage anti-competitive behavior, the literature also has indicated (and numerous examples illustrate) how the antitrust laws may be used by firms to subvert competition (eg., Baumol and Ordover (1985), Snyder and Kauper (1991)).

² Major references include Rotwein (1964, 1976) and Caves and Uekusa (1976a, 1976b). In the very few exceptions where non-price competition is discussed in this literature, it is dismissed as inefficient and costly. Caves and Uekusa's (1976a, p. 522) survey of Japanese industrial organization, for example, concludes that Japanese antitrust has imposed "significant costs in the form of allocative inefficiency and diversion of rivalry into costly non-price forms ... [with] no corresponding gains." More recently, the U.S. Department of Commerce and Japan's Ministry of International Trade and Industry compared relative consumer product prices to identify systematic price differentials. These differentials have been attributed in part to perceived barriers to import competition and distributional inefficiencies resulting from Japan's antitrust laws.

substitute towards other forms of competitive behavior which may be more efficient, given the special characteristics of the industries.

First, Japan's limited exemption for resale price maintenance is interpreted as an efficient vertical restraint allowing firms to overcome free-riding, thereby facilitating non-price competition in quality, special services and information. Empirical evidence from Japan's cosmetics, pharmaceuticals and publishing industries, where resale price maintenance agreements are common, is found to be consistent with this interpretation but not with the standard anti-competitive interpretation in the literature. Second, Japan's exemption for export cartel associations is interpreted as an efficient horizontal restraint restoring firms' incentives to make public good investments in foreign marketing services, thereby stimulating competition in product quality and reputation. Empirical evidence from a sample of twelve Japanese export cartels is found to support this competitive interpretation. Finally, Japan's exemption for depression cartels, which permits firms to impose capacity or output quotas during downturns, is interpreted as an efficient horizontal restraint that corrects for the failure of unrestricted price competition to support a stable competitive equilibrium under particular demand and cost conditions. Empirical evidence for Japan's depression cartels is shown to be more consistent with this efficient competitive interpretation than with the standard anti-competitive interpretation.

The paper focuses upon analyzing the effects of these three antitrust exemptions to distinguish between anti-competitive and efficient competitive interpretations. It will not consider directly the political-economy of the exemptions' adoption and scope. However, the paper is not entirely silent on this issue. Its findings suggest that the three antitrust exemptions have each failed to yield the supra-competitive rents expected under a political competition theory of antitrust policy (eg., Stigler (1971), Peltzman (1976)). The results thus raise the possibility that these exemptions may be better explained by a public interest theory. Answering the more general political economy question of why the corpus of Japanese antitrust law has assumed its present form, however, must await future analysis.

The remainder of the paper is organized as follows. Section II documents that common market structure, market power and deadweight loss measures are quite similar in the United States and Japan, despite the two countries' very dissimilar antitrust environments. Section III seeks to explain this seeming empirical paradox by re-evaluating three vertical and horizontal restraint exemptions under Japan's *Antimonopoly Law*. Evidence from markets affected by these antitrust exemptions is used to evaluate the hypothesis that the restraints principally affect the competitive mix. Section IV concludes with a brief discussion of the political economy of Japanese antitrust policy-making and of the implications of proposed reforms to "strengthen" Japan's antitrust laws.

II. Measures of Competition in the United States and Japan

While originally modeled closely after the *Sherman Act*, Japan's *Antimonopoly Law* provides exemptions for a variety of business practices, organizational forms and competitive restraints that remain illegal under U.S. antitrust law.³ Among these exemptions are provisions relating to resale price maintenance, sole import distributorships, depression and rationalization cartels, and entry restrictions against competitors. Despite important differences in the two countries' antitrust environments, however, common measures of market structure, market power and deadweight loss are strikingly similar between the United States and Japan.

While international comparisons of market structure are fraught with methodological and conceptual difficulties, the consensus found across numerous empirical studies is striking. From World War II through to the mid-1960s, aggregate manufacturing sector concentration rates and correlation rankings for industry-level concentration remained insignificantly different across Japan and the United States (First (1986, p. 66), Caves and Uekusa (1976b, p. 26), Rotwein (1976, p. 73), Pryor (1972, p. 130) and Rotwein (1964, p. 276)). Since the mid-1960s, concentration rates have declined slowly in Japan while remaining virtually unchanged in the

³ Matsushita (1990) offers a detailed summary of Japan's major antitrust statutes, and Hadley (1970) provides a useful survey of antitrust's development. English translations of the statutes are found in Nakagawa (1984).

United States. The result of these trends is that the share of total non-financial activity controlled by Japan's 100 largest non-financial corporations is now moderately lower than in the United States, even after taking account of Japanese firms' extensive subsidiary holding relationships (Marfels (1988, pp. 82-3)). The potential influence of Japan's *keiretsu* business groups also appears smaller than generally perceived. Rotwein (1976, p. 68), for example, concludes that the vertical *keiretsu* relationships have "generally added little to monopoly power" and provide little "basis for effective collusive arrangements between such groups that span several markets in common." Hadley (1970, pp. 268-69) and Caves and Uekusa (1976b, p. 67) reach similar conclusions.⁴

Evidence on the exercise of market power also indicates strong similarities between the two countries. Ito and Maruyama (1990) have found that markup rates in the Japanese and U.S. distribution sectors are statistically indistinguishable (Table 3-6), and that the gross profit margin for both wholesalers and retailers is actually lower in Japan than in the United States (Table 3-4). Ito and Maruyama (1990, p. 44) conclude on the basis of their comparisons that "[a]lthough the Japanese distribution system appears to be very different [in organizational form] from the U.S. counterpart, its performance, as measured by value added, gross margin, operating expenses, and labor costs, is quite comparable with its U.S. counterpart."

Finally, aggregate deadweight loss estimates are comparable in Japan and the United States. Shinjo and Doi (1989) report that aggregate deadweight loss as a percentage of national income is comparable in the two countries. They calculate deadweight loss attributable to the exercise of market power using firm-level data for Japanese manufacturing and non-financial service industries between 1966 and 1980, and report estimates ranging between one and two percent of national income. In addition to being of a similar magnitude to estimates reported for the United States, Japan's deadweight loss measure has remained relatively stable since the mid-1960s.

⁴ For a recent empirical evaluation of the *keiretsu*'s impact on Japan's trade performance, see Fung (1991).

III. Explaining the Paradox

Section II established that differences between American and Japanese antitrust law are not reflected in common measures of market structure, market power and deadweight loss. To explain this apparent paradox, I adopt the hypothesis that antitrust policy differences will be reflected foremost in firms' mix of competitive forms, rather than in the level of "absolute" competition. In particular, firms' ability to substitute between price and non-price firms of competition, and to select an efficient competitive mix for given product and market characteristics, may cause antitrust policy changes not to be reflected in the competitive measures surveyed in the previous section. Focusing upon price effects alone, as did previous analyses of Japanese antitrust, however, may erroneously suggest systematic differences.

The hypothesis considered here and by Demsetz (1991) is consistent with previous analyses of U.S. antitrust policy. Consider, for example, the effect of antitrust on market structure. Stigler (1966, p. 236) has found that the Sherman Act had "only a very modest effect in reducing concentration," and Pashigian (1968) reports that after controlling for the impact of market size and efficient firm scale, the Act had no perceptible impact on concentration ratios. By contrast, Bittlingmayer (1985) indicates that antitrust can influence significantly firms' organizational choice. Specifically, Bittlingmayer found that when antitrust policy became more hostile towards formal trusts and cartels and forced their dissolution at the turn of the century, firms in many industries simply reconstituted existing horizontal agreements through merger. If firms viewed trusts and mergers as imperfect but close substitute forms of organization, as Bittlingmayer argues, then antitrust may have had little effect upon the absolute level of collusion (or competition) in those markets, despite altering significantly industries' mix of collusive (or competitive) forms.

In this section, I draw upon the efficient restraints literature to study three Japanese antitrust exemptions. I indicate how these vertical and horizontal restraint exemptions lead firms to substitute across alternative forms of competition, substitutions that are efficient given the industry's product and market characteristics. The exemptions (i) overcome free-riding and facilitate competition in quality, special services and information, (ii) restore firms' incentives to

make public good investments and thereby stimulate competition in quality and reputation, and (iii) correct for the failure of unrestricted price competition to support a stable competitive equilibrium under particular demand and cost conditions.

A. Resale Price Maintenance

Resale price maintenance (RPM) has been *per se* illegal under United States antitrust law since 1976. By contrast, Japan's *Antimonopoly Law* provides a limited exemption for RPM agreements. Book, magazine and record publishers are permitted to set retail prices for these copyrighted products.⁵ Japan's Fair Trade Commission (FTC) also has authority to authorize RPM agreements for other trademarked products on a manufacturer-by-manufacturer basis.⁶ In practice, relatively few products have received RPM exemptions.⁷ Currently, in addition to the general exemption for copyrighted materials, RPM agreements are authorized only for cosmetics with retail prices in excess of 1000 Yen (\$7 to \$8) and for certain pharmaceuticals. Approximately 30 cosmetic manufacturers currently sell 1,600 products under RPM, and 25 pharmaceutical companies sell approximately 300 drugs under fixed retail price agreements (OECD (1983, p. 40)).

While RPM agreements necessarily restrict price competition among retailers, Telser (1960) and Marvel and McCafferty (1984) have indicated how RPM may be viewed as an efficient vertical restraint allowing firms to overcome free-riding, thereby facilitating non-price competition in quality, special services and information. Their competitive interpretation fits the Japanese experience well.⁸ The principal anti-competitive interpretations of RPM, the manufacturers' and dealers' cartel theories, by contrast, do not appear to be consistent with the Japanese experience. I evaluate these three theories and their evidence in reverse order.

⁵ Section 24-2(4) of the *Antimonopoly Law*.

⁶ Section 24-2(1) of the *Antimonopoly Law*.

⁷ Cameras, caramel candy, liquor, toothpaste, soap and men's white undershirts were sold under authorized RPM agreements for very brief periods during the late 1950's and early 1960's (Flath (1989, pp. 190-91)).

⁸ Two other recent articles consider Japanese retailer-manufacturer relationships. Flath (1989) provides a recent analysis of Japanese resale price maintenance litigation. A related discussion on returns policies in Japanese retailing appears in Flath and Nariu (1989).

(i) The Dealers' Cartel Theory A dealers' cartel may use RPM to raise their margins above the competitive level by inducing a manufacturer to enforce minimum retail prices (Yamey (1952)). However, conditions appear poor for forming a dealers' cartel in those markets where Japan allows RPM. Notably, the Japanese exemption requires a manufacturer's consent to participate in RPM.⁹ Because manufacturers would resist cartelization of the retail sector under the dealers' cartel theory, retailers therefore would have to rely upon a credible economic threat such as a group boycott to induce manufacturers' acquiescence.

Such a threat is unlikely to be credible for products covered by RPM agreements in Japan, however, given the high degree of fragmentation in Japan's cosmetic, pharmaceutical, book and record retail sectors. Cosmetics and pharmaceuticals are sold in more than 58,000 retail outlets in Japan, and books and magazines are sold in more than 20,000 retail stores.¹⁰ The large number of retail outlets poses significant coordination problems for cartel formation. Cosmetic and drug companies and book and record publishers also market directly to final consumers, providing an alternative distribution channel to bypass recalcitrant retailers.¹¹ Finally, all three groups of products also are marketed through franchised retailers, which are controlled directly by the manufacturer and may easily be replaced should dealers attempt to exercise market power.¹²

Should retailers overcome these obstacles to cartel formation, however, the same industry characteristics would make it unlikely that retailers could retain cartel rents. The cartel's stability also would be threatened further by the fact that many cosmetics and pharmaceuticals are not sold under RPM. The presence of competing non-RPM products provides retailers with an incentive to cheat on a dealer cartel agreement by lowering their price for non-price-controlled substitutes. Retailers are unlikely to find disciplining this form of cheating to be any easier than preventing the

⁹ Section 24-2(1) of the *Antimonopoly Law* states that an exemption may not be granted when RPM would be employed "against the will" of a manufacturer or wholesaler.

¹⁰ JETRO (1972), pp. 44, 67.

¹¹ JETRO (1972), pp. 40, 45, 67-68.

¹² JETRO (1972), pp. 40, 45, 68.

original price-cutting that the dealer cartel was designed to overcome. Together, these characteristics argue against the dealers' cartel theory for Japan.

(ii) The Manufacturers' Cartel Theory A manufacturers' cartel may use RPM to verify price uniformity at the retail rather than wholesale level (Telser (1960)). However, conditions are poor for relying upon RPM to enforce a manufacturers' cartel in Japan. First, RPM exemptions are granted on a firm-by-firm basis rather than a group exemption being provided for all manufacturers in a particular industry (Tsuji (1972, p. 400)). Thus, a group of manufacturers seeking to limit competition among themselves would have to individually receive antitrust exemptions and then subsequently coordinate their pricing. Coordination and free-riding problems related to the cartel's formation therefore must be surmounted, prior to overcoming free-riding that may arise subsequently in cartel's actual operation. As earlier noted, many cosmetic and pharmaceutical products are not sold under RPM agreements in Japan. That competing substitutes often are not covered by RPM could indicate either a failure by manufacturers to solve free-riding problems at the cartel formation stage, or a source of competition that would threaten a cartel's ability to maintain a supra-competitive rate of return once formed.

Second, the lack of exclusive dealing agreements in the cosmetic and pharmaceutical sectors creates a ready channel for cheating by individual manufacturers. Competing brands of cosmetics and pharmaceuticals are sold in most medium and larger-sized retail outlets (JETRO (1982, p. 45)). Manufacturers that secretly lower their wholesale price to multi-brand outlets may divert sales away from competitors and, at a fixed retail price, increase their receipts at the expense of competing manufacturers. For both of these reasons, the manufacturers' cartel theory is not persuasive for the products covered by RPM in Japan.

(iii) The Special Services / Quality Certification Theory The same industry characteristics that argue against successful cartelization for dealer or manufacturer profit suggest that an explanation based upon firms' substitution toward non-price competitive forms may better explain Japanese RPM. Telser (1960) and Marvel and McCafferty (1984) indicate how RPM may be an efficient vertical restraint to overcome free-riding and allow other desired forms of competition to emerge.

Free-riding arises if a potential customer can benefit from retailers' services yet purchase from a non-service dealer at a lower price. This erodes and eventually eliminates dealers' incentive to provide the pre-sale services valued by the manufacturer and potential purchasers. RPM overcomes this problem by setting a common price for all retailers served by the manufacturer, creating the incentive to compete in the services that purchasers desire. These services may include knowledgeable sales staff, product displays, demonstrations or advertising, or certifying the product's level of quality or fashion.¹³

Empirical evidence on the products covered by RPM exemptions in Japan suggests that RPM prevents free-riding and stimulates non-price competition in dealer services. The two conditions required under the competitive theory are satisfied. First, as earlier documented, the extremely large number of retailers in cosmetics, pharmaceuticals, books and magazines, combined with the existence of several alternative purchasing channels (retail outlets, direct sales, and franchise dealers), create significant potential for free-riding between full-service and non-service dealers. To avoid free-riding, manufacturers must restrict price competition across dealers and these alternative sales channels.

Second, the products covered by RPM also exhibit the service characteristics identified by Telser (1960) and Marvel and McCafferty (1984). Telser's special services explanation applies to new products or those purchased relatively infrequently. Marvel and McCafferty's quality certification explanation applies to higher-quality product lines and, more generally, to goods

¹³ Mathewson and Winter (1984) note that exclusive territories and exclusive dealing arrangements can be close substitutes for RPM to maximize joint manufacturer-retailer profits. With very limited exceptions, however, both of these vertical restraints are illegal under Japanese antitrust, thus precluding two alternative mechanisms for a manufacturer to compensate retailers providing pre-sale services. Price discrimination, another substitute for RPM under some circumstances, is also illegal in Japan in almost all cases. Finally, while a manufacturer could provide services directly to customers and thus avoid free-riding problems, in many cases retailers will be better informed about customer demand for different mixes of services. Consistent with this possibility and the special services argument, however, is the fact that following the FTC's withdrawal of RPM exemptions for certain cosmetics and pharmaceuticals after the mid-1960s, manufacturers responded by vertically integrating downstream to the distribution and retail levels, increasing their reliance on the *keiretsu* to replace services previously provided by retailers (see Ishida (1983, p. 323)). U.S. cosmetics and pharmaceuticals manufacturers have also frequently adopted vertical integration strategies to provide pre-sale services directly to potential buyers.

where consumers rely upon retailers to act as their agent in ascertaining and guaranteeing desirable product characteristics.

Cosmetics and pharmaceuticals fit these criteria well. Both markets are characterized by high rates of new product introduction and displacement of existing brands or product lines. The demand for product quality information will be greatest in these settings, where consumers' stock of product information is depreciated rapidly (Stigler (1961)). For cosmetics, RPM exemptions are granted only to higher-priced items (cosmetics whose price exceeds 1000 Yen), and it is "prestige item producers" that have adopted RPM agreements most widely (JETRO (1972, p. 44)). Retailers selling these premium cosmetic lines are among the most likely to have made sunk investments to certify product quality and fashionability. These investments act as valuable informational signals to potential purchasers, yet are subject to free-riding by non-certifying dealers. Pharmaceuticals also exhibit a strong service component. Customers typically rely heavily upon retailers (druggists) for advice about product quality and proper usage when making their purchase decisions (Telser (1960, p. 96)). Retailer services are thus an important characteristic of these two groups of products often sold subject to RPM. The large number of retailers and purchasing channels suggests that these retailer services would be subject to free-riding in the absence of RPM.

Japan's RPM exemption for copyrighted works also leads to substitutions between price and non-price or service competition. Retailers of books, magazines and records provide two valuable point-of-purchase services that are subject to free-riding by competitors. First, retailers make promotional investments on behalf of publishers by providing a knowledgeable sales staff and prominent displays. Placing titles on display for browsing takes up valuable and limited shelf space, which is particularly expensive in Japan where land prices are high and shop sizes are small. (Flath and Nariu (1989, p. 56)). Second, full-service retailers carry a publisher's full line of products before popular titles are known, thus providing diversity at the cost of risk that certain

titles will not sell well.¹⁴ As Marvel and McCafferty (1985, p. 378) note in connection with the book trade: "Full-line retailers are ... subject to competition from limited-inventory rivals who simply wait until winning product line components are identified and then charge prices yielding a competitive return on those items only." The large number of book and magazine retailers documented earlier indicates the potential for free-riding on dealer services.

Finally, retailers provide informational services to publishers by identifying customer preferences and demands. Publishers may free-ride on these services, however, by increasing production runs for titles that turn out to be popular, thereby depressing retail margins on these lines, and leaving retailers with unsold inventories of titles whose demand was less than expected. In the absence of a guaranteed, supra-competitive retail margin, retailers would be unable to earn a competitive rate of return across their entire product line (see Butz (1991)).

Empirical evidence on the use of RPM for copyrighted works in Japan supports the special services competition theory. RPM is more frequently adopted in situations where retailer services will tend to be most valuable, i.e., where demand is most uncertain.¹⁵ First, RPM is more widely employed for books than for magazines. Publishers (and retailers) are likely to face less certain demand for new book titles than for magazines, the latter being sold on a regular (weekly, monthly) basis and thus allowing demand for any given issue to be more accurately predicted. Second, RPM agreements have become more common among booksellers as the number of book titles sold in Japan has risen, arguably making the demand for a random title arguably less predictable. Finally, RPM agreements are more widely adopted among large book retailers than among small booksellers. The former, by dint of their larger average sales volume, will tend to offer more accurate information about customer demand, and therefore publishers should be more likely to adopt RPM in order to commit against opportunism or free-riding.

¹⁴ Flath and Nariu (1989, pp. 56-57) indicate that this risk faced by booksellers is only partially reduced by publishers' returns policies for unsold titles. In particular, they note that about 65% of book titles in Japan are sold by publishers to bookstores on a retailer order basis that limits the financial attractiveness of returns. The remaining 35% of titles are sold on an unlimited returns basis. For these latter titles, the second argument developed in this paragraph would not apply.

¹⁵ Data in this paragraph are taken primarily from Flath and Nariu (1989, pp. 57-58)).

Japan's limited antitrust exemption for RPM appears best interpreted as an efficient vertical restraint allowing retailers in the cosmetics, pharmaceuticals and publishing industries to overcome free-riding in service competition. While RPM necessarily restricts price competition among dealers, it allows these firms to substitute into non-price forms of competition desired by manufacturers and purchasers.¹⁶

B. Industry Export Cartels

Japan exempts industry export cartel associations from antitrust scrutiny. Cartels may legally establish a common export price, set maximum and/or minimum export volumes for members, designate exclusive sales territories, specify design and quality standards, supply common marketing, promotional and distribution services, and operate a joint sales agency overseas. While most other industrialized countries also provide antitrust exemptions for industry export cartels, the scope of cooperative activities available to Japanese exporters under the 1952 *Export Trade Act* is considerably broader than provided by the *Webb-Pomerene Act*'s exemption in the United States.¹⁷ Most notably, unlike their American counterparts, Japanese export associations may adopt ancillary restraints on domestic activities to support horizontal agreements in their export markets. In the aggregate, between 20% and 25% of all Japanese manufactured exports are sold under industry cartel auspices. In industries such as foodstuffs, textiles and non-metallic minerals between one-third and three-quarters of all Japanese exports are covered by an industry export cartel agreement.¹⁸ By contrast, less than 1.5% of U.S. manufacturing exports are sold by export

¹⁶ Flath (1989) examines case histories for several industries in which illegal (non-exempted) RPM agreements were in force. While the current paper is concerned only with Japan's antitrust exemptions and not with illegal conduct by firms, Flath's findings are of interest here. Flath finds that in five of the ten cases he studies, RPM was apparently adopted to deal with free-riding problems. Consistent with the text's analysis, these five illegal RPM agreements covered products such as cameras, home electronics and beverages for which the service and or quality guarantee component is expected to be large. Illegal RPM agreements characterized by Flath as monopoly cartels, by contrast, covered simple products such as powdered milk and auto glass.

¹⁷ For a more detailed discussion and empirical analysis of Japan's export cartel exemption, see Dick (1991b). For an analysis of U.S. export cartels, see Dick (1991a).

¹⁸ Matsushita (1979, pp. 114-5)). These figures do not include exports sold by Japan's general trading companies (see Shin (1989)).

cartels. Thus, both the potential scope and the actual use of the export cartel exemption are significantly broader in Japan than in the United States.

Horizontal agreements among exporters are frequently regarded as having a chilling effect upon competition (eg., Jacquemin *et. al.* (1981), Larson (1970)). Several observations about Japan's export cartels, however, appear inconsistent with an anti-competitive interpretation. If exporters rely upon cartels to coordinate overseas pricing to earn supra-competitive returns, we should expect to find them centered in concentrated industries where Japan occupies a large share of the world market. In fact, the opposite is true. First, export cartels are centered in industries such as textiles, wood products, agricultural products and processed foods where Japan accounts for a small share of the world market, and where many close substitutes in demand are available (Imai (1973, Table 2C)). Second, Japan's export cartels are centered in unconcentrated industries and are composed predominantly of small and medium exporters in those industries (Iyori (1973, p. 422), Matsushita (1979, pp. 114-15)). Further, as average firm size among exporters has increased in Japan, both the number of export cartels and the fraction of Japan's total manufacturing exports sold under cartel auspices have declined. Casual empiricism thus argues against a monopoly explanation.

An alternative interpretation of Japan's exemption for export cartels is that it is an efficient horizontal restraint which, by restricting price competition, restores firms' incentives to make public good investments in marketing or product reputation. In this section, I first explain why firms may wish to rely on cartels to consolidate common marketing services or supply product quality guarantees. I then provide evidence that, where they have had an effect, Japan's export cartels have most frequently stimulated aggregate industry export volume. Finally, I indicate why restrictions on price competition are necessary to avoid free-riding on cartel services, and summarize evidence that many of the ancillary horizontal restraints adopted by Japan's export cartels have been associated in practice with an increase in total export volume.

Two competitive functions of export cartels may be considered. First, an industry export association may coordinate firms' overseas sales and distribution activities to avoid costly

duplication and exploit economies of scale in marketing. Among the services provided by Japan's cartels that could lower member firms' average export costs are consolidating market research and development, providing common warehouse and distribution facilities, coordinating advertising, and operating joint overseas sales agencies (UNCTAD (1971, App. C)).¹⁹ Second, an industry export cartel may guarantee product quality on behalf of member firms. Economies of scale are likely to arise in the provision of quality guarantees that rely upon market incentives for enforcement. Following Klein and Leffler (1981), relative to an individual member firm whose export volume is small or irregular, an industry cartel's larger export volume and longer expected horizon of operation may create a more valuable quasi-rent stream that firms would sacrifice in the event of quality shirking. Setting product design and quality standards, establishing industry brand names, guaranteeing delivery schedules, and mediating disputes between individual exporters and foreign buyers are among the functions performed by Japan's export cartels that are consistent with a services explanation (UNCTAD (1971, App. C)).²⁰

If Japanese export cartels' primary function has been to provide product quality and reputational guarantees, cartelization should shift outward the foreign demand schedule facing Japanese firms. If the cartels' dominant function has been to lower individual exporters' average selling costs, cartelization should shift outward the industry export supply schedule. In both cases, cartelization is expected to lead to an increase in total industry export volume. Dick (1991b, Table II) tests this hypothesis for twelve cartels over the period 1950–85 by estimating reduced form commodity price and volume equations derived from structural export supply and demand relations. To isolate the impact of cartel activity, I control for changes in foreign real income and

¹⁹ Evidence for U.S. export cartels suggests that export cooperation of these forms can lead to significant reductions in average overseas selling costs, in some cases reaching one-half of a firm's pre-cartel selling costs (Scudder (1955, pp. 45–46)).

²⁰ Lynn and McKeown (1988, p. 135) argue in particular that the ability to establish a reputation for product quality was central to Japan's export success. They note that Japanese exporters "were historically plagued by an image of selling poor quality products ... Through export associations and other organizations loosely affiliated with the trade associations and backed by law, it was possible to impose quality standards that would make it easier to sell Japanese products in general."

prices, domestic and export price trends for product substitutes and complements, and changes in domestic production capacity that might have led to shifts in either the world export demand or industry export schedules.

The results of those tests may be summarized as follows. In the majority of the sampled industries, Japan's export cartels appear to have had no statistically significant effect upon either export prices or quantities. In the four industries where export cartelization has had a significant price and/or quantity impacts, however, cost reduction and quality assurance effects have been predominant. In three industries (glassware, silk textiles and paint) cartels appear to have played a quality assurance role. Export quantities were between 65% and 92% higher in years when an industry cartel was active in the first two industries. In three industries (cement, glassware and silk textiles) cartelization appears to have had cost reduction effects, with export quantities rising 52% to 92% following cartel formation. In the cement industry, export prices were on average 26% lower in active cartel years. In only one industry (paint), is there evidence of a cartel exercising market power abroad. In that industry, export prices were 57% higher in active cartel years, yet industry export volume remained unchanged, suggesting that there were offsetting market power and quality assurance effects operating.

Cartels performing common marketing or quality assurance functions are likely to face free-riding. In the short run, member firms may profit at the expense of other cartel members by significantly increasing their output to expropriate the value of joint marketing investments. For this reason, cartels may adopt ancillary restraints to limit competition within the cartel to preserve member firms' incentives to make public good investments in product quality.²¹ Consistent with this expectation, the majority of Japan's export cartels have adopted ancillary horizontal restraints such as minimum price provisions, output quotas, exclusive territories, market share allocations,

²¹ Monitoring members' export quality directly is an alternative yet perhaps more costly enforcement mechanism. The cartel's ability to control free-riding on product quality reputation by non-members is likely to be more limited. Extension of the cartel's provisions to all exporters in the industry by the government is one important enforcement channel available to exporters under Japan's *Export Trade Act* (Matsushita (1979)).

and assignments of sellers to buyers (UNCTAD (1971, App. C)). Dick (1991b, Table III) combines information on the types of horizontal restraints adopted by the twelve sampled cartels with the earlier time series regression estimates of the cartels' export volume effects. I find that many seemingly anti-competitive horizontal restraints in fact were export-stimulating. Specifically, minimum price and maximum quantity provisions, assignment of sellers to buyers, common product quality standards, and harmonization of payment terms are each found most often to have coincided with increases in industry export activity. Only for the operation of a joint overseas sales agency is the competitive impact found to be ambiguous.

On the basis of the evidence, Japan's antitrust exemption for export cartels appears best interpreted as an efficient restraint restoring firms' incentives to make joint investments in quality and product reputation, and to consolidate common foreign selling costs. Ancillary horizontal restraints have been necessary to avoid free-riding within the cartel. Empirically, firms' substitution towards non-price forms of competition has been associated with an increase in total industry export volume.

C. Depressed Industry Cartels

With the very limited exception of the Newspaper Preservation Act, mergers in declining industries are subject to the same antitrust scrutiny as all other merger proposals in the United States. By contrast, Japan's *Antimonopoly Law* authorizes the FTC to grant antitrust immunity for temporary, private cartels in industries where considerable excess capacity has caused "an extreme disequilibrium of supply and demand."²² Depression cartels may rationalize members' capacity or allocate demand across firms to avoid "ruinous price competition." Depression cartels

²² Article 24-3 of the *Antimonopoly Law*. The FTC may designate an industry as "depressed" when (i) price lies below industry average cost and it is likely that "a considerable part of the entrepreneurs in the trade ... [would] eventually be forced to discontinue production," (ii) the FTC determines that it would be "difficult to overcome" the industry's disequilibrium situation by means of independent rationalization by individual firms, and (iii) two-thirds of the industry's firms request the depressed industry designation. The Act applies only to temporary cartels. Japan enacted in 1978 the *Structurally Depressed Industries Act* to address longer term industry adjustment issues (see Peck, Levin and Goto (1987)).

are authorized to operate for short periods of time, and most exemptions expire within one year (Uesugi (1986, Table III(1)). Since the antitrust exemption was established in 1953, on average fewer than two depression cartels have operated in any given year.²³ The most commonly cartelized industries have been in the metal products sector, with products including steel plates and bars, ball bearings, steel tubing, and stainless steel sheets (Uesugi (1986, Table III(1))).

A common interpretation of Japan's antitrust exemption for depression cartels is that it facilitates collusion to extract monopoly rents (Nakazawa and Weiss (1989)). FTC-authorized depression cartels could substitute for (illegal) privately-sponsored monopoly cartels in periods when the latter would be unstable. Green and Porter (1984) suggest that price wars will be most likely to occur in periods of low demand, and Suslow (1988) reports empirical evidence for international cartel agreements consistent with this prediction. Alternatively, depression cartels could serve as focal points for collusion in subsequent periods, or in non-depressed markets where the same firms compete.

An alternative interpretation of the depression cartel exemption is that it is an efficient horizontal restraint that corrects for the failure of unrestricted price competition to support a stable competitive equilibrium under particular demand and cost conditions.²⁴ This interpretation finds its theoretical foundation in the theory of the core. Core theory indicates that the combination of indivisible costs and divisible demand can preclude the existence of a competitive equilibrium.²⁵ Indivisibilities in industry costs arise when firms face identical U-shaped average cost curves or when their unit costs decrease up to a finite capacity constraint. Divisibilities in demand arise when a given plant

²³ Data are taken from the 1989 Annual Report of Japan's Fair Trade Commission, Table 5-2.

²⁴ Coate and Kleit (1991) develop an alternative efficient restraints interpretation for a policy permitting horizontal mergers in depressed industries. They argue, in part, that important externalities from firm exit exist in declining industries, and that a permissive policy towards horizontal mergers in such settings may be an efficient method to internalize these externalities.

²⁵ The combination of cost indivisibilities and divisible demand frequently makes it *globally* optimal for active firms to operate with excess capacity, or for some demand in excess of minimum average cost to remain unsatisfied. For each individual firm, however, the *locally* optimal solution is to operate at the minimum average cost point. This is achieved by bidding away buyers from competing plants, causing price to fall below what is required to allow other optimally active firms to recover their full production costs. Technical treatments of these issues may be found in Telser (1978, 1991), and less formal discussions in Sjostrom (1989) and Bittlingmayer (1982).

can serve multiple customers. Under these cost and demand conditions, competitive prices may not allow remunerative production of the efficient level and allocation of output. In such cases, the core of the market will be empty. An important implication of the theory is that the core is more likely to be empty in an industry with these cost and demand features where it is characterized by excess capacity (Bittlingmayer (1985)). By contrast, in periods of above-average rates of demand in such industries, core theory indicates that unrestricted price competition can support a stable competitive equilibrium. Finally, when firms face constant or continuously decreasing marginal costs or when demand is not divisible across plants, core theory indicates that unrestricted competition is feasible at arbitrary rates of demand.

When the price mechanism fails, core theory predicts that firms will attempt to substitute towards non-price means of allocating resources to achieve a sustainable industry equilibrium. With these non-price allocational mechanisms in place, stable price competition again becomes possible. Pirrong (1989) explains how seemingly "non-competitive" market structures and organizational forms, including monopoly through merger, product differentiation, vertical restraints, and horizontal agreements among suppliers can restore points to the core and thus make price competition viable. Telser (1978, ch. 5) demonstrates how a cartel that sets output quotas for members and then allows those firms to compete for customers subject to those quota allocations can eliminate the empty core problem. The theory also indicates that such restraints can be efficient responses to the failure of unrestricted price competition, and that therefore their elimination may lower welfare.

Several features of Japan's depression cartel exemption the cartels' behavior appear inconsistent with the standard anti-competitive interpretation, yet are consistent with core theory's predictions. First, depression cartel agreements are neither legally binding nor enforceable, nor may firms be compelled to participate in the industry's adjustment program. These conditions of free entry and exit, combined with the cartels' short average authorization period (less than one year), imply that firms would be unlikely to succeed in forming and enforcing an agreement to secure supra-competitive profits. Under core theory's efficient restraints interpretation of the

depression cartel exemption, by contrast, firms earn only the competitive rate of return in the quota-constrained equilibrium. Free-riding and entry are therefore less likely to threaten the cartel's stability. The requirements for firms to devise a self-enforcing agreement are thus less stringent under this interpretation of the cartel exemption. Consistent with this hypothesis, the data indicate that depression cartels typically have not earned above competitive rates of return. For example, throughout the decade following the formation of a crude steel depression cartel in 1971, the average after-tax profit rate among Japan's five largest steel firms never exceeded 3.3%, and typically lay in the range of 1.5% to 2.5%.²⁶

Second, depression cartels are effectively constrained to setting production, sales or capacity reduction targets. Only under very limited circumstances may the cartels adopt price restraints.²⁷ In practice, only five out of seventy-one cartels have adopted minimum price provisions, and each did so in conjunction with production and / or sales allocation targets (Uesugi (1986), Table III(1)). Producers of non-differentiated manufactures and raw materials, the products most frequently covered by depression cartel agreements, would likely find common price provisions to be among the most easily enforced mechanisms for extracting monopoly rents. By contrast, the theory of the core indicates that quantity-based mechanisms such as output or capacity allocations will be more efficient than price restraints in restoring market equilibrium.²⁸ While the antitrust exemption's preference for quantity restrictions does not offer a direct test between the monopoly and core theories, the preference indicates that if depression cartels are formed to avoid empty

²⁶ Industrial Bank of Japan, *Japanese Finance and Industry Quarterly Survey and Quarterly Survey of Japanese Finance and Industry*, various issues, 1959 to 1986.

²⁷ "A price-fixing agreement may be entered into in cases where restriction on output is extremely difficult for technological reasons, and then only as a final measure when it is found extremely difficult to overcome the depression even by curtailed production, restrictions on sales and limited production facilities." (United Nations Conference on Trade and Development (1973), p. 96).

²⁸ While setting minimum price provisions can eliminate the primary cause of an empty core — unremunerative competitive prices — price restraints alone cannot ensure an efficient equilibrium. With cost indivisibilities, prices determine the total quantity demanded and supplied, but not the allocation of output and customers across producers. Price restraints thus cannot insure that only optimally active firms actually produce, and that active suppliers produce efficiently so as to equate marginal costs across active firms.

cores, the level and allocation of output across firms are more likely to be efficient in the resulting equilibrium than if price restraints were employed.

Third, the monopoly theory predicts that cartels should be most likely to arise in relatively concentrated industries, where cheating and free-riding are easier to detect. Further, the monopoly explanation predicts that we should not observe cartels with large memberships, where free-riding problems will be greatest. By contrast, core theory predicts that unconcentrated markets are precisely where competition is most likely to be unstable during periods of depressed demand, and therefore cartels with large memberships should not be unexpected (Pirrong (1989)). The data support this latter prediction. The average number of parties to a depression cartel agreement is twenty-two, the smallest number of member firms is four, and in one cartel there were 174 individual companies (Uesugi (1986, Table III(1))). Depression cartels also have operated as successfully in unconcentrated industries as in concentrated industries, as measured by their ability to restrict output or capacity during periods of depressed demand (Peck, Levin and Goto (1987, p. 97)). This similarity is difficult to reconcile with the monopoly theory.

Finally, while the monopoly hypothesis makes no prediction about the influence of firms' cost characteristics on the probability of collusion (separate from its effects on the number of competitors), core theory predicts that coordination will be most important when firms face indivisibilities in their costs. Indivisibilities arise with U-shaped average cost curves or decreasing average cost up to a finite plant capacity. Firms will generally operate with excess capacity in these situations, implying that the core will be empty for arbitrary rates of demand. As earlier noted, depression cartels have been most common in Japan's metal products industries. Lamoureux (1986) documents the presence of cost indivisibilities in steel production, and Wylie and Ezekiel have found that firms' unit production costs decline up to their capacity in this industry (Johnston (1960, pp. 144-46)). To the extent that these cost conditions characterize production of metal products more generally, the industry concentration of depression cartels is consistent with core theory's efficient restraint interpretation of the antitrust exemption.

To summarize, the interpretation of Japan's depression cartel exemption as an efficient horizontal restraint, correcting for the failure of unrestricted price competition to support a sustainable competitive equilibrium under particular demand and cost conditions, appears to be most consistent with the empirical evidence for these cartels and with the terms of the antitrust exemption itself.

IV. Conclusion

This paper has sought to explain an apparent empirical puzzle: despite very different antitrust environments, Japan and the United States exhibit close similarities in their levels of "competition" as gauged by common measures of market structure, market power and deadweight loss. To explain this paradox, I adopted the hypothesis that antitrust alters foremost the relative mix of competitive forms rather than the absolute level of competition. Three examples of Japanese antitrust exemptions for vertical and horizontal restraints were used to illustrate how firms substitute among price and non-price forms of competition. The examples show that by altering the competitive mix, antitrust exemptions may be efficiency-enhancing in cases of free-riding, public good investments, and empty cores. Empirical evidence for the affected Japanese markets was found to be more consistent with an efficient interpretation of the restraints than with the standard anti-competitive account.

The paper's conclusions do not imply that monopoly power is completely absent in Japanese markets, that policy-created inefficiencies do not exist, or that all exemptions from the *Antimonopoly Law* are best explained in competitive terms. Several antitrust provisions, such as Japan's *Large Scale Retail Store Law* safeguarding small retailers, may perhaps be best explained as political protection of inefficient competitors by policy-makers or regulators. While this paper has not considered directly the political economy of Japanese antitrust policy-making, its findings do shed some light on this issue. Stigler (1971) and Peltzman's (1976) political support models of economic regulation could readily be extended to analyze competition policy, and may explain some specific provisions of Japan's *Antimonopoly Law* and its exemptions. The empirical

evidence for the three horizontal and vertical restraints studied here suggests, however, that these antitrust exemptions have not yielded the supra-competitive rents expected under a political support theory of antitrust policy.

Finally, the paper's findings are relevant to recent antitrust policy debates in Japan and the United States. In response to external political pressure, Japan's Fair Trade Commission has begun to review existing exemptions to the *Antimonopoly Law* to evaluate their possible curtailment or elimination.²⁹ Elimination of existing antitrust exemptions for RPM or depression and export cartels would force firms to substitute away from non-price competitive forms and towards price competition in markets affected by such reforms. The result may be a sacrifice in efficiency. More generally, this paper has emphasized that antitrust policy reform necessarily entails opportunity costs by favoring some forms of competition at the expense of others.

²⁹ For specific details, see The U.S.-Japan Working Group on the Structural Impediments Initiative's *Joint Report: June 28, 1990*, Sections III - IV.

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